Ethnic Segregation and Inter-Ethnic Relationships in Hungarian Schools

Tamás Hajdu, Gábor Kertesi (Centre for Economic and Regional Studies, Budapest) and Gábor Kézdi † (University of Michigan)

Abstract:

We investigate the extent of the segregation of Roma students in the Hungarian primary school system and discuss its consequences for actual inter-ethnic relationships within schools. Drawing on results from our previous research, we show that more exposure to members of the other ethnic group (less segregation) leads to more inter-ethnic friendships but also to more inter-ethnic hostility. Importantly, we show that Roma students with above-average academic achievement experience a lot more inter-ethnic friendship relationships than hostility without losing friends from their own ethnic group, and thus the positive effects of more exposure to non-Roma peers far outweighs its negative effects. We conclude that policies that aim at improving the academic performance of Roma students can bring additional benefits by improving their relationships in school.

Keywords:

academic achievement; Roma minority; school segregation; social interactions

Introduction

This paper examines the extent to which Roma and non-Roma students have the opportunity to form inter-ethnic relationships and how that opportunity translates into actual inter-ethnic relationships in Hungarian schools. The premise of our paper is that inter-ethnic contact in schools is beneficial in its own right. Positive inter-ethnic relationships can benefit the academic and social development of students from marginalized ethnic minorities, and can create a more inclusive and more tolerant society in the long run. Our paper shows that the unequal ethnic distribution of students prevents some of that contact in Hungary, and it sheds light on how inter-ethnic friendship and hostility relationships are formed in schools when contact is possible.

The Roma are the largest and poorest ethnic minority of Europe. Most Roma live in poverty, with low levels of formal employment, low levels of education, and they experience prejudice, exclusion and discrimination sometimes at extreme levels (Bernát et al., 2013; European Union Agency for Fundamental Rights & United Nations Development Programme, 2012; Kende et al., 2020; Simonovits & Kézdi, 2016). About 14 percent of students in Hungarian primary schools (grades one through eight) are Roma. Roma children are substantially more likely to have multiple social disadvantages than their non-Roma peers, which results in significantly lower average test scores by grade 8 (Kertesi & Kézdi, 2011). The distribution

of Roma children across Hungarian schools is uneven leading to a moderate but increasing ethnic segregation across schools.

In this paper we present recent trends in the segregation of Roma students in the Hungarian school system, and we summarize results of an earlier research of ours that examines actual inter-ethnic friendship and hostility relationships. Besides reviewing the evidence we discuss what they imply for educational policy.

Recent Trends in Ethnic Segregation

We start by showing the most recent trends in the segregation of Roma and non-Roma students across Hungarian primary schools (grades one through eight) between 2006 and 2017; unavailability of high quality data prevents us from calculating the figures for more recent years. The data behind figure 1 is the background questionnaire of the Hungarian National Assessment of Basic Competences that collects data from all schools in Hungary. The measure of segregation we show is called the index of segregation; see Kertesi and Kézdi (2013) about more details of the data and the methods.

The index of segregation summarizes how exposure of students to members of the other ethnic group in schools is constrained by the unequal ethnic distribution of students across schools. It is a normalized index ranging between 0 and 1. To interpret the values, take the example of an area with several schools and a 10 percent proportion of Roma

students. A value of zero of the index would show that the proportion of Roma students is the same in all schools, 10 percent. This would maximize the chances that students would meet members of the other ethnic group. At the other extreme, a value of 1 of the index would show that there is no inter-ethnic exposure in Hungarian schools as Roma and non-Roma students are completely segregated in different schools. The 10 percent Roma students are in different schools than the 90 percent non-Roma students. In-between values indicate that some of the exposure to students in the other ethnic group is prevented by the fact that some schools have more Roma students than average (where they are less likely to meet non-Roma peers) and others have fewer Roma students (where the non-Roma students are less likely to meet Roma students). For example, a value of 0.25 of the segregation index would indicate that 25 percent of exposure to students in the other ethnic group is prevented by the unequal ethnic composition of schools within the area.

Figure 1 summarizes the recent trends in two lines. The continuous line shows how Roma students are segregated across schools within Hungary's 175 statistical micro-regions on average. Segregation between schools within these regions is in part due to residential segregation across cities and villages. The dashed line excludes the villages and shows how Roma students are segregated across schools within cities on average. Residential segregation plays a lot smaller role in within-city segregation as public transportation is available and most cities are relatively small in size.

