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Neighborhood, Segregation, and School Choice

Abstract

Over the past few decades, school choice has been a widely debated issue around the globe, following the development of pluralism, liberty, and democracy. In many countries, school choice systems were preceded by residence-based school assignment systems, creating a strong connection between a neighborhood and its schools' demographic compositions. However, schools often remain highly segregated. School segregation is thus seen as a major problem and is supposedly driven by three main factors: residential segregation, parental school choice, and schools' selection of pupils. This paper aims to shed light on what research should be focusing on as regards school choice and residential segregation with the following two research questions: What are the links between neighborhood and school choice in the literature? How are neighborhood and school choice connected to school segregation in the literature? Two main findings emerged: (1) the neighborhood-based social networks that parents developed had limited their school choices and (2) neighborhood segregation is one of the most

important factors that contributes to school segregation and is related to multi-ethnic and socioeconomic contexts.

Keywords: neighbourhood, segregation, school choice

Introduction

Residential segregation has been found to be an important contributor to children's social and emotional development (Collins, 1997). During the past few decades, many pluralist, liberal, and democratic countries have implemented school choice systems or are experimenting with such systems. The rise in the prevalence of these systems can be attributed to three arguments for offering school choice: liberty, equity, and efficiency.

The liberty argument is used to legitimize school choice in pluralist societies, as pluralism entails diversity and pluralist societies are tolerant societies comprised of people from different races, cultures, and backgrounds who have different ideas, religions, and philosophies. While true pluralism is still a key challenge for many societies around the world, globalization is laying the groundwork by turning many countries into diverse social, liberal spheres. In these societies, allowing people to choose and respecting their choices is a fundamental principle (Reich, 2008).

The equity and efficiency arguments are the most debated ones, for they are the main drivers behind the debate about societal and school segregation. The equity argument is at the core of many countries' political policies and it is a main target of the Sustainable Development Goals (United Nations, 2015), which state that every child should have equal access to a good education. At the core of this argument is the idea that school choice can help level the educational playing field by providing minorities and disadvantaged children with more educational opportunities (Lubienski & Feinberg, 2008; Weis III, 2020).

Finally, the efficiency argument is rooted in the belief that school choice will improve the quality of education through market mechanisms driven by parents' demand for high academic performance (Musset,

2012). However, school choice has been a widely debated issue in the last decade. It was found that school choice programs could reduce the achievement gap by 25% (Jeynes, 2014), but school choice has also been discussed in relation to segregation at the classroom level (Davis, 2014).

The idea that school choice improves educational equity and quality is not unilaterally supported. Critics of school choice argue that school choice feeds into mechanisms of school segregation. The social, cultural, and economic backgrounds of parents are among the factors that are assumed to influence their choice of schools (Fowler, 2002; Maile, 2004; Musset, 2012; Weis III, 2020). A recent review (Rohde et al., 2019), looking at the reasons behind parents' choice of elementary schools, showed that parents from high-income countries found different factors important than parents in low-income countries. For example, while school academic quality was the most important factor in high-income countries, parents in low-income countries found safety and discipline equally important. With school systems being vastly different among countries and parents having many alternate reasons for choosing schools, it is unsurprising that the existing literature on the issues of school choice and the effects of school choice on segregation is laden with controversies.

In many countries, school choice systems were preceded by residence-based school assignment systems, creating a strong connection between a neighborhood and its schools' demographic compositions (Boterman et al., 2019; Wilson & Bridge, 2019). This connection is widely debated, considering the international trend towards more inclusive and equitable cities and countries. One of the main channels through which governments often attempt to foster equity and thus combat societal and neighborhood segregation is education. However, schools often remain highly segregated. School segregation is thus seen as a major problem and is supposedly driven by three main factors: residential segregation, parental school choice, and schools' selection of pupils (Jenkins et al., 2008). The paper examines the connection between residential segregation or neighborhood segregation and school choice in closer detail via a systematic literature review.

