

Attitudes Toward Muslims Among Majority Youth in Norway: Does Ethno-Religious Student Composition in Schools Matter?



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ABSTRACT

This article examines how attitudes toward Muslims among native majority adolescents in Norway are associated with the ethno-religious composition of their school environment. The inflow of immigrants has changed the sociodemographic landscape in Norway, introducing new dimensions of urban school segregation. The school context represents a key socializing context outside of the family and structures contact opportunities across ethnic and religious lines. Research on how exposure to peers from different backgrounds influences majority group students' out-group attitudes have produced conflicting findings, and central theories propose different mechanisms influencing the relationship between relative group size and prejudice. Using a unique dataset with both individual- and school-level information from Norway's capital region and controlling for observed characteristics of students and their parents, the results show that levels of negative attitudes toward Muslims decreased with relative out-group size. This finding indicates that multiethnic settings bolster tolerant attitudes toward Muslims in Norwegian schools.

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INTRODUCTION

In today's increasingly diverse Europe, it is often argued that boundaries previously drawn along lines of race and ethnicity are increasingly being negotiated along lines of religion and culture (Bail 2008). For example, Ponce (2018: 52) found that Muslim immigrants are the 'least preferred immigrant group,' and argued that Muslims, in particular, are viewed as racial-ethnic outsiders. Islam has been on the receiving end of much negative focus in public debates concerning social and political integration, spurred on by controversies over public displays of religiosity, and a perceived conflict between Islam and liberal values. According to Alba (2005), the Muslim–non-Muslim divide constitutes a bright boundary between minorities and majorities in today's Western Europe. A key question is whether this social boundary will deepen over time or gradually fade as diversity increases as a result of immigration. The purpose of this article is to shed light on this question by exploring the relationship between the ethno-religious composition of the student cohort in upper secondary school, and attitudes toward Muslims among students of majority background. On the one hand, exposure to religious out-groups in the school context may lead to increased tolerance, through increased knowledge and familiarity. On the other hand, a larger proportion of religious out-group members in the school context could produce friction and conflict around ethno-religious lines, which may, in turn, lead to more negative out-group attitudes. Which one of these mechanisms that prevail may have significant implications for the future of today's increasingly diverse societies.

The relationship between out-group size in a given context and the level of prejudice toward individuals perceived to be members of these groups is a central issue in the literature on the origins of prejudice. For adolescents, schools represent a key social arena where people interact across ethnic and religious boundaries, and schools therefore represent a good context for studying the relationship between religious diversity and attitudes toward ethno-religious minorities. Several studies have explored the consequences of ethnic school and classroom composition for a myriad of outcomes, such as interethnic attitudes (Bubritzki et al. 2018; Janmaat 2014; Stark, Mas & Flache 2015), intergroup friendships (Janmaat 2014; Smith et al. 2016), and educational outcomes (Brandén, Birkelund & Szulkin 2018; Hermansen & Birkelund 2015). Although these studies have provided important insights, the consequences of the religious composition of diverse schools have received less attention. A growing Muslim population in many European countries underlines the need to better understand how religious boundaries shape relations and attitudes between Muslims and non-Muslims. Policymakers, school administrators, and parents have raised concerns about school segregation and the question of whether high concentrations of ethno-religious minorities impede intergroup relations and the learning environment for both majority and minority groups. Using data from schools with markedly different student compositions in the Norwegian capital region, I explore how attitudes toward Muslims among the majority vary depending on the share of students with an immigrant background from Muslim-majority countries.

In Norway, the Muslim population – which is almost exclusively made up of immigrants and children of immigrants – is estimated to be approximately 4% of the total population (Østby & Dalgard 2017), suggesting that many native Norwegians have little or no first-hand knowledge about Muslims. Consequently, media portrayals of Islam and Muslims become an important source of information, which potentially inform attitudes and opinions among the majority (Strabac & Valenta 2013). However,

because many immigrant groups are concentrated in major cities, this is not the case for many adolescents attending schools in urban areas. One could argue that adolescents growing up in multicultural contexts represent a test case for how intergroup relations unfold. In some of the school cohorts in Oslo, the capital city, over 50% of the student population are immigrants or children of immigrants from Muslim-majority countries. In other schools, there are close to none.

Moreover, while quantitative research on attitudes toward Muslims has primarily focused on the adult population, research has shown that intergroup relations during adolescence have far-reaching consequences (Henry & Sears 2009; Rekker et al. 2015). Emerson, Kimbro, and Yancey (2002) found that even limited contact in multiethnic settings in schools and neighborhoods had significant effects on social ties in adulthood. Furthermore, studies have identified adolescence as the period where individuals are most susceptible to attitudinal change, indicating that this susceptibility becomes less pronounced in subsequent years (Krosnick & Alwin 1989). These insights underline the importance of studying attitudes and contact opportunities in adolescence to understand the impact of social context on attitudes.

THEORETICAL PERSPECTIVES AND PREVIOUS RESEARCH

The potential importance of peers for adolescents' adaptations and life chances has been widely acknowledged at least since the influential Coleman Report (1961), which sparked a renewed interest in the social lives of adolescents. During adolescence, children develop a sense of autonomy from parents, and increasingly shift their orientations toward their peers in search of validation, identity, and belonging, with schools as a central context marking this change (Allen & Land 1999). Coleman framed schools as miniature societies, where young people from different backgrounds come together, and must find their place in emerging social hierarchies. These interactions can entail new friendships and expanding knowledge about people with differing worldviews and behaviors, while providing ample opportunities for friction and exclusion sparked by competition over status and popularity.