The two lines tell the same story: moderate but increasing segregation. Ethnic segregation in the Hungarian school system is of moderate level: 0.24 within micro-regions on average, and 0.18 in cities on average. These averages hide a wide spread with some Hungarian cities with a large Roma minority having higher levels of ethnic segregation, such as Ózd with an index over 0.5 or Miskolc with an index of 0.4.

The trends are interesting on their own. Ethnic segregation decreased somewhat from 2006 to 2008, perhaps due to the active desegregation policies and court litigations. (The 2006 data are a little different so that particular data point may be higher for technical reasons, but the decline appears to be more gradual and thus unlikely to be explained by that technical detail.) The desegregation trends stopped in 2008 and turned into a slow but steady increase that continued at least until 2015. Whether segregation plateaued or it continues to increase is impossible to tell for lack of good data after 2017.

Figure 1: Ethnic segregation across Hungarian primary schools
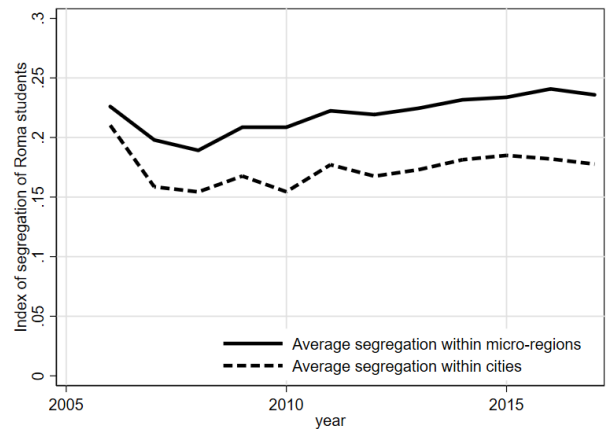
Notes: The authors' own calculations. Data: Background questionnaire of the National Assessment of Basic Competences in Hungary

Inter-Ethnic Friendship and Hostility

Ethnic segregation across schools decreases exposure to members of the other ethnic group. But exposure offers only the possibility of contact. Do students form contacts with members of the other ethnic group when they have the possibility? Do these contacts translate into friendships? Do they translate into hostility? And how are the friendship and hostility relationships related to the academic achievement of Roma students? To shed some light on these questions, we summarize results from an earlier research of ours (Hajdu et al., 2018).

We collected data on friendship and hostility networks of 3,430 eight-grade students from 82 schools in 75 towns in 2010. Schools with more Roma students were oversampled to have enough variation in the data. Besides standard friendship nominations we also elicited hostility by asking whom the students would avoid to sit close to during a class field trip. We define the number of friends as the number of classmates who nominated the students as friends, and analogously, we define the number of adversaries as the number of classmates who listed the student to avoid ("in-degree" measures). The results are for same-sex relationships, but the conclusions are the same if we include other-sex relationships, too. Similarly, all main conclusions are the same for female and male students. The data contain social background variables and academic achievement of the students as well as their reading and mathematics test results on the National Assessment of Basic Competences linked from administrative sources. We measured Roma identity by asking the students themselves, allowing for multiple identities (such as Hungarian and Roma). We defined high academic achievement as above the overall average grade point average (GPA); low achievement is below average GPA.

This data allow us to investigate how likely inter-ethnic friendships and hostility are at various levels of exposure

and how the friendship and hostility relationships are mediated by the academic achievement of the Roma students. The first question is of prime importance here. A less segregated school system may bring many benefits, but the effect of increased potential contact on actual relationships is an especially important one. Less segregation is especially beneficial if the more exposure it brings results in more inter-ethnic friendships. At the same time, more contact may create more hostility so that, at the extreme, more exposure could lead to worsening ethnic relationships. Therefore, it is important to quantify how exposure to members in the other ethnic group translate into friendship and hostility relationships, and our data are well suited to answer this question.

It turns out that the second question is important, too. It is about the mediating effect of academic achievement of Roma students on the association between exposure and relationships. Our results will show that more exposure to non-Roma translates into actual inter-ethnic relationships very differently for high-achieving Roma students than for low-achieving Roma students.

