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Revising the link between neighbourhoods and education:

The case of well performing middle schools in Malmö

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Abstract

How do neighbourhoods affect life chances? This is a question that researchers have asked in different forms as early as the 50's –and there is no shortage of papers exploring neighbourhood effects: how where we live affects our well-being or our participation in the labour market, our life expectancy or, in general, our life outcomes. Yet, there is less consensus than one would expect from a field that has been this active: mechanisms are not clearly defined, methodologies are often one-sided, theoretical concepts are outdated and sometimes harmful for communities and contextuality of most kinds is surprisingly rare. In exploring and revising past research, this thesis proposes an interpretation of the phenomenon among others, through the lense of Bourdieu and Passeron's reproduction of capital, and argues for a systematic perspective when trying to decipher neighbourhood effect mechanisms. To see the privileged side of neighbourhood segregation, the thesis sets out to find the combination of conditions sufficient/necessary to reach high educational outcomes in Malmö's middle schools in 2018-2019 through the usage of the fuzzy-set Qualitative Comparative Analysis (fsQCA) mixed-method and then applying a within-case analysis to zoom in on the proposed mechanisms. The role of segregation in both housing and education is underlined. The result shows two paths for the High Educational Outcomes in Malmö that suggest a need for a more systematic approach to segregation, both educational and residential. That approach should also lay an big focus on information inequalities, especially when it comes to making choices on which educational outcomes depend. Educational Success is therefore achieved in majority Swedish neighbourhoods that have high disposable income, in schools that are in all instances segregated and in most privately owned and/or have classes with highly educated parents.

Keywords:
Neighbourhood effects, Education, Malmö, fsQCA, privatisation of education

Popular science summary

How important is where we live for the outcomes of our lives? This paper explores if and how schools in certain residential areas form specific patterns that hint to a systemic malfunction. There is always talk about the poor areas, the low performing schools and the responsibilities communities have for educating themselves –but it has been proven that it has oftentimes been insensitive and too normative towards vulnerable communities. While often individuals and policies alike blame segregated communities for their outcomes, there is less room for the discussion about the fact that ethnically and low-income segregated neighbourhoods are formed because the more vulnerable individuals are excluded from certain areas and institutions. One of the goals of this study is to also look at how the communities have been talked about and studied in past research and point to a need for revision, which is addressed both through the theory and method of the thesis. The exclusion of certain groups based on income and/or ethnicity includes but is not limited to the education system. The thesis shows that in the Swedish city of Malmö in 2019 middle-schools where attendance is almost a guarantee of a good result are segregated from lower socio-economic individuals. Moreover, educational segregation is closely linked to the neighbourhood segregation: the conditions chosen for the analysis showed that schools that perform well are in majority Swedish neighbourhoods where the average disposable income is high. Those schools are in all cases segregated from pupils with a foreign background and are most of the times privately owned. Although many have praised the privatization of both the education and the housing market, the result seems to be a deepening of inequalities between rich and poor. While, in theory, all parents could make the same choice for their child, in practice, information and resource inequality form a unignorable obstacle. Moreover, by positioning themselves in rich, Swedish neighbourhoods, privately owned schools (who are more flexible than municipally owned ones) manage to exclude pupils with more diverse needs resulting in helping them turn a profit at the end of the school year. Because lower income individuals have a hard time entering good neighbourhoods because housing in both Malmö and Sweden is getting more and more exclusive, educational inequalities become larger.

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To all parents who work to give their child an education away from their home country.

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1. INTRODUCTION

1.1 Motivation for the study

How do neighbourhoods affect life chances? This is a question that researchers have asked in different forms as early as the 50's –and there is no shortage of papers exploring neighbourhood effects: how where we live affects our well-being or our participation in the labour market, our life expectancy or, in general, our life outcomes. Yet, there is less consensus than one would expect from a field that has been this active. This may come as a surprise, especially since the research on neighbourhood effects has a constantly important role both external and internal to the neighbourhood. The decision of local administrations on how to manage public space in the neighbourhood highly affects the dynamic of urban space which in turn is crucial for the people that live in that space. Decisions from how public transportation should work, to green spaces,to what are ultimately the priorities for neighbourhoods and their communities have a high impact in how those communities live. While, at the same time, external narratives about a certain urban area can lead to its stigmatization by people not only in local administration but individuals from outside that specific urban area.