A growing research literature has explored how the composition of students in schools potentially shapes children's life chances, mainly focusing on socioeconomic outcomes (Hermansen, Borgen & Mastekaasa 2020; Sacerdote 2011; Altonji & Mansfield 2011). However, schools provide not only learning environments but also social environments, constituting a key arena for the development of identity and intergroup relations (Thijs & Verkuyten 2014). The two dominant accounts of prejudice, group threat theory (Blumer 1958) and intergroup contact theory (Allport 1958), both expect the presence of an out-group to affect out-group attitudes among members of the majority group – but in markedly different ways.

One of the most influential hypotheses concerning group size and prejudice is the *group threat model*. According to this view, the fundamental need to perceive one's own in-group in a favorable light and, conversely, the out-group in a negative light intensifies in a context of intergroup competition or in situations where majority group members deem their positions under threat (Blalock 1967). Following the logic of the group threat model, a larger out-group presence in an area, be it a country, a neighborhood, or a school, promotes fear of competition over resources. This fear,

in turn, increases prejudice toward the out-group population. The nature of the perceived conflict or threat can take many forms. The realistic or economic threat originates from perceived competition over material values, such as jobs, attractive housing opportunities, or social benefits from the welfare state. The symbolic or cultural threat is induced by perceived intergroup conflict over cultural traditions, shared beliefs, norms, and values (Vedder, Wenink & van Geel 2016). In the school context, concerns about identity, status, or the risk of being ridiculed or rejected may cause an experience of threat to symbolic, rather than realistic resources. From the group threat model, we may derive the following hypothesis: *H1: Majority students who encounter many students with an immigrant background from Muslim-majority countries in their school cohort will have less favorable attitudes towards Muslims than students who encounter few students with an immigrant background from Muslim-majority countries.*

While the group threat model stresses the competition and perceived threat, a prominently sized minority population might trigger in members of the majority population, *intergroup contact theory* focuses on the potential upsides to intergroup contact. In *The Nature of Prejudice*, Allport (1958) argued that increased contact can reduce prejudice through several mechanisms. Repeated interactions across ethnic or religious lines can enhance knowledge about the out-group in question, bring to light similarities where differences were projected, increase empathy, and reduce anxiety. However, contact can also be negative and Allport argued that certain conditions need to be met for contact to yield positive effects. The most important conditions are equal group status, common goals, intergroup cooperation, and the support of institutions or authorities. Contact opportunities within the school context are a requisite but do not guarantee actual meaningful contact across groups. Schools can be competitive arenas and contact within these settings is not necessarily exclusively positive or of high quality. However, the school context facilitates, and to some extent, requires sustained interaction between students of different backgrounds (Al Ramiah et al. 2013), and prior research has shown that students are more likely to befriend out-group students when they increase in number, even in cases with higher in-group preferences (Quillian & Campbell 2003; Vermeij, Van Duijn & Baerveldt 2009; Moody 2001). Following the arguments presented in the contact theory, we may expect that: *H2: Majority students who encounter many students with an immigrant background from Muslim-majority countries in their school cohort will have more favorable attitudes towards Muslims than students who encounter few students with an immigrant background from Muslim-majority countries.*

Several studies found evidence suggesting that prejudice tends to increase with the relative size of the immigrant population (Coenders, Lubbers & Scheepers 2005; Kunovich 2004; Quillian 1995; Scheepers, Gijssberts & Coenders 2002). The bulk of these studies use nation-states as their point of departure. Applying data from 22 European countries, e.g. Hjern and Nagayoshi (2011), found that the proportion of Muslims in a society was associated with increased anti-immigrant sentiment in the majority population. Some studies have found similar results based on the analysis of smaller geographic or local units. Among these, we find Vervoort, Scholte and Scheepers (2011) study using school classes as their point of departure. Their findings indicate that in school classes with high proportions of ethnic minorities, both ethnic majority and minority adolescents report more negative out-group attitudes – a finding in line with ethnic competition/threat theory. A similar study, also from the

Netherlands, investigating the effect of ethnic composition of the classroom on social discrimination found no such association (Vermeij, Van Duijn & Baerveldt 2009). While the authors found no support for ethnic competition theory when assessing the association between classroom composition and social discrimination, they found a strong effect of neighborhood composition on social discrimination. The authors speculated that the mixed support might be explained by the ‘strength of weak ties,’ in that superficial contacts can be more important than close contacts in predicting attitudes and behavior (Vermeij, Van Duijn & Baerveldt 2009: 238; Vervoort, Scholte & Scheepers 2011: 238).

