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Middle class education strategies and residential segregation in Athens

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This paper uses census data to investigate educational inequality in different types of residential areas in Athens, focusing on drop-out rates from secondary education, access to higher education and to particular degrees within it. The unequal socio-spatial distribution of educational attainment is linked to antagonistic middle class education strategies centred on school choice. Different forms of such strategies are identified broadly corresponding to different groups within the middle class hierarchy. Each form of school choice strategy has a particular relation to residential segregation. The latter is growing as a result, but under various forms and spatial scales that sometimes challenge the usual assumptions for the evaluation of neighbourhood effects.

Introduction

In many large European cities good education opportunities are a very important parameter in middle class families' choice of residential location since a good school is considered paramount for the social mobility prospects of the next generation. On the other hand, students in middle class area schools generally perform better. This is mainly attributed to the students' social origin and, even more so, to the positive 'neighbourhood effect' created by a concentration of students with a (socially constructed) positive predisposition to high educational performance. A 'vicious circle' is usually established by the attraction of middle class households to the vicinity of good schools and by the upgrading of school performance within middle class neighbourhoods. This 'vicious circle', and the development of middle class strategies within it, is usually based on a predominantly public school system, with a rather strict spatial grid in terms of catchment areas, and a largely commodified housing provision system that allows and even induces socially hierarchical residential mobility.

This paper discusses the relation between residential segregation and educational strategies of middle class families in Athens, where this 'vicious circle' is not

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prominent. Research on segregation has shown that proximity to a good school has not been an important parameter for Athenian households, including middle class ones, in their choice of residential location during the last 30 years (Maloutas, 1990; Maloutas *et al.*, 2006). At the same time, education has long been a privileged investment area for Greek families throughout the social spectrum (Tsoukalas, 1976) that pays back in increased social mobility. This paradoxical situation could either mean that school performance is not significantly differentiated within the city (and therefore that there is no reason for middle class households to deploy strategies of access to particular schools) or that there are alternative means of access to high performance schools. Census data that were recently made available (EKKE–ESYE, 2005) help to illustrate the important socio-spatial differentiation of educational performance. Attention is focused on the interaction between educational and housing strategies and on a number of important parameters that shape this interaction in the specific context. The important share of private education, its location and the modes of access to it (both in social and spatial terms) that determine its social shape, as well as specificities of the local housing market—in particular the high rate of owner occupation and low residential mobility (Allen *et al.*, 2004)—are essential parameters for interpreting the links between the educational and residential location strategies of middle class households and of their impact in terms of residential segregation.

Middle class strategies, commodified education and urban segregation

Beyond any liberal or radical theoretical perspective and the related terminology of equal opportunities or class determined trajectories, it is undeniable that there are very important social differences in educational performance and in related social mobility chances throughout western societies (Moore, 2004).

These important mobility differences are not only the effect of mere inequalities in the economic, cultural and social resources possessed by different social groups but also the effect of mobility strategies developed more frequently and more successfully by affluent households and, on aggregate, by affluent groups, presumably because the capacity to devise successful strategies is heavily contingent upon group resources (Vincent, 2001; Bosetti, 2004; Devine, 2004). The middle classes have increasingly become particularly sensitive to the importance of their offspring's education. Thus, they have been active in deploying educational strategies aiming at conferring some advantage to their children's social mobility. Things have changed dramatically since the nascent middle classes represented a small minority; in today's western societies the working class is shrinking and the middle class is expanding and internally diversified. The changing geometry of occupational positions has upgraded social mobility requirements—in educational terms this has led to an accelerated inflation of credentials (Duru-Bellat, 2006)—and has increased the hopes and fears of success and failure. Failure was rather unimportant when success in accessing middle class positions was exceptional, but it became a real threat when reproducing middle class status for the next generation had become the norm. The inflation of educational credentials has been concomitant with a continuous democratization of increasingly higher

education levels. This trend, however, has not substantially affected educational inequality and the prospects of subsequent social mobility in terms of class and ethno-racial origin (Moore, 2004).

Middle class strategies have varied through different periods and contexts and in respect to different segments of the middle classes, but in essence they always aimed at increasing chances for social mobility through promising educational paths and high performance. A basic feature of these paths is their social selectiveness. Such systematic strategies, even though devised and pursued at the individual/household level, are a substantial component in the formation of broader trends of social inequality.

Reconciling agency and structure in sociological interpretations has been a recurring theme since Durkheim, and sociologists of education are critically re-turning to Bourdieu's *habitus* and Bernstein's writings to account for the intricacies of educational strategies within contexts of inequality in terms of class, ethnicity and gender (Moore, 2004), and for middle class strategies in particular (Ball & Vincent, 2001; van Zanten, 2001; Ball, 2003; Power *et al.*, 2003). The recent interest in middle class educational strategies in the UK in particular is related to the reforms of New Labour ('Excellence in Cities', 'Educational Priority Areas', 'Five-year Strategy') that increase parental choice and, therefore, enhance the margins for, and at the same time legitimate, middle class strategies (Oria *et al.*, 2006), while it is feared that pro-choice policies to boost educational attainment will increase educational inequality (Power *et al.*, 2003; Seppänen, 2003; Bosetti, 2004; Denessen *et al.*, 2005; Riddell, 2005). It is also related to the growing size and internal diversity of the middle classes and to their (actual or presumed) political support for more 'consumer choice' in education. There is, as a result, a new focus of educational research in the social middle (Butler & Savage, 1995, p. vii) rather than the traditional focus on conditions at the social extremes. An equally important interest in the strategies of the *classes moyennes et supérieures* is developed in France, with a particular stress on the supply side (Oberti, 2006).