Aim and Research Questions

This paper investigates the apparent connection between residential segregation or neighborhood segregation and school choice. Mainly, we view a neighborhood as a school choice factor and investigate its connection with segregation. A systematic literature review was done to examine residential and neighborhood factors in different school choice contexts in the global age. The main purpose of this systematic literature study – besides finding out what is known, how it is known, and how it varies across studies – was to identify what knowledge is missing in the existing research (Gough et al., 2013). Thus, we set out to also identify gaps in the existing literature on school choice and residential segregation.

The research questions of the study were as follows:

- (1) What are the links between neighborhood and school choice in the literature?
- (2) How are neighborhood and school choice connected to school segregation in the literature?

Method

This study is a systematic literature review. The keywords used in the literature search and the process of literature selection (which included scoping, searching, and screening) are presented in the following sections.

Keywords

This paper investigated the neighborhood as a school choice factor, focusing especially on segregation. Accordingly, the keywords for the literature search were school choice, neighborhood, and residential segregation.

Process of Literature Selection

Knowledge from previous research can help when planning future research, by analysing what is known and what is not known. To find

these gaps, it is essential to select relevant, reliable literature on which to base a systematic review (Gough et al., 2013). The literature we draw on in the current review was selected through the stages of systematic review as presented in a paper by Gough et al. (2013) for the Alliance for Useful Evidence – namely, scoping, searching, and screening.

Scoping

Scoping, according to Gough et al. (2013), covers the process of establishing selection criteria. These criteria are also known as inclusion criteria, because they reveal the kinds of information that a research paper should include in order to be analyzed in the review process. Inclusion criteria specify the keywords that guide the literature search and are based on the data that the research questions aim to uncover. Inclusion criteria also specify types of research methods or sources of data, countries where the study has taken place, the language in which the study has been written, or a period in which the study was undertaken. Apart from focusing on the aforementioned keywords as criteria for inclusion, this literature review also employed some additional criteria, which are summarized in Table 1. It is important to note that the criteria applied in a literature search may generate a limitation.

Table 1. Criteria for Inclusion or Exclusion

Criterion	Inclusion	Exclusion
Criterion 1	School choice AND neighborhood	Articles that are not about both school choice and neighborhood (e.g., not neighborhood and choice of transportation to school)
Criterion 2	Primary or secondary education	Tertiary education
Criterion 3	High-income countries	Low-income countries
Criterion 4	Findings of empirical studies	Conceptual/theoretical analyses or reviews
Criterion 5	Peer-reviewed academic journals	Journals that are not peer-reviewed or not from journals (e.g., books, reports, etc.)
Criterion 6	Written in English	Written in languages other than English
Criterion 7	Published between January 2015 and December 2019	Published before 2015

Searching

After the scoping phase, the inclusion criteria were used to determine the search strategy. The search was conducted on December 15–16, 2019 using the EBSCO Discovery Service, which provides journal articles from all subject areas. In this case, the search was limited to include journals from the following databases: the Education Resource Information Center database, Academic Search Premier, and JSTOR journals. During the process of searching, the keywords were used as search terms. The term "school choice" was used as a title and in two advanced searches was combined - first with "and" neighborhood and then with "and" residential segregation. The searches were further limited to peer-reviewed journal articles where a full-text PDF was available and which were published in English between January 2015 and December 2019. The reason for limiting our article search period to 2015 and later is to find studies conducted after the Decade of Education for Sustainable Development (2005–2014) (United Nations, 2015). Finally, a total of 183 articles were screened for their usefulness to the study.

Screening

Searching the databases using the keywords and most of the inclusion criteria resulted in a total of 183 articles returned. However, less-relevant articles were removed during the screening process, which consisted of two phases. During the first phase, the title and subject keywords were read and all articles that did not include both keywords "school choice" and "neighborhood" or "residential segregation" were disregarded. During the second phase, the abstracts of the 29 remaining articles were read and their relevance was assessed, leaving 13 articles (from the United States, Australia, the United Kingdom, Southern Europe, and the Nordic countries) to be thoroughly read and reviewed in this paper. The detailed search results can be found in Appendices 1 and 2.