At the same time, a growing number of studies across various populations have found that out-group exposure is associated with lower levels of prejudice, in line with the *contact hypothesis* (Fox 2004; Hjerm 2009; Wagner et al. 2006; Finseraas & Kotsadam 2017). For example, Bubritzki et al. (2018), Burgess and Platt (2021), and Pettigrew and Tropp (2006) all find that intergroup friendship, as well as exposure effects, is associated with improved intergroup relations. Other studies have found that Allport’s (1958) four conditions facilitate, but are not essential for, intergroup contact to yield positive outcomes (Pettigrew & Tropp 2008). In the school context, several studies have found that immigrants in general, and immigrants with non-European backgrounds in particular, experience less prejudice or victimization in schools or classrooms with a higher proportion of immigrants (Agirdag, Van Houtte & Van Avermaet 2011; Bubritzki et al. 2018; Hjern et al. 2013; Vitoroulis, Brittain & Vaillancourt 2016; Walsh et al. 2016). For example, Verkuyten and Thijs (2010) found that Christian and nonreligious early adolescents in the Netherlands exhibited more positive feelings toward Muslims when the proportion of Muslims in their classrooms was higher. In a study of how out-group and in-group attitudes of adolescents vary as a function of relative out-group size in school classes in the Netherlands, Germany, England, and Sweden, Bubritzki et al. (2018) found that a relatively larger out-group related positively to out-group attitudes. These findings align with the expectations put forth in intergroup contact theory.

Reviewing the literature on the association between school ethnic diversity and students’ interethnic relations, Verkuyten and Thijs (2014) conclude that the available studies tend to support intergroup contact theory. Nonetheless, some studies have found mixed or negative effects of out-group size also in small-scale contexts, such as schools or school classes, modifying the optimism surrounding the school context as an arena for positive contact (Bentsen 2022; Stark, Mas & Flache 2015; Vervoort, Scholte & Scheepers 2011). Intergroup contact theory does recognize that contact experiences are not exclusively positive (Allport 1958) and that the results may depend on the type and quality of contact in the population studied (Thijs & Verkuyten 2014). Intergroup contact researchers have mainly focused on positive forms of intergroup contact – usually in the form of friendships (Schäfer et al. 2021), but a new strand of research has shifted the focus to also include negative and superficial forms of contact (Bekhuis, Ruiter & Coenders 2013; Bentsen 2022). In a longitudinal study of interethnic attitudes in Dutch classrooms, Stark, Mas, and Flache (2015) found that increased ethnic diversity in classrooms led to both more positive and more negative contact. The relationship between ethnic class composition and attitudes was contingent on the students’ feelings toward their minority peers. Students who initially disliked a larger number of out-group classmates developed more negative

out-group attitudes, while the relationship was reversed for students who liked a larger number of out-group classmates (Stark, Mas & Flache 2015).

Providing further nuance to this picture, a recent study on negative attitudes toward immigrants among Swedish adolescents found that while high-quality contact in the form of friendship was associated with a reduction in negative attitudes, superficial forms of contact measured as the proportion of immigrants in the respondents' class was associated with an increase in negative attitudes (Bentsen 2022). However, relying on measures of intergroup friendships when assessing attitudinal outcomes is subject to selectivity bias, as it is reasonable to assume that students who report having close friends with certain characteristics are likely to already have positive attitudes toward that specific group.

Even though a large part of the immigration to Europe is from Muslim countries, and the Muslim–non-Muslim divide is often considered a major boundary of integration, relatively few studies have looked into attitudes toward Muslims in European countries systematically (Dixon 2006; Savelkoul et al. 2010). In Pettigrew and Tropps' (2006) review of the literature on intergroup contact theory, 71% of the 515 studies included focused on the US, and 71% examined ethnic and racial groups (Kanas, Scheepers & Sterkens 2017). Based on this pattern, Dixon (2006: 2180) has criticized studies of both group threat and contact theory for what he calls 'their almost complete focus on black-white race relations' and the assumption that the same mechanisms of contact and threat are equally at play in different social and religious contexts. The Muslim population is, clearly, a diverse group, with a myriad of backgrounds, experiences, and socioeconomic statuses. Despite the heterogeneity of this broad category, Muslims are often ascribed to a homogeneous culture and hence 'ethnified' (Roy 2004). Given that the majority of members tend to perceive Muslims as a distinct group, it is important to explore how, why, and where social boundaries are drawn.

Existing research on attitudes toward Muslims in Norway has primarily examined the adult population (Hoffmann & Moe 2017; Strabac, Aalberg & Valenta 2014). To my knowledge, only one study focused on youths' attitudes toward Muslims in Norway (Bratt 2002). In a survey-based study on Norwegian adolescents, Bratt (2002) found an association between having friends belonging to a different ethnic group than oneself and having positive attitudes toward that ethnic group. Francis et al. (2020) reached a similar conclusion in their study of anti-Muslim attitudes among Christian and nonreligious English adolescents. Non-Muslim adolescents with fewer Muslim friends expressed lower levels of anti-Muslim attitudes. This could suggest that contact reduces prejudice, but it could also reflect reversed causality or self-selection – i.e., people who were more positive toward Muslims in the first place are more likely to foster friendships with Muslims.

In a similar study exploring young people's attitudes toward Muslims, Bevelander and Otterbeck (2010) found that country of birth, socioeconomic background, and school context all affected attitudes toward Muslims in Sweden. Those authors argued that their results indicated clear support for the intergroup contact theory (Ibid. 419). However, their results were not unambiguous. Having Muslim friends affected girls' attitudes positively, but not boys, and their results also showed that boys' negative attitudes toward Muslims increased with the number of immigrants and higher unemployment levels in the locality, indicating support for the ethnic competition or group threat theories.