The shape and intensity of middle class education strategies are heavily affected by the context of welfare arrangements within which they are developed. They are more intricate and less legitimate when they violate meritocracy rules in contexts where education is adequately provided by the public sector as a social right; they are simpler, more outspoken and have more legitimacy in liberal contexts where private education is a substantial option, and even more so in residual welfare contexts (as in Southern Europe) where the quality of public education is often downgraded and family investment in private education is a middle class routine with no particular need for moral justification. The importance of ethical tension between private aims and collective responsibility in middle class education strategies raised in Oria *et al.* (2006) are related to the important change in welfare arrangements in the UK and will probably constitute a political issue as long as a new, more liberal ethos has not become dominant, displacing the egalitarian reflexes corresponding to former arrangements.

Capitalist globalization and the interrelated economic restructuring have generally exacerbated inequalities. It is claimed that in the leading cities of the western world, where important managerial functions of the world economy are increasingly concentrated, this exacerbation has sometimes taken the form of social polarization

(Sassen, 1991) and the social distances between the upper and lower strata in terms of income distribution have, almost always, substantially increased (Hamnett, 2003). Inequality has been boosted to a lesser extent in cities of lower rank, where the divisional pressure on labour markets has been relatively reduced. In every case the market forces unleashed on the demise of Keynesian economics and the dominance of neoliberal projects have fuelled inequality wherever they have prevailed, while lesser effects were generated where welfare systems have been relatively preserved (Preteceille, 1995; Hamnett, 1996). The development of educational strategies has been crucial in such conditions, especially by social groups that would wish to make the most of the opportunities offered or safeguard privileges in a context of fluidity and change.

Education strategies at the household level have been adapting to increasingly commodified educational options and have become more important and more diversified with the continuous growth and increasing segmentation and hierarchical nature of the middle classes and the ensuing loss of their guaranteed reproduction. The central hypothesis in this paper is that these strategies and residential segregation mutually reinforce each other in intricate ways that are influenced both by the specific layout of the educational system and by the structure of housing provision.

The relationship between middle class strategies of social mobility through education and residential segregation is usually understood as resulting from residential mobility, which exacerbates the already uneven spatial distribution of different groups in urban areas motivated by the search for educationally privileged locations. The latter usually offer access to school environments where high performance and the prospect of a lengthy education is the rule. The increased demand for such locations by affluent households increases land and housing prices and eventually segregation. Moreover, the spatial concentration of affluent, and presumably more educated, households reinforces the educational performance of local schools, creating an even higher demand for residential space in the vicinity.

A vicious circle is therefore created, with segregation and middle class educational strategies with a greater middle class concentration reinforcing school performance and the ensuing demand for housing in high performance school areas reinforcing segregation, and so on. Such a vicious circle can be clearly identified in certain highly segregated American cities, where white suburban locations with good schools can be set against black inner city areas with poor performance schools.

This ideal/typical situation is certainly not the norm, and European cities in general present more nuanced conditions. These nuances are mainly due to much less severe segregation. The relation between middle class strategies of social mobility through education and urban segregation briefly sketched above presupposes a housing market with a high degree of commodification, high residential mobility and a rigorous spatial grid for schools' catchment areas. In most cases these preconditions are only partially met, as several parameters, like the location of public housing and the availability of private education, may affect both the content of middle class education strategies and the shape of urban segregation.

In fact, what middle class households seek through such relocation is to benefit from the presumably favourable 'neighbourhood effect'. The existence of such an

effect, or more precisely its importance, has been questioned in an effort to criticize area-based social policies targeted on place rather than people (Musterd & Ostendorf, 1998; Ostendorf *et al.*, 2001; Musterd *et al.*, 2003; Buck & Gordon, 2004). Maurin (2004, pp. 14, 24, 31), in contrast, stressed the growing social impact of residential 'entre-soi' compensating for the decreasing importance of work relations as a mechanism of socialization. However, he was equally critical (Maurin, 2004, pp. 7–8) of traditional area-based policies and in particular of their inability to tackle the very early and irreversible entrapment of individuals in socially specific life itineraries. Proponents of this critique claim that individual characteristics are much more important in determining the prospects for social exclusion, rather than neighbourhood features. In terms of educational performance, however, the situation appears more varied, and a positive neighbourhood effect has been identified, especially for advantaged groups (Buck & Gordon, 2004, p. 246; Gordon & Monastiriotis, 2006). However, as middle class education strategies increasingly turn to the private sector option, this often entails a spatial scale much wider than the neighbourhood and a minimization of contact within the latter.[1] The traditional assumptions about neighbourhood effects are therefore weakened for that part at least of the population which look outside the limits of their neighbourhood to reach educationally promising socially selective environments and recreates the 'entre-soi' in different spatial forms.