Figure 2 summarizes how exposure of Roma students to non-Roma peers translates into inter-ethnic relationships. The horizontal axes show the proportion of Roma students so that exposure of Roma students to non-Roma peers is highest to the left and lowest to the right. The left panel of the figure shows the number of non-Roma friends of Roma students; the right panel shows the number of non-Roma adversaries. The figures show these relationships separately for high-achieving Roma students (dashed lines) and low-achieving Roma students (continuous lines). As these are estimates the lines have the corresponding 95% confidence intervals around them. The first conclusion from the figures is that more exposure to

non-Roma students (lower Roma proportion) is associated with more non-Roma friends but also more non-Roma adversaries. Note that the number of non-Roma friends or adversaries here mean the number of non-Roma students who listed the Roma student among their friends or adversaries.

The second conclusion is that the degree to which exposure translates to actual relationships depends strongly on the academic achievement of the Roma students. High-achieving Roma students have twice as many non-Roma friends and half as many adversaries, and this proportion is true with many non-Roma peers as well.

Third, comparing the two panels reveals that with higher exposure, the number of non-Roma friends and the number of non-Roma adversaries is higher by the same amount among low-achieving Roma students. But the same is not true for high-achieving Roma students: with high exposure to non-Roma peers the number of non-Roma friends becomes four times the number of non-Roma adversaries.

Related results in the paper show that when non-Roma students are exposed to more high-achieving Roma peers they are significantly more likely to nominate them as friends, to the extent that over 80 percent of them would nominate at least one high-achieving Roma student if 40 percent of their group was high-achieving Roma. Exposure to low-achieving Roma peers would lead to more non-Roma students to have a Roma friend, too, but not by the same degree. With higher exposure to Roma peers the proportion of non-Roma students who list a Roma adversary is also higher, but not as much as the proportion who list a Roma friend.

Figure 2: Non-Roma friends and adversaries of Roma students

Non-Roma friends   Non-Roma adversaries
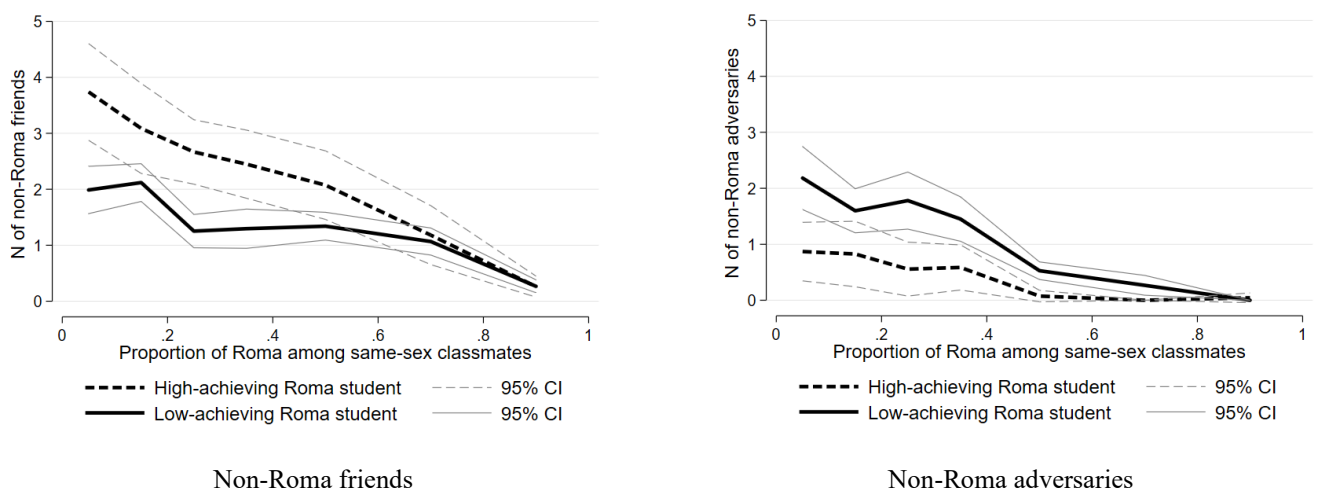
Notes: Reprint of Figure 6 in Hajdu et al. (2018). The percentage of non-Roma students nominating Roma students as a friend (left panel) and as an adversary (right panel) as a function of the proportion of Roma students among same-sex classmates, shown separately for high-achieving Roma students (dashed lines) and low-achieving Roma students (continuous lines).