This seemingly confusing picture can in part be understood as a result of different delimitations of the regional units analyzed, what is referred to as the ‘modifiable areal unit problem.’ Weber (2015) argues that while threat effects seem to be operating on national or macro-level units, contact effects seem to be more prevalent on regional or meso level units. In larger units, different groups can live separate lives without much cross-cultural interaction. Semyonov and Glikman (2009) demonstrated this point in a study of anti-minority attitudes in European societies. The authors found that whether mixed settings increased or decreased positive out-group attitudes was contingent on the actual intergroup contact. In settings with little contact, findings were in line with the conflict theory, in settings with much contact, the expectations of contact theory were supported. However, there are no studies explicitly exploring the link between ethno-religious student composition and majority students’ attitudes toward Muslims in Norway.

THE INSTITUTIONAL SETTING

Similar to other Western-European countries, the ethnic composition of the Norwegian society has fundamentally changed over a relatively short time period. Norway remained relatively unaffected by international migration from outside Europe until the end of the 1960s, when an economic upswing attracted labor migrants from countries such as Turkey, Morocco, and Pakistan. This first wave of labor migrants came to an end with the ‘Immigrant stop’ introduced in 1975, ending labor migration from outside the Nordic countries (Brochmann & Djuve 2013). Following this moratorium, the flow of labor immigrants was replaced by a second wave of immigration, consisting of refugees, asylum-seekers, and people seeking family reunification from a diverse mix of countries across Africa, Asia, and the Middle East. After the eastward EU enlargements in 2004 and 2007, labor migration once again became a major source of migration to Norway, this time from countries like Poland, Lithuania, and Romania (Friberg 2016). These successive waves of immigration have changed the sociodemographic landscape in Norway, introducing a new dimension of ethnic stratification. According to Statistics Norway, as of 2019, 17% of the population are of immigrant origin, wherein immigrants constitute 14% and children of immigrants constitute 3% of the population. Proportions of the population of immigrant origin are considerably larger in younger generations and in major urban areas. In 2017, 42% of the birth cohort in the capital Oslo were born to parents who were immigrants or children of immigrants (Friberg 2019).

A significant proportion of immigrants to Norway come from countries with a majority Muslim population, and Norway ranks as one of the top 10 European destinations for Muslim refugees and Muslim migrants (Hackett et al. 2019). Norwegian Muslims are a heterogeneous group with diverse social and demographic backgrounds, and hail from countries including Pakistan, Somalia, Iraq, Iran, and Afghanistan. According to estimations from Statistics Norway, approximately 4% of Norwegians are Muslim, but these numbers are uncertain (Østby & Dalgard 2017). In the capital city Oslo, immigrants and their descendants from majority Muslim countries constitute 13% of the population, and among these, 70% are members of Muslim religious communities (Østby & Dalgard 2017).

The comprehensive education system in Norway is mandatory, publicly funded, and consists of 10 years of schooling from the age of 6 to 16 years. Ninety-eight

percent of students go on to enroll in their first year of secondary education, which is a universal right in Norway. The system provides a limited number of options in the transition to secondary education, which is divided into two strands, an academic and a vocational track. Students are free to choose from the programs available in their county of residence, but in cases where the demand exceeds availability, the applicants with the best grades get priority. In Oslo, the same rules apply to the choice of school, but in Akershus, geographical proximity can take priority over grades. Only 9% of students attend private schools.

The student body composition reflects, to a certain extent, differences in parental resources, ethnic and geographic backgrounds. (Hansen 2005). Immigrant families are concentrated in some districts in Oslo and Akershus, and nearly absent in others. In Oslo, we find high immigrant density in the Eastern districts and lower immigrant density in the Western districts (Wessel 2017). This pattern of segregation is partly mirrored in student composition in schools. Although some upper secondary schools are solely made up of native majority Norwegians, others are mixed, and in some schools immigrants and children of immigrants are in the majority (Wessel 2017). This pattern provides ample variation in the independent variable, making it a suited case for exploring the potential link between ethno-religious student composition and attitudes toward Muslims.

DATA AND METHODS

PARTICIPANTS

I used data from the first wave of the Children of Immigrants Longitudinal Study in Norway (for further description of the dataset, see (Friberg 2019)). The survey was conducted in 2016, with adolescents enrolled in their first year of upper secondary schooling, in the capital city Oslo, as well as a major adjacent area. In 2016, most of the students were 16 to 17 years old. Because secondary education is a universal right in Norway, and 98% of 16-year-olds enroll for the first year, this sample frame represents a good approximation of the full cohort population in the areas covered. The response rate of the survey was 48% of the full school cohort. Some caution is thus necessary when drawing conclusions. Through personal identification numbers obtained from school authorities, the survey data were linked with administrative registry data, providing reliable information on demographic, household, and economic background variables.

This project involves data collection on sensitive issues, linking survey data to administrative registry data, implying substantial ethical considerations regarding privacy and information security. The project was carried out with a license from the Ethical Review Board (NSD), participation was voluntary, and anonymity was guaranteed. The merging of survey and registry data was administered by Statistics Norway. The merged files were delivered as anonymous files to the research team without any possibility of identifying the individual participant.