The spatial element of these middle class strategies is of particular interest to my subsequent inquiry into their relation to residential segregation in Athens. Do the middle classes (or specific groups within them) coalesce in space in order to produce favourable conditions for the social mobility of their offspring? If they do, is there a real positive neighbourhood effect created by this coalescence? If they don't, are there other forms of spatiality in their educational strategies that relate to some other form of expected positive neighbourhood effect? Ultimately, should we keep assuming that neighbourhood implies community or should we be looking for more intricate relations of spatiality and community? According to Bauman (1998, pp. 6–26) communities are increasingly spatially stretched and fluid for the affluent and confined and inflexible for the disadvantaged; neighbourhoods are less structured as traditional communities and more as spatio-temporally incommensurable juxtapositions of communities or as unstructured spaces in terms of community, as Baumgartner (1988) portrayed American suburbia.

This paper subsequently examines middle class social mobility strategies through education in Athens, where the importance of private education and low residential mobility crucially affect the relation between these strategies and urban segregation.

Middle class educational strategies and urban segregation in Athens

Contextualizing the educational strategies and urban segregation relationship

Resourceful and effective education strategies for social mobility are deployed by middle class families in Athens and revolve mainly around access to higher

education and to particular degrees within it offering mobility guarantees. During the first post-war decades Athens functioned as a powerful lift for broader social mobility involving the rapid transformation of incoming peasantry and the local working class to intermediate social strata. This mobility was based on a number of pillars (sustainability of family businesses and other forms of independent economic activity, massive public employment, wide access to home ownership) with education, and higher education in particular, serving as the main passport to middle class positions (Maloutas, forthcoming). Intermediate education levels, between secondary and higher education, or alternative options within secondary education have never been seriously developed in Greece. Thus, higher education became comparatively hypertrophic, leading to socially diverse occupational positions and to important differentiations between university departments and degrees in terms of mobility prospects (Frangoudaki, 1985). The pillars of social mobility have been progressively eroded since the 1970s oil crisis and economic restructuring. Social mobility has become an increasingly competitive project within the context of fewer resources and much larger numbers of middle class households deploying mobility strategies. Mobility prospects became bleaker for working class households, who were much more dependent on the expansion of public employment. In the late 1980s it was more or less enough to hold a higher education degree in order to access public employment, since the state employed 70% of yearly graduates (Tsoukalas, 1987, p. 130). A significant reduction in recruitment by the public sector since the early 1990s has mainly affected working class mobility; it has also widened the gaps between different higher education degrees by devaluing those that are mainly targeted at the public sector (pedagogy, literature, political and social science, public administration, etc.). At the same time, it has upgraded the profiles of other degrees, including those leading to the traditional independent professions, but mainly of degrees in economics and business. It is, therefore, to be expected that middle class education strategies are primarily focused on accessing higher education and, more precisely, the departments that truly enhance the chances of social mobility.

In an extensive housing survey in 1986 it was found that Athenian households only marginally identified schools as an important reason that had influenced their choice of residential location. Only 7% of households mentioned schools, against 45% that mentioned the presence of family and kinship, 33% that referred to already existing property in the chosen area, 24% to job location, 15% to transport infrastructure, etc. (Maloutas, 1990, p. 330). Similar findings were generated by a more recent survey (Maloutas *et al.*, 2006).

These findings are paradoxical, at first sight at least, when set against the fact that education is a major financial concern for Greek families (Katsikas & Kavadias, 1994, pp. 47–56), who spend very significant amounts on private schools, preparatory courses, language courses, extracurricular activities and, often, studies abroad, usually after failing to gain admission to a Greek university.

If residential location choice is not particularly affected by school quality, how is residential segregation affected by middle class education strategies?

Dropping out of school before completing secondary education is no longer a middle class preoccupation (see below). Middle class education strategies aim exclusively at increasing the chances of access to higher education and to the best niches within it. These strategies are focused on a number of complementary elements:

1. a good school (i.e. with high rates of access to higher education and the potential for social networking);
2. a good preparatory institution coaching for the entrance examination to higher education or some other form of preparation (private courses);
3. investment, in the case of failure, in further attempts or in studies abroad, Greece being by far the biggest exporter of students per capita according to the OECD (*Kathimerini*, 19 September 2005);
4. investment in language learning, which is usually inadequate in public schools.

Education strategies are not a middle class prerogative. The great majority of Greek families invest to some extent in such strategies. The difference is that the middle classes will usually select more efficient options, being able to invest more resources, with a clearer view of the rules of the game. There is an important differentiation between the amounts invested by poor and non-poor households, with the latter investing four to five times more than the former (Chrysakis, 1989).

The central element in these strategies is a good school. In the first post-war period the far less numerous Athenian middle classes would preferably turn to either one of the two academically selective experimental public schools or to the equally few and socially and academically selective big private schools. These institutions were located in the city centre or in the first ring of suburbs to the north of the central municipality. At that time the large majority of the middle classes resided in and around the city centre (Maloutas, 1997, p. 3). Things have changed in many respects since. Entrance examinations for elementary school have been abolished and thus the experimental public schools progressively lost their edge, while their private competitors retained their social selectiveness.