Results

As mentioned above, the aim of the current paper is to investigate the apparent connection of neighborhood, segregation, and school choice. An overview of the selected 13 articles is presented below, and the results are presented according to the themes of the research questions.

Overview of the Selected Articles

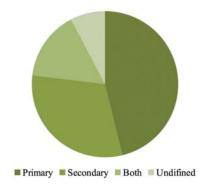
Regarding the years and locations of publication, the results reveal that the majority – five out of 13 of the selected articles – were published in the United States. One of the articles was published in Australia and the remaining ones were published in the following European countries: Sweden, the UK, Denmark, Spain, Finland, France, and Italy. Furthermore, as presented in Figure 1, the majority of the selected articles (five) were published in 2019.

Year of publication

Figure 1. Publication Dates of the Selected Articles

Regarding school level, as presented in Figure 2, the results revealed that slightly more studies (46%) covered primary education. One third of the studies covered secondary education, while the remaining studies covered both primary and secondary or lower secondary education. One study did not specify which level of education was focused on.

Figure 2. Education Levels Covered in the Selected Articles



Research Methods Used in the Selected Articles

The results indicate that 77% of the articles employed quantitative methods for their data analyses. Only two articles applied a qualitative method, while one paper used a mixed-method approach. The quantitative studies drew mostly on national or regional data which was provided by national or local statistics agencies and governments. They used this data to find family background and residential area information or to calculate sociodemographic variables such as socioeconomic status (SES) and household income. Studies in which ethnic or socioeconomic segregation was a main focus calculated indices such as the Dissimilarity Index and the Isolation Index (Bonal et al., 2019; Nielsen & Andersen, 2019). The Dissimilarity Index was used to show how evenly two groups were distributed across a geographical area, whereas the Isolation Index was used to reveal how likely people from a certain minority group were to have contact only with members of their own minority group. In these studies, educational outcomes were included as a result or premise of segregation, employing both general family and residential data as well as standardized test scores. Test scores were used to assess the connection between school segregation and student achievement (Yang Hansen & Gustafsson, 2016; Rowe & Lubienski, 2017).

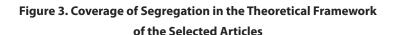
Some articles that employed quantitative research methods used both longitudinal data from governments and data from surveys of parents on residential choices (Bernelius & Vaattovaara, 2016), demographics (Pearman

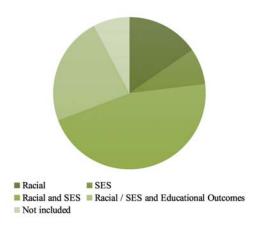
& Swain, 2017), and attitudes towards education and school satisfaction (Fleming et al., 2015). Most quantitative studies, whether they focused more on ethnic segregation or segregation based on student performance, employed correlation and regression tests as means of analyzing the data.

Regarding the qualitative and mixed-method articles, the results indicate that these studies used data from interviews with 30–50 parents, covering their school choice considerations and the ways their neighborhoods or social environments influenced their school choices. These interviews were analyzed by using content analysis (Kosunen & Rivière, 2018) or thematic analysis (Bader et al., 2019; Nielsen & Andersen, 2019).

Theories Used in the Selected Articles

While only four articles explicitly mentioned the use of a theoretical framework, the results showed that all of the selected articles employed some form of concept or theory upon which the research rested. As Figure 3 shows, all but one article employed the concept of segregation in their theoretical framework. Of the selected articles, 46% focused on segregation based on race and SES and 23% of the selected articles had an additional focus on educational outcomes. The remaining articles concentrated on either racial segregation or segregation based on SES alone.