In the following analysis, I operate with a sample of students belonging to the nonimmigrant majority. Thus, students who themselves or whose parents had migrated from another country were excluded. Thirteen percent of the sample could not be merged with administrative register data and were therefore excluded from the multivariate analysis. Analysis of the potential selectivity of students lacking correct ID were conducted, and the results showed that they did not differ significantly from

the remaining sample along any of the indicators examined. Those exclusions left 3,696 students from 57 schools in the analysis.

MEASURES

The dependent variable ‘*Attitudes towards Muslims*’ is based on the survey question, ‘Do you have a positive or negative impression of the following groups?’ with Muslims listed alongside Christians, Jews, people with no religion, and homosexuals. Answers ranged on a scale from 1 to 5 (1: very positive, 2: somewhat positive, 3: neutral or unsure, 4: somewhat negative, and 5: very negative). High scores reflect negative attitudes, and low scores reflect positive or neutral attitudes. Applying a single-item measure is a potential limitation of the present study. To conceptualize attitudes with only one item is less reliable than relying on a battery of items. However, the measure is based on a relatively straightforward question, which arguably provides more transparency in what is being measured compared to constructs that are more complex.

Ethno-religious student composition is the main explanatory variable, measured at the cohort level. The variable indicates the proportion of respondents in each school cohort originating in Muslim-majority countries in the greater MENA region (the Middle East and North Africa, plus adjacent Muslim-majority countries such as Pakistan, Afghanistan, Turkey, and Somalia – from here on simply referred to as ‘MENA’). I measured this item by identifying respondents originating from MENA countries, meaning that the students themselves were born in these regions or their parents emigrated from these regions. Information on origin country was obtained from registry data. In the next step, I calculated the relative proportion of MENA respondents in each cohort. This measure is based on the students who responded to the survey, which does not entail the full cohort. However, the majority of nonresponse was at the school level, which to some extent reduces the concern for bias in the independent variable. Nonetheless, some caution is necessary when drawing conclusions.

A set of individual-level factors has consistently and across studies been shown to influence negative attitudes toward different groups (Bevelander & Otterbeck 2010; McLaren 2003; Quillian 1995; Scheepers, Gijsberts & Coenders 2002; Schneider 2008). Drawing on these previous studies, I introduced a set of individual-level determinants as controls in my model. *Parental education* was measured using the information on the parent with the highest educational qualification. We distinguish between four levels of education: basic compulsory, upper secondary education, postsecondary BA level, and postsecondary MA- level or higher. Grade point average (GPA) refers to the students’ GPAs from compulsory school. *Working mother* is a dichotomous variable indicating whether the mother was in employment for at least one of the last three years. *Gender* is measured as a dichotomous variable, where 1 refers to male and 0 refers to female. Parental education, mother in employment, as well as grades and gender were measured at the individual level, whereas ethno-religious student composition (the percentage of respondents with MENA origin in the school cohort) was measured at the school-cohort level. Table 1 presents the characteristics of the population and their school cohorts.

Because the sample is restricted to students of native origin, they are naturally overrepresented in schools with a lower proportion of students from majority Muslim

VARIABLE	MEAN (SD)	MIN-MAX
Dependent variable:		
Impressions of Muslims	2.639 (0.019)	1–5
Very positive (ref)	0.233	
Somewhat positive	0.147	
Neutral	0.432	
Somewhat negative	0.123	
Very negative	0.064	
Independent variable:		
Proportion of students with MENA origin	9.89 (8.880)	0–75
Student level control variables		
Male	0.508	0–1
Average grade achievement	5.5 (2.9)	1–10
Parents' education		
Basic compulsory (ref)	0.038	0–1
Upper secondary	0.286	0–1
Postsecondary, BA level (≤ 3 years)	0.385	0–1
Postsecondary, MA level (≤ 4 years)	0.291	0–1
Mother in employment (at least one of the last three years)	0.926	0–1
<i>Robustness checks</i>		
Parents' impression of Muslims		
Very positive	0.183	0–1
Somewhat positive	0.149	0–1
Neutral	0.434	0–1
Somewhat negative	0.168	0–1
Very negative	0.066	0–1
Would vote for Progress Party	0.062	0–1
Number of schools	57	
Number of students	3,696	

Table 1 Summary statistics of the dependent, independent, and control variables.

countries. That is, approximately 60% of native students attend schools where less than 10% of their peers are of MENA origin. In contrast, only 20% of students with MENA origins are in schools with less than 10% of MENA origin.

ANALYTICAL PROCEDURE

The data consisted of a sample of students, nested within schools. The main explanatory variable, *ethno-religious student composition*, was measured at the

school level and the dependent variable, *attitudes towards Muslims*, at the individual level. To account for the hierarchical structure of the data (i.e, individuals are nested within schools) and because the dependent variable uses an ordinal scale, I applied multilevel ordinal logistic modeling.¹ The school cohort was chosen as the unit of analysis at the contextual level as students in upper secondary school are less confined to their specific classrooms, compared to students in younger cohorts. Students in the same school cohort may have something in common that we cannot measure. Therefore, I run multilevel mixed-effects ordered logistic regression, which takes into consideration unobserved differences across schools that could influence attitudes, such as the quality of teachers, level of parental involvement, or school culture.