Another important result of our analysis is that the number of Roma friends and Roma adversaries of Roma students is not related to their own academic achievement. As a result, high-achieving Roma students may gain more non-Roma friends without losing Roma friends, and they may get fewer non-Roma adversaries without getting more Roma adversaries. This shows that rejection of high-achieving Roma students by heir low-achieving Roma peers, sometimes called labelling and rejection due to "acting white" (see, e.g., Fryer & Torelli, 2010, in the context of African American and Hispanic students in the USA), do not appear to be important in most Hungarian schools. This is in line with the findings of Brüggemann (2014) who draws on interviews with Spanish Roma students and argues that educational success does not appear to lead to cultural alienation among the Roma.

Policy Simulations

The results from our research show that more exposure to the other ethnic group not only creates the possibility of more inter-ethnic relationships but it does translate into more such relationships. We have seen that this is true not only for inter-ethnic friendship but also for inter-ethnic hostility. Importantly, the results show that the relative magnitude of more friendship and more hostility depends on the academic achievement of the Roma students. In particular, more exposure to non-Roma peers is associated with as much more non-Roma adversaries as non-Roma friends for Roma students with low academic achievement. But the same is not true for Roma students with high academic achievement, whose gain of non-Roma friends may be four times larger than the number of non-Roma adversaries as they are exposed to many non-Roma peers. We can only speculate what may be the reason for these rather remarkable findings. Perhaps improved academic performance is an especially important path to social integration for the Roma students, bringing in tangible benefits for them already while they are in school, before enjoying its future benefits for better secondary education or better chances to enter the formal economy. At the same time, other interpretations are also possible, such as teachers awarding better grades to Roma students who are more integrated already. Disentangling these mechanisms is impossible using the cross-sectional observational data we had. We believe that this question warrants more research with longitudinal data or experimental evaluation of interventions.

To quantify the policy implications of our results we used them to simulate the effects of three policy experiments. These simulations are based on the interpretation that increased exposure or increased academic achievement are the causes of the differences in relationship, which is not the only interpretation of our results. The first experiment is complete ethnic desegregation: achieving uniform ethnic distribution across classes in the entire country. The second experiment is closing the achievement difference: increasing the proportion of high-achieving Roma students to the non-Roma level. The third experiment is the combination of the two. These experiments represent policy extremes that no actual policy could achieve. The purpose of the simulation is to quantify theoretical possibilities not goals that can be achieved in the medium run. All simulation exercises start with the actual national ethnic distribution of schools and high and low-achieving Roma students. The details of the simulation exercise are documented in our published paper (Hajdu et al., 2018).

The result of the first experiment shows that equalizing the ethnic distribution of schools could lead to a roughly equal increase in the number of non-Roma friends and non-Roma adversaries for Roma students. In contrast, closing the achievement difference would result in positive effects only: more friends, fewer adversaries. Importantly, the positive effects with non-Roma peers do not result in deteriorating relationship with Roma peers. As for the third experiment, with the two policies combined, the effects of closing the achievement gap would dominate, but this would be accompanied by a substantial redistribution of the ethnic composition of friends and adversaries due to equalized exposure to the other ethnic group.

The results of the simulation exercise suggest that equalizing the ethnic distribution of classes would lead to an interethnic redistribution of the friendship and hostility relations of Roma students without significant net gains or losses in terms of friendship and hostility. In contrast, closing the achievement difference would lead to an increase in the percentage of non-Roma students with Roma friends and a decrease in the number having Roma adversaries. This, in turn, would lead to an overall improvement in the friendship and adversary relations of Roma students. With the two policies combined at the current level of ethnic segregation in Hungary, the effects of the second experiment would dominate.

Conclusions

We have shown that ethnic segregation in the Hungarian school system is moderate on average but increasing over time, and the level of segregation is quite high in some cities, constraining the exposure of students to members of the other ethnic group. Exposure to members of the other ethnic group creates the possibility of inter-ethnic relationships but does not automatically translate into such relationships. Results from our earlier research reveal that more exposure does translate into more inter-ethnic relationships in Hungarian schools, but that means more hostility as well as more friendship. Importantly, we have shown that the way exposure and actual relationships are associated depends strongly on the

academic achievement of the Roma students. In particular, for high-achieving Roma students, more exposure to non-Roma peers is associated with far more non-Roma friends than non-Roma adversaries. The same is not true for low-achieving Roma students who may acquire as many more non-Roma adversaries as non-Roma friends with more exposure to them. As a result, policies that can improve the academic achievement of Roma students can have a significant positive effect on inter-ethnic relations, an effect not frequently considered in educational policy debates.

