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School Context and Ethnic Minority Adolescent Religiosity: A Longitudinal Study

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Previous research has shown that ethnic school composition can have an impact on a number of outcomes for pupils. The influence ethnic school composition has on pupils' religiosity, however, has not received much attention. Furthermore, the few previous studies that have examined this relationship have relied on cross-sectional data, thus being unable to separate selection effects from causal effects. In this research note we use longitudinal data collected among pupils in the third (2011–2012) and sixth grade (2014–2015) of secondary schools in Flanders, the northern part of Belgium. We examine changes in religiosity among pupils using cross-classified multilevel analyses. The results show that there is a positive impact of ethnic school composition on ethnic minority religiosity. This does not mean, however, that pupils become more religious in schools with a higher share of ethnic minority pupils. We rather see that a decline in religiosity among highly religious pupils is attenuated in schools with more ethnic minority pupils.

Keywords: *adolescents, school segregation, ethnic composition, Belgium.*

INTRODUCTION

The effects of ethnic school segregation have been on top of research agendas for several decades. In many European countries, ethnic minorities are disproportionally concentrated in some schools. There is a concern that differences between majority and minority pupils, for instance, in the case of an ethnic achievement gap, are caused by this ethnic concentration. Scholars have therefore examined whether this ethnic concentration in schools is detrimental for educational achievement (van Ewijk and Sleegers 2010), or other outcomes, such as social integration or national identification (Agirdag, Van Houtte, and Van Avermaet 2011; Van Houtte and Stevens 2009).

Another possible aspect that may be influenced by ethnic concentration in schools is the religiosity of adolescents. There are two reasons to believe that adolescent religiosity in Europe might be influenced by ethnic concentration in schools. First, previous research has shown that the religiosity of peers in secondary schools is positively associated with religiosity among adolescents (Barrett et al. 2007). The more religious the population of the school pupils attend, the more religious they become during their school career. Second, ethnic minority pupils in general, and Muslim pupils in particular, tend to be more religious than ethnic majority pupils in

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Western Europe (De Hoon and Van Tubergen 2014). Therefore, the general level of religiosity is higher in schools with more ethnic minority pupils (Van der Bracht et al. 2016).

Although there are some studies that found a positive association between ethnic concentration and adolescent religiosity (De Hoon and Van Tubergen 2014; Van der Bracht et al. 2016), these were based on cross-sectional data. As a consequence, these studies were not fully able to separate selection from causation: ethnic minority pupils with high levels of religiosity might attend schools with a higher proportion of co-ethnic and co-religious pupils. And the more pupils from the same ethnic and religious background in a school, the more religious those pupils might be. To examine the causal relation between ethnic concentration and adolescent religiosity, longitudinal studies are needed.

In this research note, we test if ethnic concentration has a positive influence on pupils' religiosity. The central proposition of this research note is that adolescents tend to become more religious if they attend schools with more ethnic minority pupils. We examine this proposition using RaDiSS, a longitudinal data set of 1,672 pupils in 49 secondary schools in Flanders, the Dutch-speaking northern part of Belgium. We perform multilevel analyses to assess the influence of the proportion of ethnic minority pupils on the change in religiosity between the third (i.e., grade 9 in U.S. school system terms) and sixth grade (i.e., grade 12 in the United States).

Theory

Given the amount of time adolescents spend in schools, these schools exert important socializing influences. One of these influences can be the norms and behavior of peers in school. Previous research has shown that adolescents take over values, norms, and behavior of classmates (Brechwald and Prinstein 2011). Adolescents engage in behavior that matches that of important peer groups and that is reinforced by peers. Previous research has shown, for instance, that alcohol use of adolescents can be influenced by the alcohol use of peers: pupils with friends who drink more tend to drink more themselves and friends are chosen as a function of their drinking behavior (Osgood et al. 2013). Studies in the United States have demonstrated that these same peer influences can also affect the religiosity of adolescents and that pupils tend to become more religious if they attend schools with more religious peers (Barrett et al. 2007; Regnerus, Smith, and Smith 2004).

Pupils who are surrounded by more religious peers can thus become more religious themselves. One of the reasons why some schools have more religious peers than others is ethnic school segregation. Like other Western European countries, Belgium can be characterized by widespread secularization (Norris and Inglehart 2004). Especially religious practice, such as service attendance, has waned over the past decades in Europe (Pollack 2008). Ethnic minorities, however, are often characterized by a remarkable intergenerational stability in religiosity: parents are often successful in transmitting their religiosity to their children, resulting in a stable pattern of relatively high religiosity, especially among Muslim minorities (Maliepaard, Gijsberts, and Lubbers 2012; Maliepaard and Lubbers 2013). This is especially true for more personal dimensions of religiosity such as religious identity, but less so, for instance, for mosque attendance among Muslims (Van De Pol and Van Tubergen 2014). Previous research has shown that this stability is in part caused by ethnic residential concentration (Voas and Fleischmann 2012).