Big private schools are usually expensive, ranging from 5000 to over 10,000 euros per year, and therefore constitute an option mainly for the upper middle class. Moreover, as these schools mature, they tend to reproduce their own clientele by unconditionally or preferentially admitting children of their alumni. Their social selectiveness favours families with a clear education plan, since for several of these institutions children have to be registered at birth in order to gain admittance. In the most prestigious ones the remaining places available to a wider public are very few in number and demand is very high. Social networks involving important connections are usually invaluable for parents aspiring to their children's admission. High fees and power networks almost exclude access to non middle class students.

The big private schools have progressively grown into powerhouses of social selection and have marginalized smaller private units. In their growth they have established branches in increasingly distant suburbs formed by middle class suburbanization since the mid-1970s. The size of these schools often reaches several thousand

students and, therefore, their range is not the neighbourhood or the local municipality but the whole city, which they access through systems of daily bus transport (Maloutas, 2000, p. 75).

Even though private institutions cater for a substantial part of the school population of the Attica region (16% for both elementary and upper secondary education), private provision is insufficient for the greater proportion of the middle classes, and they are unaffordable and/or otherwise inaccessible to a large part of the middle class.

Another option is access to public schools in suburban middle class areas, where residential segregation 'positively' affects the school clientele. This option entails relocation for households who are not already in such a residential environment. Relocation, however, is rather problematic, because it would usually entail leaving a less expensive (central) location for a more expensive (suburban) one. Moreover, Athens is a city of low residential mobility due to high rates of home ownership and to high transfer taxes that do not favour frequent changes (Maloutas, 2004). Low residential mobility is also related to local kinship networks involving daily interaction that inhibits movement, especially for working and lower middle class households that cannot substitute money transfers for mutual practical help.

Middle class groups with no means for private schooling or relocation to educationally advantaged areas develop smaller scale strategies which entail either finding ways to access a better public school in their wider area or lobbying for a privileged service within the unsatisfactory one they are ascribed to. Research is not particularly developed on strategies at the micro level and on the profiles of particular middle class groups involved, as well as on the role of related professionals. It can reasonably be claimed, however, that the strategies of private schooling, of relocation to (suburban) residential areas near good public schools, of avoidance of the local public school for a superior one in the wider area and of lobbying for a preferential service within the local public school correspond to a decreasing hierarchy of middle class group profiles.

Complementary courses to reinforce performance in school or prepare for examinations, as well as language courses and sports activities, etc., are also important elements in middle class education strategies. According to Kasotakis (1996), in the late 1980s 65% of higher education students had taken preparative courses in private institutions, private courses or both. Upper middle class groups will usually obtain such services in combined packages from big private schools and will add private courses when necessary. Lower middle class groups will use more collective and less expensive forms for such services in which non-middle class groups have a non-negligible presence.

In summary, the choice of appropriate school and of extracurricular activities has increasingly and massively become socially selective in the late 20th century and a major concern for middle class strategies of social mobility. The strategies of *évitement*, *retrait* and colonization discussed by van Zanten (2001) are all relevant for Athens.

Middle class strategies for social mobility through education are deployed in a context of relatively reduced residential mobility and segregation. They eventually interact with urban segregation in multiple ways.

1. Big private schools do not in principle reinforce urban segregation since they enable the spatially scattered middle classes to access the school of their choice even in relatively distant areas while remaining in their initial residential location. However, the establishment of these institutions and their new branches in the north-eastern suburbs of the city, and more recently in the south-east, follows and at the same time reinforces middle class suburbanization in these areas. This suburbanization has increasingly created socially homogeneous residential spaces on a large scale since the mid-1970s.

2. Although big private schools do not immediately and necessarily affect community segregation, they perform a kind of school segregation on a fluid spatial scale by isolating upper middle class children from their neighbourhood peers through long travelling times, long days at school with extracurricular activities, demanding homework and the continuous presence of academically able and motivated peers (see also Power *et al.*, 2003, p. 156). Without immediately altering residential structures, school segregation of this type lays the foundations for the subsequently reinforced seclusion of the new generation of the most affluent groups.

3. The effort to access good suburban public schools and the ensuing middle class predominance in such schools and their areas through relocation represents a direct and strong link between urban segregation and middle class strategies for social mobility through education.

4. The increasing presence of immigrants, especially in the areas around the city centre, and progressive depletion of the young middle class population have presented problems for local schools and reinforced centrifugal forces. In parallel with increasing segmentation of the housing market at the micro level (Emmanuel, 2002, 2004) it is reasonable to expect that the remaining middle and lower middle class groups will try to colonize parts of the local services, primarily schools, to avoid them being influenced by the low educational performance of disadvantaged groups.

5. The difficult conditions for integration that appear as a problem for the areas where lower middle class groups usually have to be accommodated within local education services together with disadvantaged groups (working class, immigrants, etc.) are reflected in the frustration of the lower middle class groups at not being able to partake of conditions of advantage, but rather being relegated to the low competitiveness and reduced prospects sector of educational services. The educational separatism of middle class groups who have the required resources to do so not only increases their own chances of social mobility through education, but also makes it difficult for other groups to operate in integrationist mode and accept what they may perceive as a further reduction in their chances of mobility. Local conflicts about school services in such areas are therefore linked to the formation of 'areas' of educational privilege that may have nothing directly to do with the specific area but determine the socially selective school model as offering more chances of success.