Our results have several caveats and so have the conclusions we can draw from them. Our research is based on cross-sectional observational data and thus it shows associations, not causal relationships. In other words, according to our interpretation, more exposure and better achievement lead to changes in relationships even though all we can use our data for is to show correlations. While those correlations turn out to be remarkably strong and consistent with the causal interpretation, they do not prove causality. In addition, our policy simulations are based on the current Hungarian distributions and may arrive at different consequences at higher levels of ethnic segregation. Nevertheless, we believe that our results should inform education policymaking and provide additional support for the importance of policies that can improve the academic achievement of students from disadvantaged ethnic minorities.

References

Bernát, A., Juhász, A., Krekó, P., & Molnár Cs. (2013). *The roots of radicalism and anti-Roma attitudes on the far right*. [Working paper] http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.423.2311&rep=rep1&type=pdf

Brüggemann, C. (2014). Romani culture and academic success: arguments against the belief in a contradiction. *Intercultural Education*, *25*(6), 439–452. https://doi.org/10.1080/14675986.2014.990229

European Union Agency for Fundamental Rights & United Nations Development Programme (2012). *The situation of Roma in 11 EU member states*. Luxembourg: Publications Office of the European Union.

Fryer, R. G., & Torelli, P. (2010). An empirical analysis of 'acting white.' *Journal of Public Economics, 94*(5), 380–96. https://doi.org/10.1016/j.jpubeco.2009.10.011

Hajdu, T., Kertesi, G., & Kézdi, G. (2018). Inter-ethnic friendship and hostility between Roma and non-Roma students in Hungary: The role of exposure and academic achievement. *The B.E. Journal of Economic Analysis & Policy*, *19*(1), 1–17. https://doi.org/10.1515/bejeap-2017-0289

Kende, A., Hadarics. M., Bigazzi, S., Boza, M., Kunst, J.R., Lantos, N. A., Lášticová, B., Minescu, A., Pivetti M., & Urbiola A. (2020). The last acceptable prejudice in Europe? Anti-Gypsyism as the obstacle to Roma inclusion. *Group Processes and Intergroup Relations*, *24*(3), 388–410. https://doi.org/10.1177/1368430220907701

Kertesi, G., & Kézdi G. (2011). The Roma/non-Roma test score gap in Hungary. *The American Economic Review Papers and Proceedings, 101*(3), 519–25. https://doi.org/10.1257/aer.101.3.519

Kertesi, G., & Kézdi, G. (2013). Ethnic segregation between Hungarian schools: Long-run trends and geographic distribution. *Hungarian Statistical Review, 16,* 18–45. http://www.ksh.hu/statszemle_archive/2012/2012_K16/2012_K16_001.pdf

Simonovits, G., & Kézdi, G. (2016). Economic hardship triggers identification with disadvantaged minorities. *The Journal of Politics*, *78*(3), 882–892. http://dx.doi.org/10.1086/685586

Recommended Citation

About the Author

Tamás Hajdu is a research fellow at Institute of Economics, Centre for Economic and Regional Studies in Hungary. He is a member of the Health and Population research group. His research interests include health economics, environmental economics, educational and social inequalities.

Gábor Kertesi is a research fellow at Institute of Economics, Centre for Economic and Regional Studies in Hungary. His research is focused on applied work in labor economics, demography, economics of education and health policy.

Gábor Kézdi † was a research associate professor at the Survey Research Center, Institute for Social Research at the University of Michigan, USA. His research was driven by some of the biggest societal issues, such as racial inequality and equal opportunity in education. He has written many influential papers and tested several effective interventions on the discrimination against Roma youth. He also made important contributions to survey methods, data collection and econometrics. Most recently, he was researching the economics of aging, cognition and risk taking. Gábor's agenda echoed the most noble traditions in economics: look for big, pressing questions, and bring to bear all the necessary methods to answer them. Gábor passed away after a long illness on June 29 in Ann Arbor, Michigan. He was 50 years old.