If ethnic concentration has an influence on religious preservation, the question is whether we can find a similar effect of ethnic concentration in schools. Research into deviant behavior suggests so: pupils in Dutch and Norwegian schools with more Muslims consume less alcohol, regardless of their own ethnic background (Amundsen, Rossow, and Skurtveit 2005; van Tubergen and Poortman 2010). Hence, one can expect that the concentration of ethnic minorities in some schools has an important impact upon the religiosity of schoolmates.

Therefore, we analyze changes in religiosity among pupils in secondary schools due to the presence of ethnic minority pupils in the schools they attend. We expect (1) religiosity to be higher in schools with more ethnic minority pupils, and (2) the effect of ethnic school composition to be higher for more religious pupils. To assess these research questions, we use longitudinal data. In this way, we are able to discern causal influences from possible selection effects.

Data and Methods

We use data from Racism and Discrimination in Secondary Schools (RaDiSS), a longitudinal survey among pupils in the third (2011–2012) and sixth grade (2014–2015) in secondary schools in Flanders, the Dutch-speaking, northern part of Belgium. In the first wave, students, aged 14–15, were selected through multistage sampling whereby first schools were selected and subsequently pupils. In the first stage, 104 schools were sampled according to the urbanization of the school neighborhood and ethnic composition of the students. Secondary schools are constantly asked to participate in academic research in Flanders and therefore often apply the principle of "first come, first served." A total of 55 secondary schools were willing to participate in the survey, resulting in a response rate at the school level of 53 percent. The nonresponse was not selective on the ethnic composition of schools. All third-grade students present were asked to complete a written questionnaire, in the presence of a researcher and one or more teachers. This resulted in a sample of 4,322 pupils. Nonresponse at the level of students was due to students' absence at school, for instance, due to illness. This results in relatively high response rates at the student level, namely, 92.5 percent, and a nonresponse that is only selective insofar as the absence of students is selective, for instance, due to students' (chronic) ill health. After two years, the same schools were contacted for a follow-up survey. Of the 55 schools, 52 were willing to participate in the second wave. Within each school, pupils, aged 17–18, in the sixth grade were asked to participate, as in the first wave. In the second wave, 3,367 of 4,107 pupils completed the questionnaire, resulting in a response rate of 82.0 percent. The response rate is somewhat lower than in the first wave, given higher absenteeism in higher grades. To link data between the two waves, respondents were asked to supply their names on the questionnaire, but were ensured that their names would be removed once the database was complete and that teachers were not allowed to read the answers. Subsequently, the data of wave 1 and wave 2 were linked. We have removed pupils in the artistic track from our sample because of the low number of pupils in that track (11) and have removed schools with less than five pupils, retaining 49 schools in our data set. In total, 1,835 pupils filled in a questionnaire in both wave 1 and wave 2. Because of listwise deletion based on the dependent and independent variables in the analyses, the data set contains 1,672 pupils.

Between wave 1 and wave 2, there is a considerable dropout of pupils in the data, for instance, because they have been retained a year, left or switched schools or were absent at the moment the questionnaires were administered. This means that wave 1 and wave 2 contain a considerable number of pupils who were not surveyed in each wave. There is an attrition rate of 57.5 percent. Results from attrition analyses are presented in Table A1 in the Appendix. Attrition is selective on pupil religiosity: pupils who are more religious at wave 1 had lower odds of dropping out of the data.

Dependent Variable

Religiosity is a metric variable that measures the change in religiosity between wave 1 and wave 2 of the data. In each wave, respondents were asked to indicate how important religion is to them. Answers to this question were recorded on a five-point scale, ranging from "Not at all important" to "Very important." To calculate the dependent variable, we subtracted the importance of religiosity at wave 1 from the importance of religiosity at wave 2. This way, we

get a variable that indicates an increase in religiosity between the third and sixth grade of the secondary school. This results in a variable with a range from –4 to 4. A score of 0 means that there was no change in religiosity during the period under study, whereas positive scores indicate an increase and negative scores a decrease.

Independent Variables

For all independent and control variables, we can choose between wave 1 or wave 2 to select the appropriate measurement. To select the appropriate point in time, we use the following rule of thumb: information will be more accurate at wave 2, except for when we want to estimate a causal effect or when indicators might change between wave 1 and wave 2. The nationality of parents, for instance, can be considered to be reported more accurately at a higher age, hence measured at wave 2. For ethnic concentration on the other hand, we expect a causal effect from wave 1 on a change in religiosity at wave 2, hence we measure ethnic concentration at wave 1.