Middle class strategies through their outcomes

This section focuses on the outcomes of middle class education strategies by examining certain social and spatial inequalities in educational attainment to which they contribute. Spatial inequalities are discussed in an effort to tackle the issue of the neighbourhood effect, although not thoroughly due to insufficient pertinent data.

The neighbourhood effect in educational performance is usually measured either through longitudinal analyses, in which individual and spatial features can be easily distinguished (Ball, 2003; Power *et al.*, 2003) or inductively, through the correlated differentiation of comparable performance indicators by school district (like GCSE test grades) and the social characteristics of districts (Buck & Gordon, 2004; Butler *et al.*, 2006, Gordon & Monastiriotis, 2006).

Since no such longitudinal analysis is available for Athens and the comparability of test grading within secondary education is problematic (let alone relating test scores to the social characteristics of residential areas) I have used the 2001 census dataset (EKKE-ESYE, 2005), which allows certain forms of educational attainment to be correlated with the occupational category and the educational level of the 'head' of the household, addressing both socially unequal educational attainment and the neighbourhood effect. This operation is valid for student ages up to the end of secondary school, a period when the vast majority of young people live in the parental home. It is also justifiable, though decreasingly, for ages up to 29, since, as in most of Southern Europe, young people live in the parental home much longer than the European average (Allen *et al.*, 2004, p. 133). Moreover, since there is no clear social division between those who leave the parental home at a young age or later (Allen *et al.*, 2004, pp. 131–141), the correlation between educational attainment and social origin identified in this way through the census may be considered as broadly reflecting the actual picture.

I constructed three variables of educational attainment out of the census data in order to sketch the profile of social inequality in education in Attica (the region comprising the Greater Athens Area) and subsequently to investigate its spatial variation.

1. Dropping out before the end of high school. This refers to members of households aged between 15 and 17 not involved in any kind of education. It is expected that this group, which is becoming increasingly smaller, would have a very clear social and spatial demarcation. Participation in this group has become extremely low for middle class offspring and their educational strategies are therefore focused on higher expectations than simply finishing secondary education.
2. Enrolling in higher education. This refers to members of households with a higher education student status, aged between 18 and 23. They represent half of the city's population in this age cohort. Being part of this group is certainly a fundamental objective of middle class strategies for education.
3. Studying for, or having obtained, particular degrees. This refers to members of households aged between 22 and 29 studying for or having obtained degrees that:

(i) guarantee a more or less middle class occupation (medicine, law, engineering and, more recently, management); (ii) lead to intermediate occupational positions (like pedagogy, which leads to teaching in elementary and nursery schools); (iii) lead to lower middle class occupational positions (applied technological studies).

Social inequality in educational attainment

I have assumed that class inequality in terms of educational attainment and mobility prospects persists, that ethnicity has become an important parameter following the recent rise in immigration and that the gender revolution[2] is gradually attenuating the traditional form of gender inequality in education. Consequently, I focused on class inequality (measured for convenience by proxy as the education level of the 'head' of the household and, occasionally, by detailed reference to his/her occupational category) and on nationality.

Figure 1 shows a very important social differentiation in drop-out rates from secondary school. The total drop-out rate in the 15–17 age group is 9.4% (see also Papatheofilou & Vosniadou, 1998; Dretakis, 2004; Askouni, forthcoming). However, this average is unequally distributed between children of Greek origin and high educational background (2%) and children of immigrants who did not finish elementary school (57%). The risk of drop-out for immigrant children is much higher when the 'head' of the household holds a higher education degree. The low rate of integration of specialized and high qualification immigrants in the Greek labour market (Kandylis *et al.*, 2005) and the waning status of the lower tiers of the local labour force are both symptoms of the first period of substantial immigration to Greece, affecting the education and mobility prospects of their offspring accordingly.

Enrolment in higher education (Figure 2) is quantitatively a much more important issue, since 45% of young people between 18 and 23 (48.5% when they live in the
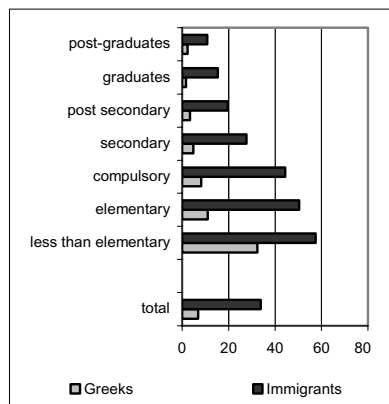