Yet the answer to how neighbourhood effects work is not very clear. There is little consensus in the field, even though the idea that where you live affects your life chances has been formulated in the academic community as early as the '50s. Some scholars attribute this to the fact that the field is mostly explored using quantitative tools and is therefore stuck in an ontological and epistemological loop as well as a partial failure from a large proportion of neighbourhood researchers to reevaluate some key concepts on which the field is built (Small and Feldman, 2012).

Keeping that in mind, there are three main goals to this thesis. For one, it will raise the issue of why it is important for neighbourhood effects to become more introspective and reflexive. This should point to some theoretical and methodological shortcomings that are heavily used in literature and argue why those have to be reevaluated. Second, argue for an expansion of the methodological tool used to search neighbourhood effects and apply said methodology in a case study, hopefully showing the benefits of approaching this social issue in a more case-

based way. Third, to present the neighbourhood effects through this "new" lense as being closely interconnected with structural powers external to the neighbourhoods rather than being an effect of the aggregated social action performed by people in that geographical location, as it has been argued in some areas of the field. While this study has a theoretical grounding to it, I would argue that at this stage of trying a new approach the thesis rather can contribute to existing theory than a study that tests a hypothesis.

1.2 Case study, methodology and research question

The case study zooms in on the Swedish city of Malmö and the link between its segregated neighbourhoods and educational outcomes and looks at how educational success happens exclusively in segregated areas with segregated communities. The reason why this particular city was chosen are many: the large number of individuals with a foreign background that make up roughly a third of the city's population (Malmö stad, 2021), the high ethnic and socio-economic segregation of the city (Salonen et al., 2019), and a personal familiarity with the city which is a crucial element in tracing accurate contextuality when taking on a researcher role.

Using fuzzy-set QCA (fsQCA), a variant of Qualitative Comparative Analysis (QCA) the analysis aims to identify the specific situation of Malmö and how a set of theoretically relevant conditions or lack thereof combine to be sufficient and/or necessary for producing the outcome of high educational outcomes. Educational outcomes, in turn, is a crucial component of high social mobility. The overarching research questions of the thesis are therefore:

a)How does segregation matter in combination with other conditions in impacting high educational outcomes in Malmo?
b)What role do neighbourhoods play in the path to high educational outcomes?

Yet the ultimate goal is to formulate what is to my knowledge the first neighbourhood effect research that uses QCA as a methodology and moves towards a combinatorial understanding of causal forces that approaches things in a more systemic way rather than focusing on centering individual agency. Most residential research focuses on disadvantaged neighbourhoods and therefore can only see one side of the issue, namely the fact that those neighbourhoods are in a much more vulnerable position. If a problem is systemic, it should be

seen in the less vulnerable as well as in the more vulnerable side. If we can see educational disadvantage, we should be able to see educational advantage. Using Bourdieu's concepts on education, classification and reproduction of capital, the individual educational outcomes are understood through the "determinism" of geographical context and the education system. This is to say that the thesis places a larger focus on the structural power at play, nevertheless not ignoring what literature determines to be important individual characteristics.

The data used in this study dates from 2018-2019. Results and data from Malmö's middle schools were taken courtesy of the Skolverket's project SALSA while data from the specific neighbourhoods of the schools were found in the municipality's official databases.