Religiosity at T1 is a metric variable measuring the importance of religiosity at wave 1. This variable is the answer to the question "How important is religiosity to you" from the first wave of the survey. As already indicated, answers were recorded on a five-point scale ranging from "Not at all important" to "Very important." This variable has a range from 1 to 5.

Proportion ethnic minorities is a metric variable measuring the proportion of ethnic minority pupils in the school adolescents attend. This variable was calculated using information on the birth country of respondents and the nationality of respondents' parents and of respondents' maternal and paternal grandmother. If at least one of these persons was born abroad or had a foreign nationality, the respondent was considered an ethnic minority. The ethnic minority schoolmates variable was then constructed by calculating the proportion of all respondents with ethnic minority status. As this is a school variable, this variable will be introduced at the school level in the multilevel models. Given that dropout between wave 1 and wave 2 might be selective based on ethnicity, the proportion of ethnic minority pupils is calculated on the full wave 1 data set, also including pupils who are not included in the longitudinal data set because they did not participate in wave 2.

Control Variables

For all control variables, we used information from the second wave. The only exception is the pupil's denomination, where we use information from wave 1. This is because religious switching between denominations might have occurred between the waves. As this could be a consequence of religious development due to ethnic concentration in schools, using the wave 2 information would mean we control for the confounding between two causal effects of ethnic concentration.

At the student level, we control for *age*, *sex*, *denomination*, *migrant background, socioeconomic status,* and *track*. At the school level, we introduce the control variables *school size* and *school sector*. A description of the operationalization can be found in Table A2 in the Appendix.

Methods

To analyze the change in religiosity between the third and sixth grade, we perform three-level cross-classified multilevel analyses, given that (1) 1,672 pupils are nested in (2) 49 secondary schools and (3) 78 national origins. For the latter level, we derived the ethnic origin based on respondents' place of birth, the nationality of their parents, and the nationality of their grandmothers, in accordance with the migrant background variable. We present two models. In the first model, all independent and control variables are included, both at the individual and school level. In the second model, we include an interaction effect between *religiosity at T1* and

Table 1: Descriptive statistics for dependent and independent variables: range, frequencies, average, frequencies (%), and standard deviations (Std)

	Full Sample		
	Range	#/Ave.	(%)/(Std.)
Dependent			
Change in religiosity between T1 and T2	−4–4	−.187	(.976)
Individual			
Independent			
Religiosity at T1	0–4	1.697	(1.325)
Migrant background			
Ethnic Belgian	0/1	1118	(66.6%)
First generation	0/1	148	(8.8%)
Second generation	0/1	317	(18.9%)
Third generation	0/1	95	(5.7%)
Control			
Age	15–22	17.324	(.634)
Sex			
Male	0/1	784	(46.7%)
Female	0/1	894	(53.3%)
Denomination			
Catholic	0/1	847	(50.5%)
Muslim	0/1	265	(15.8%)
Other affiliation	0/1	37	(2.2%)
No affiliation	0/1	529	(31.5%)
Socioeconomic status	16–90	52.694	(17.052)
Track			
Academic	0/1	865	(51.5%)
Technical	0/1	405	(24.1%)
Vocational	0/1	408	(24.3%)
School			
Independent			
Proportion ethnic minorities	.042–1	.382	(.266)
Control			
School size	82–1170	643.308	(295.252)
School sector			
Public	0/1	645	(38.4%)
Catholic	0/1	1033	(61.6%)

proportion ethnic minorities. This way, we can assess whether the effect of proportion ethnic minorities differs according to the religiosity of individuals. For each effect, we present the coefficient, with standard errors in parentheses. The metric effects of *age* and *ses* are grand-mean centered. The effect of *school size* has been divided by 1,000 to be better aligned with the scale of the dependent variable.