Various other concepts and theories were mentioned in the articles, most of which were related to segregation. Jenkins, Micklewright, and Schnepf (2008) used a theoretical framework which employed three main aspects that give rise to segregation between schools and which covered nearly all the conceptual frameworks found in the selected articles: residential segregation, parental school choice, and schools' selection of pupils. Firstly, residential segregation, also referred to as the demographic composition of the school's neighborhood, was mentioned in the background of at least four selected articles (Böhlmark et al., 2016; Candipan, 2019; Bernelius & Vaattovaara, 2016; Yang Hansen & Gustafsson, 2016). For example, Bernelius and Vaattovaara (2016) took the process of segregation, which operates through residential choices and local institutions, as a theoretical basis for their paper. They thus examined whether school choice increases segregation within schools and neighborhoods. Bischoff and Tach (2018) based their research on the neighborhoodschool nexus, where the demographics of school attendance zones shape the neighborhoods, which translates into schools being more or less attractive for parents to live in. Similarly, place stratification theory and spatial assimilation theory, which were used by Pearman and Swain (2017), are based on parents' patterns of moving and settling down in certain neighborhoods.

School choice was found to be a frequently researched concept. Parents who have a higher SES, who are more highly educated, or who belong to an ethnic majority group were more likely to be informed about school choice and therefore also more likely to actively make such a choice and to choose schools of higher quality. Consequently, immigrant parents and parents with lower SES were more likely to lack apposite networks and language skills and were therefore less likely to make active choices for higher quality education (Böhlmark et al., 2016). That being said, parents that did make an active choice had various reasons for choosing or not choosing schools. In addition to Böhlmark et al. (2016), this conceptual framework, or parts of it, has been used in at least nine other studies (e.g., Bischoff & Tach, 2018; Bonal et al., 2019; Kosunen & Rivière, 2018; Yang Hansen & Gustafsson, 2016).

The school choice framework could furthermore be divided into two theories: the market or rational choice theory, which focuses on market mechanisms and the tendency of parents to select the "best" school based on educational performance and quality, and the social capital theory, which views school as an important socializing milieu for children. Rowe and Lubienski (2017), for example, based their research on market theory and the significance of standardized test scores for middle-class parents. Kosunen and Rivière (2018) and Bader, Laureau, and Evans (2019), on the other hand, connected school choice theory to social capital theory. They argued that school choice is a social process and that schools are cultural institutions that provide children with social and cultural capital as well as safety.

Schools' selection of pupils was not as often debated in the background sections of the selected articles. Two articles discussed this factor in light of cream skimming, which was seen as an argument against school choice programs, because private school selection – in which only the best and brightest students are accepted into schools – only serves privileged students and thereby almost automatically exacerbates segregation (Böhlmark et al., 2016; Fleming et al., 2015).

Neighborhood and School Choice

Regarding the connection between neighborhood and school choice, the literature showed that neighborhood factors affected parents' school choice in various ways. For one, parents used their local social networks when assessing whether a school was the right choice for their child and assessed the neighborhood as a physical and social space for themselves as well as for their children (Kosunen & Rivière, 2018). Parents developed social networks through interactions with other parents in their neighborhoods. These networks developed and evolved into crucial sources of information when parents were presented with major life decisions such as school choice. Thus, the neighborhood-based social networks that parents developed limited their school choices (Bader et al., 2019). Similar results were found by Fleming et al. (2015), who suggested that parents' awareness of their educational options relied mainly on the

knowledge they gained from their social networks. Perhaps surprisingly, parents from different neighborhoods and different social backgrounds appeared to make similar school choices (Burgess et al., 2019), with school image (the reputation of a school, often influenced by the proportion of ethnic minority children among their pupils) being a key concern when choosing schools (Nielsen & Andersen, 2019).

Neighborhood, School Choice, and Segregation

Regarding the connection between neighborhood, school choice, and segregation, evidence from Sweden suggests that neighborhood segregation is one of the most important factors contributing to school segregation (Böhlmark et al., 2016). This finding was supported by Rowe and Lubienski (2017), who found popular schools to be located in catchment areas with higher levels of household income and native-born residents. More similarities were found in the egalitarian Finnish context, where schools located in multi-ethnic, socioeconomically deprived areas were more likely to be rejected by parents looking for the best school for their children. In fact, schools and their student composition are an important driver of segregation in already segregated multi-ethnic neighborhoods, where dissatisfaction with the local school can push middle-class parents to move away from the area (Bernelius & Vaattovaara, 2016). Likewise, Bischoff and Tach (2018) found school segregation to be higher where neighborhood racial diversity and economic inequality was greater. However, this connection between school and neighborhood racial composition varied due to different levels of socioeconomic inequality and racial diversity in those neighborhoods. Also, the connection was weaker in urban areas than in suburban districts. Yang Hansen and Gustafson (2016) found that schools in metropolitan areas were more segregated than schools in small towns and rural areas.