1.3 Outline of the thesis

Chapter two focuses on the theoretical framework of the thesis. It presents a lense through which segregation, neighbourhood effects and the link to education should be understood, as well as presenting the bourdieusian perspective on the link between social structure and educational success. At the same time, it adresses concerns about previous theoretical considerations that have not been free of bias. Chapter three goes into the framework of case study: giving context about the housing and educational lanscape in Malmö and how their practices have become exclusive and segregating. Considering the theoretical lenses presented in chapter one and two, chapter three introduces the concepts and conditions that will be in the QCA analysis. In separate sections, the theoretical mechanisms and expectations of each concept is introduced; the concepts including six conditions: Highly Educated Parents, Majority Post-Secondary Educated Neighbours, High Neighbourhood Disposable Income, High Native School Segregation, Majority Native-Swedish Neighbours and School Choice and the outcome, High Educational Outcome. Chapter five goes into describing the methodology: what is worth revising, what are some of the challenges met with applying epistemologies in the field of neighbourhood effects as well as introducing and making a case for the chosen methodology, fuzzy-set QCA combined with Process Tracing. Chapter six represents the operationalization of the concepts, where each condition and the outcome will have their source and challenges (if any) explained. Chapter seven represents the analysis. It goes through the steps of QCA analysis: calibrating the conditions, performing a necessity and a sufficiency analysis, and achieving an intermediate solution using Enhance Standard Analysis. The proposed causal mechanisms are then revised by zooming in on four schools with High Educational Outcomes, describing their relationship with the mechanisms. The chapter ends with analysis annotations:

negation of the analysis and robustness of the result, important steps in QCA validity, and limitations and concerns. The final chapter draws the conclusion of the thesis and discusses the results.

2. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

Chapter two has two main aims: to introduce the frame through which I plan to conduct the thesis and to draw attention on the importance of revising previous research. Segregregation itself is not a term that should only be used when describing the more vulnerable members of society –as will be described in section 2.1, high-poverty neighbourhoods are often a continuus result of more wealthy individuals choosing to cluster in other areas, making it an incident of segregation. When considering the effects high poverty neighbourhoods have on their residents, past research has often ignored the larger picture of how they came to be segregated in the first place and has often concentrated on mechanisms that contribute to the further stigmatization of more vulnerable areas. The final chapter introduces the literature on why neighbourhoods and schools are interconnected, as well as providing Bourdieu and Passeron's explanation on why structure matters in educational outcomes.

2.1 Understanding Segregation today

A neighbourhood is to be understood as a geographically determined area that is characterized by the community that lives in it. It is, to be simplistic, like a scene where members of the community interact with each other –and that interaction is key for the functioning of social life. A segregated neighbourhood is then characterized as spatial isolation of different groups or communities. These isolated communities are part of the minority or the majority groups, which are in turn characterized by other socioeconomic factors like income or education level (Huttman et al., 1991). Many times, segregation is associated with minority communities only –a probable cause of the fact that research mostly focuses on disadvantaged communities. Yet it is important to remember that segregation is a double-edged sword: through the framework

of a globalized world with increased freedom of movement and constant relocations of individuals, an all-majority group neighbourhood can be considered a segregated neighbourhood. In many cities, the movement of people from different countries makes for an increased number of residents who have some kind of foreign background. For the present case study, which will be presented in more detail in chapter three, almost 20% of people residing in Sweden as of the 2021 official statistics are foreign-born, while 26% of Swedish citizens have a foreign background (SCB, 2021). In Malmö, one third of the population was born in another country (Malmö stad, 2021), making an all-native neighbourhood in the city a segregated neighbourhood.

The way segregated neighbourhoods come to be is disputed in the academic literature. Despite this there is a widely accepted consensus that they are at the same time a consequence and perpetuator of income inequality, the most compelling argument being evidence of intergenerational transmission of social characteristics (e.g poverty) (Chen et al., 2012; Chetty et al., 2016; van Ham et al., 2018). The abstract explanations of how segregation occurs can be referred to under the umbrella term of a segregation process: *"a flow of events or actions which produces, reproduces or transforms segregation patterns*" (Bråmå, 2006, p. 22)

As with most social phenomena, there are a number of conditions to keep in mind when trying to explain segregation: yet a more concrete, widely-accepted explanation of the occurrence of segregated neighbourhoods is the phenomenon of "*white flight*". This phenomenon describes the gradual migration of whites to more affluent neighbourhoods once minorities became noticeable (reaching a certain threshold) in the neighbourhood (Bråmå, 2006; Boustan, 2010). The ability to "flee" is also associated with higher capital and socioeconomic flexibility, meaning that, left organic, ethnic segregation produces class segregation. The "double edged sword" of segregation referred to above also brings with it the jarring reality that majority segregated neighbourhoods are the results of relocation choice and ability. Minorities rarely have the income and social mobility to quickly move to a high-income neighbourhood (Bergström et al., 2010; Bråmå, 2006). While a major argument in neighbourhood research is the assumption that where you live affects your life chances, Slater (2013) accurately points out that your life chances determine where you live and that low-income households cluster in places that have already been stigmatized. Moreover, the effect of spatial proximity occurs

where oftentimes, the social composition of the neighbourhood and school overlap (van Ham et al., 2018). Wilson's (1990) work discusses how big changes in the socioeconomic nature of the US have influenced the composition of low-income neighbourhoods -affecting minority neighbourhoods in life-changing aspects. Discriminatory action and inaction led to the clustering of low-income individuals affecting their health, education, and opportunities.