Results

Descriptive results are presented in Table 1. A first view on the religious change that can occur among adolescents is presented in Table 2, which shows switching between religious

Table 2: Denominational switching between T1 and T2

		T2			
		Catholic	Muslim	Other	Nonaffiliated
T1	Catholic	76.5%	.7%	1.8%	21.0%
	Muslim	.8%	97.4%	.8%	1.1%
	Other	8.6%	.0%	74.3%	17.1%
	Nonaffiliated	1.1%	.2%	3.6%	95.1%

denominations between the third and sixth grade. The table contains row percentages, with the religious denomination at T1 in the rows and the denomination at T2 in the columns. The diagonal thus represents the percentage of pupils who retained their religious affiliation between T1 and T2. Remarkable stability is found for Muslim and nonaffiliated pupils. More than 95 percent of pupils with this affiliation at T1 are still affiliated with the same denomination at T2. Most switching occurs for pupils affiliated to the Catholic or other denominations. Particularly interesting is the switching from Catholic to nonaffiliations. More than one in five pupils who identified as Catholic in the third grade considers himself or herself nonaffiliated in the sixth grade. Overall, this leads to a general growth of the group of nonaffiliated pupils: 21 percent of Catholics, 1.1 percent of Muslims, and 17.1 percent of other affiliations considers themselves nonaffiliated, whereas the nonaffiliated in the third grade remain unaffiliated in the sixth grade.

When we look at the main variable of interest in model 1 of Table 3, we see a positive effect of the proportion of ethnic minority pupils in schools. This means that pupils who attend a school with a higher proportion of ethnic minority pupils became more religious during the three last years of their secondary school career, when compared to pupils in schools with a lower proportion of ethnic minority pupils. This indicates that there is indeed a longitudinal effect of attending a school with a high share of ethnic minorities on pupils' religiosity. The effect of ethnic concentration differs according to the level of religiosity pupils have, however, as we can see from the interaction effect in the second model in Table 3. We notice a positive interaction effect between religiosity at T1 and the proportion of ethnic minorities. This means that the effect of ethnic school segregation is greater for pupils who were more religious at a younger age. Figure 1 displays the predicted change in religiosity according to proportion of ethnic minorities in school for pupils with the lowest and highest levels of religiosity at T1. From this figure, we learn that there is virtually no effect on pupils who are not that religious to begin with, but a positive effect for pupils with high levels of religiosity at T1. For these latter pupils, however, the expected change is still negative. Therefore, this figure shows that, in general, there is a decline in religiosity between the third and the sixth grade, but this decline is attenuated for highly religious pupils by the proportion of ethnic minorities in the school they attend. Ethnic concentration does not necessarily lead to an increase in religiosity, but rather to a lower decrease than among pupils in schools with less ethnic school segregation.

Table A3 in the Appendix contains additional analyses with denominational switching between T1 and T2 as a dependent variable. The results of these analyses support our main results: switching occurs less often in schools with high levels of ethnic concentration. This is especially the case for Muslim pupils.

Conclusion and Discussion

With this research note, we examined the effect of ethnic school concentration on adolescents' religiosity. Although previous research was hampered by possible selection or reverse causation

Table 3: Change in religiosity between T1 and T2

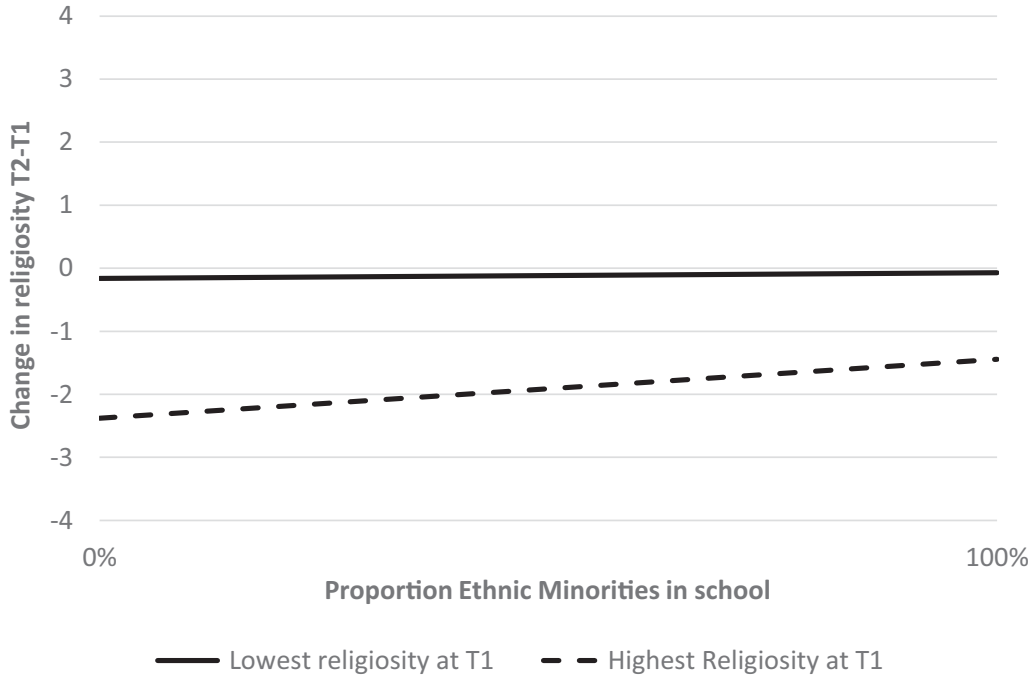
	Model 1		Model 1	
	Coef.	(S.E.)	Coef.	(S.E.)
Intercept	.255^{+}	(.148)	.391*	(.115)
Individual				
Age	.035	(.042)	.035	(.042)
Female	.093*	(.043)	.095*	(.043)
Socioeconomic status	.001	(.002)	.001	(.002)
Track				
Academic	Ref.		Ref.	
Technical	−.083	(.061)	−.077	(.061)
Vocational	.017	(.071)	.011	(.071)
Migrant background				
Ethnic Belgian	Ref.		Ref.	
First generation	.292*	(.146)	.235*	(.098)
Second generation	.240^{+}	(.131)	.227*	(.074)
Third generation	.096	(.146)	.074	(.095)
Denomination				
Catholic	Ref.		Ref.	
Muslim	.873*	(.105)	.803*	(.104)
Other affiliation	.422*	(.155)	.401*	(.155)
No affiliation	−.181*	(.059)	−.175*	(.059)
Religiosity at T1	−.479*	(.026)	−.554*	(.036)
Contextual				
School size	.068	(.082)	.018	(.051)
Catholic school	.033	(.051)	.074	(.081)
Proportion ethnic minorities	.267*	(.132)	−.120	(.187)
Interaction				
Religiosity at T1 * Prop. EM			.211*	(.069)
Variance				
School	.000		.000	
Origin	.011		.000	
Individual	.760		.759	
Deviance	4294.753		4284.242	