It is important to stress that I cannot firmly claim that student body composition is exogenous to the outcome. The sampled students had not been assigned to schools randomly, and so there may have been cases of self-selection based on preferences, which could include prejudice. To a certain extent, this point is considered in the analysis, with the introduction of controls for GPA from primary school, arguably the most important selection mechanism distributing students to different schools. Furthermore, parents may self-select away from certain school districts due to ideological beliefs correlated or overlapping with the attitudinal outcome variable. To address this concern, namely the potential fact that less tolerant parents opt for settling down in school districts with lower ethno-religious diversity (Denessen, Driessena & Slegers 2005; Karsten et al. 2006; Söderström & Uusitalo 2010), I introduced a variable indicating the parents' attitudes toward Muslims as a robustness check. This variable is based on a survey question asking the students what they believe to be their parents' impressions of Muslims. With the introduction of this measure, I aim to tease out some of the potential self-selection to different school context due to parental attitudes. As a second robustness test, I include a dummy variable indicating whether the student would vote for the Progress Party (FrP). The Progress Party is the only Norwegian Political Party explicitly highlighting religious plurality as a barrier for integration, perceiving Islam and Muslims generally as threats to Norwegian values and democracy. This measure arguably captures the students' ideological convictions. The purpose of using this variable as a control is to isolate exposure effects that operates above and beyond the level of ideological convictions, which may be more sensitive to influences from media, parents, etc. that to a lesser extent are linked to their own personal experiences in the school context (results shown in the appendix).

RESULTS

Before investigating the hypotheses laid out in the introduction, I will shortly review how attitudes toward Muslims compare to attitudes toward other groups, namely Christians, Jews, and people with no religion. The most prominent pattern revealed

¹ I tested the proportional odds assumption using the Brant test. The test indicated that one of the parameters violated the assumptions, namely GPA. However, a close comparison between the original model and a single-level generalized ordered logistic approach with relaxed assumptions provided similar results (available upon request) (Williams 2006). Conducting multiple tests at the same time carries the risk that just by chance alone; some variables may appear to violate the parallel lines assumption when in reality they do not. To be able to account for the hierarchical structure of the data, we opt for multilevel ordinal logistic regression, without relaxing the assumptions.

in Table 2 is that the large majority of students reported positive or neutral attitudes toward all groups. Furthermore, the statistics clearly shows that Muslims represent the least favorably viewed of the four mentioned groups. On average, 19% of respondents

	VERY POSITIVE	SOMEWHAT POSITIVE	NEUTRAL OR UNSURE	SOMEWHAT NEGATIVE	VERY NEGATIVE
Students' impressions of:					
Muslims	23.3%	14.7%	43.2%	12.3%	6.4%
Christians	36.2%	16.2%	39.6%	5.7%	2.3%
Jews	30.2%	16.0%	47.0%	4.0%	2.9%
People with no religion	44.8%	16.3%	36.6%	1.4%	0.9%

expressed a *somewhat* or *very negative* impression of Muslims. Only 8% shared that view when it came to Christians, and even fewer expressed negative impressions of Jews and people with no religion.

The main aim of this article was to investigate whether the majority students who encounter more out-group members in their school cohort would have more favorable attitudes toward Muslims than students who encounter fewer out-group members, or if the relationship were reversed. Table 3 shows the relationship between ethno-religious student composition and attitudes toward Muslims. A multilevel ordinal logistic regression was performed on the ordinal attitude variable, ranging from very positive impression to very negative impression of Muslims. In model 0, I examine the association between the relative proportion of students from Muslim-majority countries and attitudes toward Muslims among majority students. Being situated in school cohorts with a larger relative proportion of MENA peers is associated with lower levels of negative attitudes toward Muslims among native majority students. The association between ethno-religious student composition in school and students' impressions of Muslims is similar across the range of the outcome variable. In Model 1, I introduced the individual-level control variables. Controlling for parents' education, mothers' employment, gender, and GPA, the association between ethno-religious student composition and attitudes toward Muslims remains negative and significant.

	MODEL 0		MODEL 1	
	COEFFICIENT	SE	COEFFICIENT	SE
Prop. with background from MENA plus	-0.0106**	(0.00440)	-0.014***	(0.004)
Male			0.556***	(0.064)
Grade point average			-0.028**	(0.013)
Parents' education (ref: basic compulsory)				
Upper secondary education			-0.015	(0.164)
Postsecondary, BA level (≤3 years)			-0.226	(0.165)
Postsecondary, MA level (≥4 years)			-0.255	(0.171)

(Contd.)

Table 2 Distribution of attitudes toward Muslims, Christians, Jews, and people with no religion (N = 3,696).

Table 3 Estimated coefficients for student composition on negative attitudes toward Muslims (Multilevel Ordinal Logistic Regression).

Note: SE = standard error. * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

	MODEL 0		MODEL 1	
	COEFFICIENT	SE	COEFFICIENT	SE
Mother in employment			-0.169	(0.118)
Constant cut1	-1.330***	(0.0758)	-1.572***	(0.199)
Constant cut2	-0.621***	(0.0729)	-0.849***	(0.198)
Constant cut3	1.369***	(0.0761)	1.176***	(0.199)
Constant cut4	2.592***	(0.0922)	2.409***	(0.206)
Between school variation	0.0715***	(0.0249)	0.032*	(0.017)
AIC	10,448.33		10,346.28	
BIC	10,485.62		10,414.65	
Observations	3,696		3,696	
Number of groups	57		57	

Akaike information criterion (AIC) and Bayesian information criterion (BIC) are used to measure how well the model fits the observed data. Lower observed values indicate a better fit. The AIC and BIC are lowest in model 1, indicating that including controls for parents' education, mothers' employment, gender, and GPA improves model fit.