2.2 Worth revising: mechanisms in past Neighbourood Effect research

Because where we live is important to every part of our life, it is worth taking into notice, at least at an incipient theoretical stage, how most if not all lived consequences of a neighbourhood impact a youngling's educational outcome. Academics researching the direct and indirect effects of neighbourhoods on individuals declare that "*there is little doubt that neighbourhood effects exist, but after decades of research we seem no closer to knowing how important they are*" (van Ham et al., 2012, p. v), yet the mechanisms that should explain the social phenomena of how where we live impacts our lives are unclear. There are different narratives used across past research that will be laid out below. These are, however, not strictly bound to the relationship between neighbourhoods and educational outcomes (a more detailed description of that relation is going to be presented later in chapter 2.3) because there is an argument to be made about the strong intertwinement between geographical experience and different outcomes.

Another advantage of having a more holistic starting point is that it provides an easier to grasp overview of the field's past findings. This is especially important considering what Sampson et al. (2002) and van Ham et al. (2012) point out in their literature reviews: neighbourhood effect research has enjoyed almost constant popularity ever since its emergence in the mid 20th century US, resulting in an impressive amount of research material. From the mid 90's to the 2000's, for example, the literature in neighbourhood studies has increased with more than 100 papers per year.

The overview below stems mostly from Galster's (2012) literature review and has the overarching role to provide the reader with an incipient view of what the main mechanisms are in neighbourhood effect research. This shows how past researchers have related to studying

neighbourhoods, as well as provide stepping stones for constructing my own mechanisms for the thesis. Keeping that in mind, „not all mechanisms are created equal": Chapter 2.2.2 will show that some of the mechanisms have to be taken with a grain of salt, both because of theoretical and methodological reasons.

2.2.1 Previous Neighbourhood Effect Research

Galster identifies four main dimensions and their 15 sub-dimensions that sum up the mechanisms through which neighbourhood effects unfold: Social-Interactive, Environmental, Geographical and Institutional. These will be succinctly presented below and laid out in Table 1. Another important aspect to keep in mind is that these theoretical narratives should be viewed more as one would view ideal cases. Empirical evidence rarely comes in a strict, clear way that excludes all other causal links and points to a single one. It is entirely possible to have results that combine these „ideal types" (much like Max Weber's), which is something to be expected in research with an explorative nature such as this.

The *Social-Interactive* mechanism refers to the consequences of interactions within a neighbourhood: that the community voluntarily or involuntarily perpetuates certain behaviours that affect the well-being of an individual. These behaviours are believed to be internalized in the formation and interaction of local communities: some suggest through peer-groups and role-model formation (Case and Katz, 1991; Oberwittler, 2004), or sheer pressure from one's community to conform. (Friedrichs et al., 2003). Internalized and shared norms like one's willingness to intervene can alleviate stress regarding safety in the neighbourhood and build what Sampson et al. (2002) calls "collective efficacy". Quality of personal networks is also considered to influence the individual –if, for example, a person supposed to enter the employment market is surrounded by unemployed individuals (Musterd and Andersson, 2006). Personal networks are also a way to have access to information and resources that can be fruitful for the individual (e.g school opportunities or job opportunities). (Sampson et al., 2002). Galster (2008) and Manley and van Ham (2010) find that lower-income individuals profit more off of the connections with middle-income people than high-income ones, suggesting that a very big social distance will minimize interactions between people.