Results of cross-classified multilevel analysis, standard errors in parentheses. $^{*}p < .05$; $^{+}p < .1$ (two-sided tests); N individual = 1,672; N origin = 78; N school = 49.

effects, we used longitudinal data to examine changes in religiosity between the third and sixth grade of secondary school in Flanders. This leads to two important conclusions.

First, between the ages of 15 and 18, there is a relatively high amount of switching from affiliations to religious denominations to nonaffiliation. In Flemish society, where a considerable number of institutions, such as education, are organized based on religious denominations, pupils may identify themselves with the Catholic tradition of the country. At a later age, however, a more conscious identity formation might lead adolescents to dissociate themselves from this identification. Although there is a vast amount of research on the existence of "believing without belonging" (Davie 1990), less is known about how this pattern of disaffiliation of religious denominations comes about during adolescence.

Figure 1
Interaction effect religiosity at T1 and proportion ethnic minorities in school



Second, we found that ethnic school concentration affects adolescents' religiosity. There is a positive effect of attending a school with a higher share of ethnic minority pupils on changes in religiosity between the third and sixth grade of secondary schools. This does not mean, however, that religiosity increases due to ethnic concentration. It is rather the case that declines in religiosity are attenuated by ethnic concentration. Most schools with high proportions of ethnic minority pupils are Muslim-migrant-dominated schools (Van der Bracht et al. 2016), and Muslim pupils have, in general, a higher level of religiosity than ethnic majority pupils (De Hoon and Van Tubergen 2014). For these highly religious pupils, ethnic and religiously concentrated schools might function as a religious microcosm that is separated from the secularized environment in Western European countries. The results from this longitudinal study hence support previous cross-sectional studies on the effects of ethnic concentration in schools and neighborhoods (De Hoon and Van Tubergen 2014; Van der Bracht et al. 2016; Voas and Fleischmann 2012).

One of the major limitations of this research is that we are unable to distinguish between ethnic, religious, and socioeconomic concentration at the school level or between segregation at the school or neighborhood level. These aspects are largely intertwined in Flemish schools and neighborhoods, as in other European societies. This means that we cannot claim that it is specifically ethnic concentration that causes the changes in religiosity and not religious or socioeconomic concentration. However, disentangling these different aspects may be more a theoretical discussion than an analysis of the sociological processes present in this environment. This interwoven pattern of school segregation is the specific school context in which most of ethnic minority adolescents in Western Europe are socialized. It may be exactly this pattern that creates a bubble in which groups of ethnic minority adolescents grow up in Western European countries.

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Supporting Information

Additional Supporting Information may be found in the online version of this article at the publisher's website:

Table A1: Attrition analyses between wave 1 and wave 2
Table A2: Operationalization of control variables
Table A3: Change in denomination between T1 and T2
Figure A4: Interaction effect religiosity at T1 and proportion ethnic minorities in school, predicted and observed values