When school choice was taken into account, the findings became even more inconsistent. By comparing actual school segregation with segregation in fictitious situations where no choice or only certain choice principles were allowed, Yang Hansen and Gustafson (2016) found evidence that school choice reduced school segregation in particular neighborhoods.

Similarly, Pearman and Swain (2017) found that school choice reduced segregation through the way families choose their neighborhoods when settling. A study on residential segregation and school segregation of foreign students in Spain, however, found that a positive effect of school choice on segregation is not a given. Different social and ethnic groups reacted differently and unequally to increasing school choice (Bonal et al., 2019). Choice was often made by better-off parents. For example, middleclass parents were found to choose public schools which serve students from a higher socioeconomic cohort (Rowe & Lubienski, 2017). Other evidence of school choice as a factor mediating the relationship between neighborhood and school segregation was found by Candipan (2019), whose study showed that schools do not automatically become more integrated if neighborhoods change demographically. When neighborhoods improved along socioeconomic lines, schools became increasingly less a reflection of the neighborhood in which they were located. Perhaps the strongest negative results of school choice in the literature were found by Bernelius and Vaattovaara (2016). Their study on the relationship between school choice and urban segregation in Finland suggests that school choice produces an independent effect for segregating schools based on student ability, meaning that choice leads to the "best" performing schools becoming better and the "worst" performing schools becoming poorer. The neighborhood factors that influence school choice were quite similar between studies of elementary and secondary school choice. That is, residential/neighborhood factors have a similar effect on school segregation in both elementary and secondary schools.

Discussion and Conclusion

The purpose of this literature review was to discover what is "known" in the literature about the connection between neighborhood, segregation, and school choice. What is evident is that the theoretical frameworks and concepts used in the selected literature focus mostly on patterns of residential segregation or on the causes and effects of the school choices

that parents make. This was in line with the three aspects of residential segregation, parental school choice, and schools' selection of pupils used by Jenkins et al. (2008). Market theory and rational choice theory, which were deeply discussed by Maile (2004) in the school choice context of South Africa, were also found in some of the other studies, such as Rowe and Lubienski (2017). On the other hand, a connection of school choice theory to social capital theory was also found in the argument that school choice is a social process and that schools are cultural institutions that provide children with social and cultural capital and safety (Bader et al., 2019; Kosunen & Rivière, 2018).

Many of the existing studies employed quantitative methods to analyze the connection between neighborhood and school segregation (Bader et al., 2019; Bischoff, & Tach, 2018; Bonal et al., 2019; Burgess et al., 2019; Böhlmark et al., 2016; Candipan, 2019; Kosunen & Rivière, 2018; Nielsen & Andersen, 2019; Rowe & Lubienski, 2017; Yang Hansen & Gustafsson, 2016). This makes sense, as the aim of this kind of analysis is to detect patterns in society, such as the various configurations of residential and school segregation: something that cannot be done using qualitative methods. The studies that employed qualitative methods had a more prominent focus on school choice and how parents' choices were influenced by neighborhood characteristics. The selected qualitative studies found evidence that parents' social connections, which are forged in the neighborhood, affect their school choice and limit the number of schools that they consider when choosing (Bernelius & Vaattovaara, 2016; Fleming et al., 2015; Pearman & Swain, 2017). The quantitative studies provided evidence for the connection between neighborhood, school choice, and school segregation. Most studies found school choice to be an important factor which influenced neighborhood segregation and school segregation. The ethnic and socioeconomic demographics of neighborhoods influenced the popularity of the schools located within these districts. Some studies found that school choice reduced segregation in schools or in neighborhoods, while other studies which included students' test results found that segregation increased as a result of school choice. What can be concluded from these contrasting results is that different types

of segregation produce different results. School choice influences both ethnic and socioeconomic segregation, as well as segregation in student performance. However, school choice was also found to decrease the achievement gap (Jeynes, 2014). It has been found that parental school choice is not exercised by all parents equally in minority and disadvantaged families (Weis III, 2020) and that segregation can exist at the classroom level (Davis, 2014). As addressed, residential segregation is one of the critical factors to children's social and emotional development (Collins, 1997). Here, we also argue that more research via qualitative or mixed methods is needed on the topic of neighborhood and school segregation in different cultural contexts, such as areas with a high density of immigrants and classroom/school culture.