These findings indicate that the likelihood of having negative attitudes toward Muslims decrease as relative out-group size at the school level increases. Introducing controls for individual-level characteristics previously shown to affect attitudes toward Muslims only reinforces this pattern. Figure 1 illustrates this relationship by showing predictive

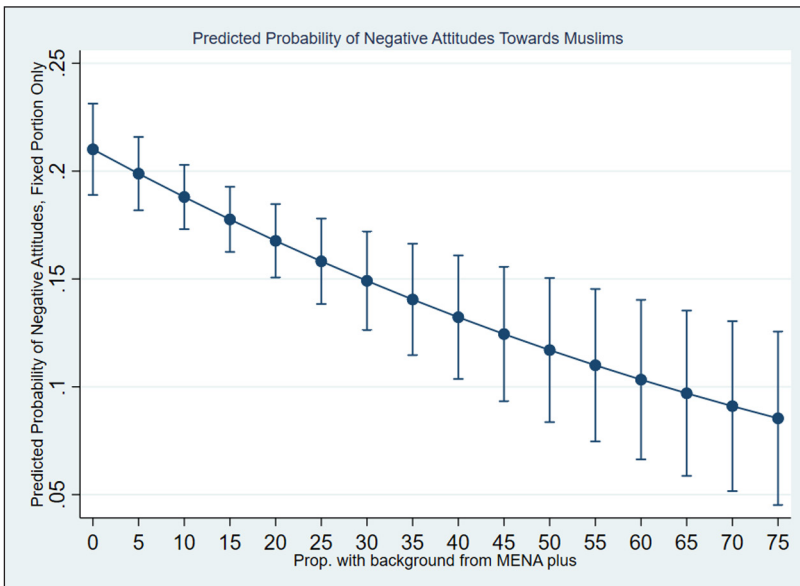


Figure 1 Predicted probability of expressing negative attitudes toward Muslims after ethno-religious student composition in schools.

margins for having a negative impression (very negative or somewhat negative) of Muslims after ethno-religious student composition. For students in cohorts where MENA origin peers are absent, the predicted probability of having a negative attitude

toward Muslims is 21%; for students in cohorts where MENA origin peers make up 50% of the cohort, the predicted probability is 12%.

As a robustness test, I introduced a dummy variable indicating the students' perception of their parents' attitudes toward Muslims (results shown in the appendix), which arguably both predates and may affect the students' own attitudes. Including this proxy in the model did not affect the relationship between ethno-religious student composition and attitudes toward Muslims. Neither does introducing a control for whether the student would vote for the Progress Party. As students are not randomly distributed across schools, a potential concern would be that students with more negative attitudes toward Muslims, or out-groups in general, would self-select to schools where contact opportunities with these groups are lower. While controlling for party allegiance and parental attitudes do not represent a solution to the problem of self-selection, the fact that the estimates remain stable, despite introducing controls for perceived parental attitudes and ideological party preferences, further strengthens the robustness of the association between ethno-religious student composition and attitudes toward Muslims.

In line with previous research on prejudice, boys express more negative attitudes toward Muslims than girls, and a higher GPA is associated with more positive attitudes toward Muslims.

DISCUSSION

In this study, I examined how contact opportunities across religious lines relate to attitudes toward Muslims among majority youth. Although the school context renders contact between classmates inevitable, the school cohorts differ in the presence or degree of contact opportunities across groups. The central theories, group threat theory and contact theory, propose diverse mechanisms influencing the relationship between relative group size and prejudice, making this an interesting question to explore.

The results of my study support Hypothesis 2: Majority students who have more contact opportunities with out-group members in their school cohort had more favorable attitudes toward Muslims than students who had less contact opportunities with out-group members. Expressing negative attitudes toward Muslims is less common among students in schools with a higher proportion of MENA origin students. Conversely, the expressions of positive attitudes toward Muslims are significantly more common in schools where students with MENA origin make up a larger proportion of the student body. The relationship between the relative proportion of MENA origin peers in the school cohort and attitudes toward Muslims remains negative and significant when applying various estimations of out-group size and controlling for potentially confounding factors.

It is, however, important to stress that the mechanisms proposed in intergroup contact theory and group threat theory respectively are not mutually exclusive. Different mechanisms could be at play at the same time, partly canceling each other out. The findings in the present study do not negate the presence of intergroup conflict or symbolic threat – merely that those mechanisms generating a positive association appear to be stronger in the current sample.