Figure 1.   Drop-out rate from secondary school (ages 15–17) by education level and nationality of the 'head' of the household (source: EKKE-ESYE, 2005)
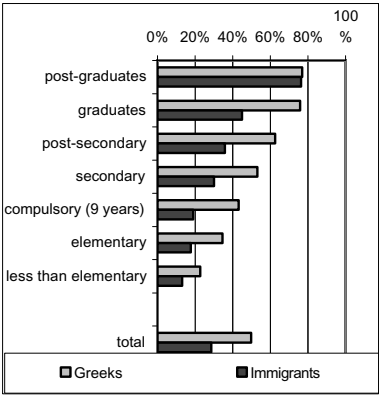
Figure 2.   Percentage of students (ages 18–23) by education level and nationality of the 'head' of the household (source: EKKE-ESYE, 2005)

parental home) are students. Differences in social origin are important: 77% of Greeks with a higher education background are students, against 13% of immigrants from a poor educational background. Several authors have discussed the social inequality in access to higher education in Greece, mainly in terms of occupational groups and geographical origin (Lambiri-Dimaki, 1974; Tsoukalas, 1976, 1987; Frangoudaki, 1985; Psacharopoulos & Kazamias, 1985; Katsikas & Kavadias, 1994; Chrysakis, 1996; Chrysakis & Soulis, 2001).

Immigrants accounted for 11.7% of the 18–23 age group in 2001 (but only 5.6% of those who lived in the parental home due to the large number of young independent, and presumably out of higher education, recent immigrants), but their participation in the 18–23 student population was only 3.3%. One in four enrolled in higher education (26.8%), against 49.8% for Greeks. These clear differences in educational attainment between the local and immigrant popula-tions, regardless of the mechanisms that generate them, are an important factor for middle class educational strategies that may have a growing impact on urban segregation.

Studying and obtaining particular degrees appears highly dependent on social origin (Figure 3). Students from higher level educational backgrounds were 15 times more likely to follow a programme of study in prestigious departments (like medicine, law and certain engineering schools) than students from poor educational back-grounds. The same applies, more or less, for degrees in economics and management, while a completely different situation appears for pedagogical studies (leading to overcrowded and depreciated teaching posts in elementary and nursery schools) and applied technological studies in special institutions (TEI) recently upgraded to higher education status, with some similarity to the former status of British Polytechnics. Degrees in pedagogy and the social sciences have been depreciated following reduced recruitment by the public sector. In contrast, degrees in economics, comparatively undervalued in the late 1970s (Frangoudaki, 1985, p. 192) as they also led to
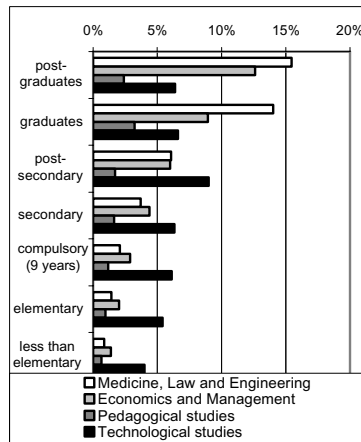
Figure 3. Percentage of 22–29-year-olds by type of study or who obtained a degree within their age group and by education level of the 'head' of the household (source: EKKE-ESYE, 2005)

employment in the public sector, have been upgraded due to increased demand by the business world.

The differentiation between fields of study in terms of social origin becomes clearer when specific degrees are correlated with the occupation of the 'head' of the household, presumably the parent of the student or degree holder (Lambiri-Dimaki, 1974; Frangoudaki, 1985, pp. 188–197). This correlation also shows a very high degree of internal reproduction of occupations. Thus legal studies are followed almost 20 times more frequently than the average by descendants of legal professionals; this may even reach 30 times more than the average for specific categories within the legal professions (public prosecutors). All occupational categories of origin with scores above the average are at the high end of the social hierarchy: the legal professions are followed by Members of Parliament and top managers in the public sector, scoring nine times more than the average; professors and other higher education teaching staff are at five times more than the average; medical doctors, biologists and related professions are at three times more than the average; architects and engineers are at two and a half times; etc. Most of the remaining occupational categories (35 of the 46 two-digit occupational categories used by the Greek National Statistical Service) present scores below the average and are generally positioned at the other end of the social hierarchy, especially when their scores are very low.

A similar situation appears for medical students and degree holders in terms of social origin, although the ratios are lower in this case, indicating a weaker correlation with social origin. Thus, medical students originate from households headed by medical doctors 15 times more than the average; for dentists this is five times more than the average; for education professionals and assistant teaching staff two and a half times more than the average; for the legal professions twice the average; etc. Most of the occupational categories also score below the average (34 of the 46 two-digit occupational categories used by the Greek National Statistical Service) and their

scores generally follow the occupational hierarchy. The difference with legal studies may be attributable to the production of medical doctors not only in very selective Greek medical schools, but also in a number of East European countries (mainly in Bulgaria and Romania) through paths of rather limited social selectivity.

Both law and medical studies show a very clear tendency of internal reproduction within each broad professional domain, apart from social selectivity. This becomes clearer at the detailed level of occupational categories (three-digit level) where those with the highest scores are within the legal or medical profession, at a substantial distance from all other occupational categories.

The case of pedagogical studies appears to be very different. The top scores of occupational categories are much lower and the differences between them are smaller. Education professionals score 1.9 times more than the average category of occupational origin, followed by accountants and other corporate staff (1.8) and machine tool operators in the textile, fur and leather industries (1.4). Although education-related occupations are at the top of the list, internal reproduction is much weaker than for legal or medical studies. Moreover, the 15 parental occupations (out of the 46 two-digit categories) with the strongest correlation with this field of study are much more balanced socially, since they are placed in different parts of the social hierarchy.