In addition, one thing that most of these studies fail to take into account is the potential of the school choice system and the mechanisms it employs to play a mediating role. This seems to be a gap in the research on school choice mechanisms, neighborhood, and segregation. Which priority rules does a local or national school choice system employ and how do these affect school and neighborhood segregation? What would happen if different rules were applied? These are relevant questions for future research. As stated in the Sustainable Development Goals (United Nations, 2015), quality education is a basic human right, therefore we need to continue working to make sure every child has equal access to a good education.

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Appendix 1.Summaries of Selected Articles

No.	Reference	Research design	Aim	Results
1	Kosunen, S., & Rivière, C. (2018). Alone or together in the neighborhood? School choice and families' access to local social networks. <i>Children's geographies</i> , 16(2), 143–155.	- Qualitative - Content analysis - Semi-structured interviews	- To explore how the everyday geographies of city life and families' access to social networks in the neighborhood influence families' school choices	- Access to local social networks influences the reasoning behind choosing the local school School choice is not just a choice of an institution, but of aspects concerning the surrounding neighborhood as a physical and social space.
2	Candipan, J. (2019). Neighborhood change and the neighborhood- school gap. <i>Urban</i> <i>Studies</i> , 56(5), 3308–3333.	- Quantitative - Combining key demo- graphic and SES neighborhood data from 46 districts be- tween 2000 and 2010 - School attendance boundary data	- To examine how neighborhood and school composition in 46 US districts correspond in socioe- conomically changing neighborhoods	- When neighborhoods improve along socioeconomic lines, schools become increasingly dissimilar to their neighborhoods Neighborhood demographic change does NOT necessarily produce school integration.
3	Böhlmark, A., Holm- lund, H., & Lindahl, M. (2016). Parental choice, neighborhood segregation or cream skimming? An analysis of school segregation after a generalized choice reform. <i>Journal</i> of <i>Population Econom-</i> ics, 29(4), 1155–1190.	- Quantitative - School register and demographic data of ninth-graders between 1988 and 2009 - *Theory mentioned	- To understand whether a general- ized school choice voucher system leads to increased segrega- tion and through which mechanisms	- Neighborhood segregation is the most important contributing factor to school segregation The option to choose/opt out of the assigned school increases school segregation to a greater degree than the segregation that would be expected from residential segregation patterns Associations between school choice and segregation imply relatively small shifts in distribution internationally — segregation has increased everywhere.
4	Burgess, S., Greaves, E., & Vignoles, A. (2019). School choice in Eng- land: evidence from national administrative data. Oxford Review of Education, 1–21.	- Quantitative - Data from all students applying for second- ary education in year 2014/15	- To examine the extent to which parents (from different neighborhoods and households) actively choose schools and - to what extent par- ents choose schools with higher academic standards	- School choices do not vary significantly according to the social backgrounds of parents Parents proactively use the choice system Admissions criteria that prioritize distance penalize poorer families.