Environmental mechanisms can take the form of exposure of the individual to different kinds of processes, mostly related to disorder and/or violence. Research has hinted on the effects damaged physical surroundings can have on someone's well-being: graffiti, litter, unkempt buildings and so on. Being exposed to violence could also take a toll on an individual's well-being, since it is also one neighbourhood characteristic most perceived and identifiable by individuals themselves (Galster 2012)

Geographical mechanisms occur in the form of municipal or local management quality. It describes lack of access to establishments like recreational environments or adequate job opportunities either because of government inability to manage neighbourhoods or because of a lack of flexibility between neighbourhoods. This relates to a neighbourhood's quality of resources and how residents can access them or, if they are not present, how and if residents can reach the nearest needed resource. A bad public transportation system not only influences the mobility and opportunity of citizens, but is also a predictor of wealth (Barton and Gibbons, 2015; Jones-Rounds et al., 2013). Research finds that not all public transportation is equal: neighbourhoods with slow public transportation are more characteristic of lower-income neighbourhoods while high-speed transit with fewer stops can be found in more affluent areas (Barton and Gibbons, 2015).

Institutional mechanisms impact the residents through lack of quality of neighbourhood establishments. A lack of day-cares, hospitals and schools can make it difficult for households to access opportunities. This mechanism speaks more to the stigmatization of neighbourhoods, which leads to lower investments in the neighbourhood by various market actors. Lupton's (2004) study in the UK concludes that more stigmatized neighbourhoods have a harder time filling teaching positions, affecting school quality. Stigmatization also materializes through redlining of certain areas and categorising them as "risky" (Musterd and Andersson, 2006), hurting the opportunities of residents.

Social-Interactive	Social Contagion	Neighbours influence the attitudes, behaviours and aspirations of the individual
	Collective Socialization	Individuals internalize social pressure and norms as a way to conform. These then aggregate to produce noticeable effects for others
	Social Networks	Neighbourhood communities form ties between individuals that can carry information and resources
	Social Cohesion and Control	Social disorder influences the psychological well-being and habit-forming of individuals.
	Competition	Groups compete for opportunity-defining resources in the neighbourhood
	Relative Deprivation	Other's success influences less-well off neighbours and is a source of dissatisfaction
	Parental Mediation	Parents' well-being is affected by the neighbourhood which then reflects on the home environment
Environmental	Exposure to violence	Individuals that have been exposed to violence and/or sense that their property and person is in danger
	Physical Surroundings	Damaged neighbourhood environment –buildings, lack of parks, litter etc.
	Toxic Exposure	Exposure to high pollution levels in air, water, soil
Geographical	Spatial Mismatch	Low urban mobility to access resources that fit them as an individual (e.g. jobs)
	Public Services	Local public service is sub-par because of diverse management reasons (like corruption or operational challenges)
Institutional	Stigmatization	Neighbourhood stigmatization by influential actors can hinder the opportunities of residents
	Local Institutional Resources	The sparsity of actors, both public and private, cuts the resident's access to opportunity and wellbeing- supporting facilities.
	Local Market Actors	Private actors that encourage/disencourage certain behaviour through their presence/absence. Things like fresh food stores or gambling stations.

Table 1: Neighbourhood Effect Mechanisms, (Galster 2012 p. 25-27)

2.2.2 Theoretical criticism and the dangers of classification

What sociologists have to do almost universally in their practice is to categorize, which is a tricky endeavour. As Bourdieu notes, this oftentimes unavoidable step in conducting social research has to continuously redefine what it considers as "objective", because even objective criteria are social constructs. The consequences of this kind of misrepresentation is the researcher becoming the "objective transmitter" (Bourdieu, 2019, p. 38) of harmful, generalized knowledge that helps shape public discourse and political decisions. This section has the role to make the reader/the researcher consider past biases when thinking about neighbourhood effects. Ultimately "all of the questions we call methodological or epistemological are at the same time political" (Bourdieu, 2019, p. 29), and acknowledging this in an academic environment is the first step to internalize the responsibility of handling such topics.