In general, these findings support the literature showing that contact reduces negative prejudice (Fox 2004; Hjerm 2009; Schlueter, Masso & Davidov 2020; Verkuyten and Thijs 2010; Wagner et al. 2006; Velasco González et al. 2008). The bulk of studies

examining a potential link between student composition in schools and attitudinal outcomes, however, measure the quantity and/or quality of intergroup *friendships*. A limitation of this approach is the likelihood that people who foster friendships across cultural, racial, or religious groups are people who were more tolerant and open minded toward these groups in the first place. Put differently, intergroup friendships and out-group attitudes share overlapping predictors. While ethno-religious student composition potentially shares overlapping predictors with attitudes toward Muslims, I argue that the potential selection bias introduced by utilizing choice of friends is more problematic. Nevertheless, for intergroup contact to happen diversity is a necessity and in schools where contact opportunities are higher, positive attitudes toward Muslims are more widespread. Previous research has found that intergroup contact is more prevalent in heterogeneous environments than in more homogeneous ones, even in cases with higher in-group preferences (Quillian & Campbell 2003; Vermeij, Van Duijn & Baerveldt 2009; Moody 2001).

My findings indicate that the processes suggested by the group threat theory may be weaker than the processes suggested by contact theory. The general association between ethno-religious student composition and general attitudes toward Muslims does not lend support to the second hypothesis, namely that *Majority students who encounter many students with an immigrant background from Muslim-majority countries in their school cohort will have less favorable attitudes towards Muslims than students who encounter few students with an immigrant background from Muslim-majority countries*. As previously noted, some studies have found that prejudice actually increases with out-group size (Quillian 1995; Scheepers, Gijssberts & Coenders 2002). A possible explanation may be the units analyzed, sometimes referred to as the 'modifiable areal unit problem' (Weber 2015). Wagner et al. (2006: 387) argued that in small units, such as schools, positive contact effects are maximized. Conversely, in larger units, such as nation-states, a growing minority population does not necessarily produce intergroup contact. The school context provides a framework for interaction that arguably comes closer to meeting Allport's (1958) criteria for optimal contact than do nation-states or regions. It could be argued that students in a shared cohort, to a degree, at least formally, share equal status and common goals and are expected to cooperate. The school offers institutional support for cooperation and sustained interaction across groups and provides common goals through a shared curriculum and ample opportunities for cooperation. While contact within the school setting is not necessarily exclusively positive or of high quality, these conditions may be less present when analyzing larger regions or nation-states, partly explaining the differing conclusions drawn from studies executed on different levels.

The present study has some limitations. First, the current study measures attitudes toward Muslims by asking respondents directly of their impressions of Muslims. This question raises social desirability concerns, as the students may not wish to appear prejudiced. It may even be the case that native-origin adolescents in schools where Muslim students make up a larger proportion of the cohort are more inclined to hide or suppress negative attitudes toward Muslims. When we measure attitudes by asking people directly, the answers will always reflect a mixture of attitudes and a desire to appear in sync with what one considers socially acceptable. One potential solution to this problem would be to include measures of implicit bias. However, Crandall et al. (2002) argues that operating with a sharp distinction between genuine, intrinsic attitudes on the one hand and explicit expressions on the other, underestimates the fact that attitude change does not necessarily start from within the individual,

but follows from changes in the normative legitimacy of specific prejudices (p.374). Following this line of reasoning, one could argue that even if the present findings perhaps reflect differences in social norms rather than differences in the respondents' 'true' emotions, this is also an important finding.

Second, rating impressions from negative to positive may be subject to response style bias. Respondents may tend to agree with items (acquiescence); some respondents may have a 'mild' response style, with a tendency to opt for the middle option, while others tend to pick the extremes of the scale (Moors 2008). Assessing the distribution for the full range of the outcome variable partly addresses response style bias concerns, assuming that differences in response style are not correlated with the independent variable. For some individuals, stating to have a 'somewhat positive impression' of Muslims instead of a 'very positive impression' could in real terms reflect negative experiences, if this is a person normally expressing very positive attitudes. For others, stating a neutral impression may in fact reflect a positive impression, if otherwise; they tend to have a negative outlook. Analyzing the entire scale enables us to capture variation, regardless of response style. A further limitation of the present study is the fact that our measure of ethno-religious school composition is based on the students who replied to the survey. Furthermore, the data do not allow disentanglement between the effects of student composition and effects from the larger social units the students are part of, like their neighborhoods or other relevant aspects of the school environment. Teachers attitudes may, for instance, influence how students respond to ethno-religious diversity in school (Vezzali, Giovannini & Capozza 2012; Alan et al. 2021). Cross-sectional data prevents the analysis from disentangling the students' attitudes before exposure in the school context from their attitudes postexposure.

Finally, although I have established an association between school composition and attitudes toward Muslims, the present data did not allow me to disentangle the mechanisms driving the relationship between ethno-religious student composition and attitudes toward Muslims. Future research should focus both on testing the link between ethnic composition and attitudes longitudinally and comparatively across different levels of analysis, to disentangle what types of environments foster positive contact, and under which conditions increased contact leads to increased threat perception. In addition, more studies should explore the mechanism through which out-group size affects attitudes, e.g, through correcting stereotypes, by increasing knowledge, by creating sympathy, or through some other mechanism.

ADDITIONAL FILES

The additional files for this article can be found as follows:

- **Appendix.** Table A1. DOI: <https://doi.org/10.33134/njmr.404.s1>
- **Supplemental File.** Figures S1 and S2. DOI: <https://doi.org/10.33134/njmr.404.s2>

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The author has no competing interests to declare.

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