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5	Bernelius, V., & Vaattovaara, M. (2016). Choice and segregation in the 'most egalitarian' schools: Cumulative decline in urban schools and neighborhoods of Helsinki, Finland. <i>Urban studies</i> , 53(15), 3155–3171.	- Quantitative - National education outcome assessments and register data from Statistics Finland, as well as a survey on residential choices - *Theory mentioned & school system explained	- To examine the relationship between school choice and urban segregation in the egalitarian Finnish context	- School choice increases the variance of educational outcomes among schools The growth of urban socioeconomic and ethnic segregation is reflected in the population structure of school catchment areas, driving even larger wedges between schools' student bases and educational outcomes The decline of disadvantaged areas drives up pressure for school choice.
6	Bonal, X., Zancajo, A., & Scandurra, R. (2019). Residential segregation and school segregation of foreign students in Barcelona. <i>Urban</i> <i>Studies</i> , 56(15), 3251–3273.	- Quantitative - Data from national and city registries - Regression analysis - Calculations of Dissimilarity Index (DI) and Adjusted Isolation Index (AI)	- To explore which edu- cational and non-edu- cational drivers foster the school segregation of foreign students between the city's neighborhoods and - to what extent admissions policies (catchment area and choice) contribute	There is a positive association between residential and school segregation of foreign students. There is doubt over the capacity of school choice to reduce the effects of residential segregation on school segregation. Different social/ethnic groups react to increasing school choice in different and unequal ways.
7	Bader, M. D., Lareau, A., & Evans, S. A. (2019). Talk on the Playground: The Neighborhood Context of School Choice. City & Commu- nity, 18. 483—508. DOI: 10.1111/cico.12410	- Qualitative - Interviews with 34 white, middle-class and white, upper- middle-class families living in racially inte- grated neighbor- hoods - Thematic analysis us- ing coding scheme - *Theory mentioned & school choice as a social process	- To understand how neighborhood con- texts could influence the major life course decision of school choice	- Parents develop social networks through playground interactions — these networks evolve and become crucial resources for making major life decisions Networks provide not merely instrumental or transactional support, but mostly emotional support School choice is a moment where parents' identities are called into question, making it a critical decision Neighborhood-based social networks limit their school choices.
8	Bischoff, K., & Tach, L. (2018). The racial composition of neighborhoods and local schools: The role of diversity, inequality, and school choice. <i>City & Community</i> , 17(3), 675–701.	- Quantitative - Using spatial data on school attendance - School attendance zones (geographic catchment areas) as "neighborhoods" - 14,288 zones in 2009GINI coefficient for neighborhood income inequality - Linear regression models	- To understand the community characteristics that influence the demographic connection between schools and their local communities and - how the connection between school and neighborhood differs in urban and suburban districts	- Greater neighborhood racial diversity and economic inequality means significantly lower proportions of white children in school populations. - The link between school and neighborhood racial composition varies as a function of neighborhood SES inequality and racial diversity. - This link is weaker in urban areas than in suburban districts.

9	Fleming, D. J., Cowen, J. M., Witte, J. F., & Wolf, P. J. (2015). Similar students, different choices: Who uses a school voucher in an other- wise similar population of students? <i>Education</i> <i>and Urban Society</i> , 47(7), 785–812.	- Quantitative - Demographic and cross-sectional achievement differences among 23,000 students in Milwaukee, Wisconsin, USA - Longitudinal student achievement data - Parent questionnaires (N = 5,136) regarding demographics, education attitudes, and school satisfaction	- To examine what factors predict why some parents enroll their children in voucher schools while other parents from similar neighborhoods do not - To investigate how aware parents are of their educational options, where they get their information from, and what school characteristics they deem the most important	- In Milwaukee, where choice parents have better education but less income than public school parents, there were conflicting results (article highlights) suggesting little evidence of wide-scale cream skimming and negative selection. - This lessens in the case of the voucher choice programme. - Parents' social networks play an important role in their knowledge of educational options.
10	Yang Hansen, K., & Gustafsson, J. E. (2016). Causes of edu- cational segregation in Sweden — School choice or residential segregation. Educational Research and Evaluation, 22(1–2), 23–44.	- Quantitative - Counterfactual approach (e.g., simulate a setting where only the proximity principle was allowed) - Between school variation estimations - Small area market statistics (SAMS) units - Mixed-model approach using hierarchical linear models for fictious and observed schools in three types of municipalities between 1998 and 2011	- To examine changes in school segregation across different types of municipalities between 1998 and 2011 in Sweden - To explore the extent to which these changes are the consequence of school choice	- The degree of school segregation varied considerably across municipalities and between fictious and actual schools. - Metropolitan schools were the most segregated, while schools in small towns and rural areas were the least segregated. - Segregation was higher in the fictitious schools than in the actual schools in cities, small towns, and rural areas. - The results suggest that implementing school choice has reduced school segregation and achievement inequality in the above-mentioned regions. - Segregation increased in the metropolitan areas regarding migration and achievement, but decreased based on parents' education.
11	Rowe, E. E., & Lubienski, C. (2017). Shopping for schools or shopping for peers: Public schools and catchment area segregation. Journal of Education Policy, 32(3), 340–356.	- Quantitative - Identify popular high schools - Examine residential segregation - Combine the two with standardised test scores - Data for 12 catchment areas in Melbourne - Theory mentioned (market theory)	- To explore segregation by examining catchment areas for a range of public high schools in a specific middle-class urban area - Not examined: whether school mirrors the segregation of the catchment area	- Popular high schools are located in catchment areas with higher levels of household income, higher numbers of Australian-born residents, and a higher proportion of non-religious residents. - Standardized test results are higher for popular public high schools, but these results are less dramatic when compared to racial, income, and religious segregation.