Applied technological studies correspond to a number of degrees, which often represent a shorter and more applied version of degrees in engineering schools and science departments. The profile of the social origin of their students and degree holders is varied, with a considerable presence from the lower echelons of the occupational hierarchy. A broad sectoral affinity appears here as well, linking the family occupational background to the type of study. Physicists, mathematicians and related professions score 2.1 times more than the average category of occupational origin, followed by architects and engineers (1.7) and technicians and technical assistants related to physicists and engineers (1.5). However, the presence of physicists, mathematicians, architects and other engineers at the top of this list is no evidence of their preference for such applied degrees. It should rather be attributed to the structure of the Greek selection system for higher education. A plausible hypothesis is that their offspring attempted admission to an engineering school or to a science department but weak performance in the examinations took them only as far as this poorer surrogate.

Spatial differentiation of socially unequal educational attainment

The important class differences and the differences between locals and immigrants in educational attainment sketched above are, partly at least, the outcome of successful middle class strategies of social reproduction. Capitalized assets of different sorts (family business, private practice, social network, financial assets, know how, information, etc.) have presumably served as comparative advantages. The spatiality of these class differences can be illustrated using a very broad residential area typology (Table 1), ranging from new suburbs of the working class and marginal occupations (e.g. itinerant self-employed salespersons) to upper middle class suburbs.

Table 1. Residential area typology used in subsequent analysis

id	Type	Managers and professionals (%)	Skilled and unskilled labour (%)
I	New working class and marginal suburbs	11.9	56.7
II	Traditional working class areas	15.1	45.9
III	Working class and lower middle class areas	16.9	44.4
IV	Lower middle class areas	21.9	35.0
V	Central municipality	23.1	38.7
VI	New middle class suburbs	34.1	30.3
VII	Traditional middle class suburbs	39.7	21.6
VIII	Upper middle class suburbs	52.6	18.3

Drop-out rates are very much concentrated in the worst-off areas (Figure 4), where they are linked to the strong presence of disadvantaged groups with traditional difficulties in accessing education even at the entry level (gypsies in particular). At the same time, there is a concentration of disadvantage in the poorest social categories in terms of educational capital throughout all areas, evidence of social exclusion through education. There is a clear danger of exclusion for children with poor educational capital, which, however, appears more related to group than to area characteristics. Nevertheless, the combination of poor educational background and low status residential area doubles the danger of drop-out, suggesting that in this case there may be an important neighbourhood effect. An even higher effect appears for children with a high educational background in low status residential areas, but their number is insignificant. In general, the drop-out rate for lower educational background is relatively unaffected by the status of the residential area (excluding the case of the lowest standing areas) while for middle and higher categories the rates are incrementally rising from affluent to poor residential areas.
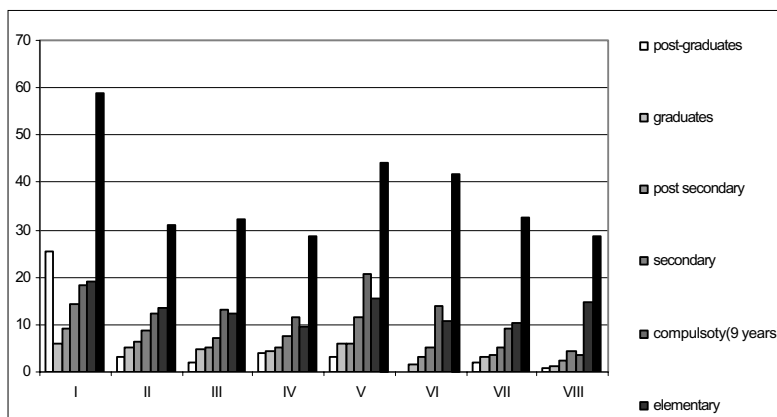

Figure 4. School drop-out percentage (ages 15–17) by education level of the 'head' of household and by social type of residential area (2001) (source: EKKE-ESYE, 2005)

Dropping out of secondary school appears to be a problem that is very unevenly distributed both socially and spatially. The bulk of the middle classes are only marginally concerned by this issue. A more detailed inquiry would probably show some concern from lower middle class groups who reside near problematic areas.

The rate of failure to access higher education (Figure 5) seems to vary considerably for children originating from the three higher educational categories between different social types of residential area, since it increases from around 25% in upper middle class suburbs (type VIII) to more than 50% in new working class and marginal occupation suburbs (type I). A similar pattern of increasing failure—with a lower rate of increase, however—can be identified for the remaining educational categories when moving from higher to lower standing residential areas. Gordon and Monastiriotis (2006) and Musterd *et al*. (2003) similarly reported a more important neighbourhood effect, for their respective contexts, on education performance and social mobility, respectively, for middle class groups.

Access to higher education is of much greater concern for middle class families since there is real danger of not succeeding in competition with other middle class offspring or with others aspiring to acquire middle class positions through education. The substantial difference in the success rate for the same broad middle class groups between residential areas of different standing may be an indication that space makes a difference in this case and/or that different factions of the middle classes (with substantially unequal educational attainment) are relatively clearly demarcated in the residential space, which is rather improbable. It may also indicate, however, that the same occupational or educational categories present clear and systematic internal social differentiations according to residential location, thus making isolating the neighbourhood effect from personal and family characteristics in terms of class position more complicated.
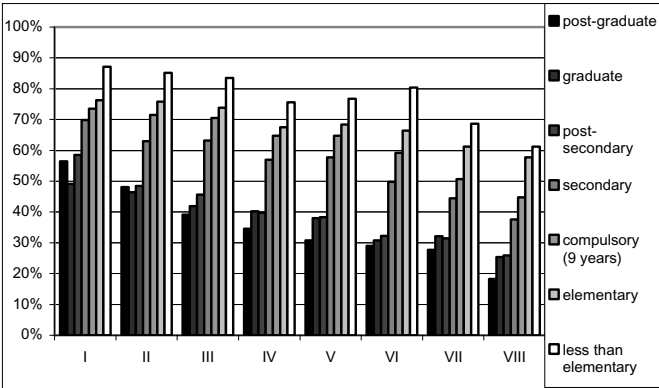

Figure 5.   Percentage of secondary school education level (ages 22–29) by education level of the 'head' of the household and by social type of residential area (2001) (source: EKKE-ESYE, 2005)

An analysis of studying and acquiring a degree from a prestigious university department (medicine, law and engineering), social origin and residential area (Figure 6) shows, first of all, a clear dichotomy between the city centre and the middle and upper middle class suburbs (types V–VIII), where this rate is twice as high as in the rest of the city (types I–IV), with respect to children from higher level educational backgrounds.

Engaging in prestigious fields of study is especially important for the upper middle class groups and, judging by the outcome, they must be developing successful strategies which do not appear related to space on the micro scale but only at the level of a very broad socio-spatial dichotomy within the city (Figure 6). This finding may be evidence of the degree of autonomy from local schools that these groups have acquired in the wider central and eastern parts of the city, where they are mainly located, through access to big private schools, even if the latter are sometimes at a considerable distance.

Conclusion

Middle class strategies of social mobility through education constitute individual/family plans for promising educational paths more or less successfully implemented that have had, on aggregate, an important social impact, since they tend to reproduce occupational hierarchies and, indirectly, reinforce urban segregation.

Unequal educational attainment among different social groups in Athens shows that the unequal resources they possess are transformed into advantages or disadvantages and eventually to differential social mobility. The strategies of middle class groups are diverse, according to the means and profile of each group, ranging from the use of leading private schools and individualized complementary educational services to the colonizing or creation of niches within the public services. Antagonistic middle class education strategies for social mobility seem legitimate and are not
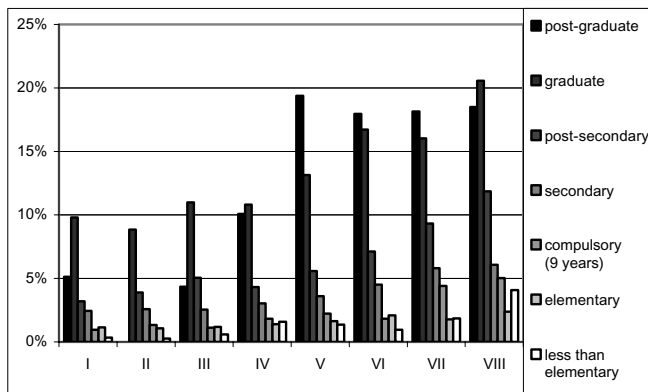

Figure 6.   Percentage of students or holders of medicine, law and engineering degrees (ages 22–29) by education level of the 'head' of the household and by social type of residential area (source: EKKE-ESYE, 2005)

particularly constrained by local welfare arrangements, where families' efforts for their members' improvement is a traditional value. Practically, education has been transformed into a social right through socially diffuse access to higher education, but the important mobility gains made by the lower social categories seem to be at an end, together with the period of abundant recruitment of employees by the public sector.

Middle class education strategies have different spatial shapes and dimensions. They range from localized efforts to influence the shape of public services at the level of the residential area, to residential mobility towards areas of educational advantage and, even, to the creation of fluid spaces of school segregation far beyond neighbourhood boundaries through private institutions. Independently of the specific spatial shape they take, middle class education strategies seek the 'entre-soi', which reinforces the creation of socially selective spaces. In this sense, these strategies reinforce urban segregation at different spatial levels and through various processes. This reinforcement, however, does not necessarily take the shape of community segregation but involves segregation processes at the micro level with social segmentation of local services or the formation of incommensurable living spaces for different social groups. Such digressions from the dominant conceptual frame regarding segregation's spatiality also affect the 'neighbourhood effect', since the outcomes under scrutiny can no longer be adequately investigated on the basis of traditional assumptions about the mechanisms of generation (peer group profile, local role models, etc.) within neighbourhoods.

Notes

1. See, for example, Buck and Gordon (2004), who excluded this disrupting influence of private schools in order to evaluate the neighbourhood effect on educational performance.
2. Female participation in the higher education student population in Greece rose from 4.9% in the late 1920s (Katsikas & Kavadias, 1994, p. 123) to 59.4% in 2001 (ESYE, 2003).

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