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				- Middle-class parents choose public high schools that serve a higher SES cohort. → rational within the logic of the marketplace
12	Nielsen, R. S., & Andersen, H. T. (2019). Ethnic school segregation in Copenhagen: A step in the right direction? <i>Urban Studies</i> , 56, 3234–3250.	- Mixed method - Quantitative data from official public statistics databases - Qualitative data from interviews with 50 residents/parents	- To quantitatively identify the level of ethnic segregation in schools - To qualitatively analyse the considerations regarding school choice in an ethnically diverse district	- Changes in pupil composition show that the proportion of students with a non-Danish background has declined — this has reduced segregation in municipal schools Ethnic school segregation reflects ethnic spatial segregation in Bispebjerg Isolation index is high but Dissimilarity Index is low — ethnic composition is homogenous within public and private schools Ethnic minorities utilize the right to form private schools; there is a slight increase in segregation in private schools School image is a key concern when choosing schools, particularly based on the proportion of ethnic minority students.
13	Pearman, F. A., & Swain, W. A. (2017). School choice, gentrification, and the variable significance of racial stratification in urban neighborhoods. <i>Sociology of Education</i> , 90, 213–235.	- Quantitative - National statistics and survey data - *Theory mentioned	- To examine whether and the extent to which expanded school choice facili- tates gentrification of racially segregated urban communities	- The expansion of school choice policies diminishes the role of racial stratification in guiding the likelihood and extent to which disinvested urban neighborhoods experience gentrification The findings suggest that the expansion of school choice initiatives may reduce the segregation that guides residential selection mechanisms into previously disinvested urban neighborhoods.

Appendix 2Overview of Article Specifications

No.	Country	Research Paradigm	Method/Design	School Level	Segregation
1	France, Italy, and Finland	Qualitative	Content analysis	Primary	Not included
2	United States	Quantitative	Empirical – statistical analyses	Primary	SES
3	Sweden	Quantitative	Exploratory — statistical analyses	Lower secondary	Racial and SES
4	England	Quantitative	Empirical – statistical analyses	Secondary	Racial and SES
5	Finland	Quantitative	Correlation and regression analyses	Primary and lower secondary	Racial and educa- tional outcomes
6	Spain	Quantitative	Regression analyses	Primary	Racial and SES
7	United States	Qualitative	Thematic analysis — in-depth in- terviews with 34 families	Primary	Racial and SES
8	United States	Quantitative	Empirical – statistical analyses	Primary	Racial
9	United States	Quantitative	Empirical — statistical analyses, national and survey data	Secondary	Racial and SES
10	Sweden	Quantitative	Empirical — statistical analyses	Primary and secondary	Racial, SES, and ed- ucational outcomes
11	Australia	Quantitative	Empirical — statistical analyses	Secondary	Racial, SES, and ed- ucational outcomes
12	Denmark	Mixed methods	Statistical analyses and content analyses	Primary	Racial and SES
13	United States	Quantitative	Empirical – statistical analyses	Undefined	Racial