The way a lot of the mechanisms are framed, as seen in chapter 2.2.1, implies supposed blame on the excluded for their outcomes and is very quick to classify the communities that live in a low-income neighbourhood –a practice which, as mentioned above, should be treated carefully. The social-interactive mechanism has the community and the values internalized within the community as a main explanation of why both youth and adults coming from specific areas have a lower well-being. The culture of poverty argument can be summoned for example in the social contagion mechanism. The person who initiated this theory into the mainstream, Oscar Lewis, created a narrative that suggested poverty is intergenerationally transmitted because of the values parents instill in their children (Varenne and Scroggins, 2015), ultimately shaping the narrative that suggests poor individuals are lazy or do not want to work, or that low-income environments are generally uninvolved in education (Gorski, 2008). Bauder (2002) also points out how normative the classifications are: according to this perspective on the repercussions of poverty, the entire neighbourhood is responsible for socializing itself in a deviant way that causes marginality and is inherently incompatible with the "good" society. He further continues by stating that this public discourse bias describes mechanisms that use medical phrasings like "epidemic", "dosage" "contagion" harm communities because they create a narrative that places blame with the residents rather than the institutions that are at play: "*social marginality is not a product of cultural inferiority but rather the result of denied opportunities to people who are labelled culturally different"* (Bauder, 2002, p. 87). The application of this deviant behaviour is, a lot of times, describing the ways communities in

neighbourhoods respond to systemic difficulties as individually created pathologies. The Broken Window theory, that has been very influential and has also inspired policy making especially in the US, is sometimes employed as a mechanism that explains deviant behaviour. Yet some scholars argue that the theory is perpetuated by a myth of causality that is unjustified:

"the theory does not, however, claim that any of these variables will necessarily lead to another. Rather, it posits only that: *disorder may lead to fear, which may lead to withdrawal, which may lead to a deterioration of informal social controls, and even if all these events come to pass, the result is not necessarily increased crime, but merely increased vulnerability to crim*e" (Rowan, 2017, p. 2)**.**

Rowan goes further to argue that the theory is "undebunkable" because it rests on a normative argumentation. The danger in perpetuating highly normative mechanisms, especially when it comes to neighbourhood policies, is that they are very often not valid. While it could be true, for example, that immigrants concentrate and socialize in their closed circle, it would be a mistake to assume that it is strictly a product of individual choice so the matter is closed. As Bunar (2010b) shows in her study of why some foreign background pupils chose to stay in some of Stockholm's most stigmatized schools, oftentimes that choices comes at the expense of not wanting to expose onesself to a hostile environment of more stigmatization. While homogeneity in group dynamics is not bad per definition, the choice to step back in these instances is not an exclusively personal one, it is a forced choice.

Moreover, in the process of creating policies without considering a more systematic perspective and only concentrating on individual choice, the needs of the neighbourhood are stigmatized and often ignored (Harcourt, 2005) The consequences of that are, as Rowan calls them "no ordinary harm" (Rowan, 2017, p. 44), because they create "zero tolerance policies" that do more harm than good . Teixeira's (2015) study on US youth suggests that the feeling that a Broken Window Theory framework would interpret as disorder is actually indifference –no one cares – both from the communities' side and from the authorities and local municipalities' side. This feeling of abandonment and locus of control can cause psychological distress and raise stigmatization, as the interviewed youth suggest. Yet the interviews underline processes that are in line with the "fixed window theory" that emphasize the beneficial factors that community agency can have among youth without furthering stigmatization.

The critics of most views on neighbourhood effects argue that the effects found in research are more about the structure in which most societies force homogeneity rather than how individuals influence each other. It is a misinterpretation to forget that for low-income residents, residential "choice" or "preference" is very limited, which would make the clustering first and foremost a systemic problem (Slater 2013). This does not imply that neighbourhood effects do not exist –children who grow up in low-income neighbourhoods and do not have access to quality institutions and services, fresh produce, or other elements oftentimes lacking in non-dominant class neighbourhoods certainly have their life chances and well-being affected. The housing system is extremely profit-driven, and so are increasingly privatized institutions that, by trying to maximize their profit, flee areas with low spending power and influence. Poor neighbourhoods do not arise because of the people that live in it, but the people in it live there because *"the poorer residents and businesses can only afford to move in after a neighbourhood has been devalorized –after capital disinvestment and the departure of the wealthy and middle class"* (Slater, 2013, p. 376).

It is a difficult game to identify causality: in a way, homogeneity in neighbourhoods is part of the problem because peer-groups, social capital, and different forms of interaction are extremely important for the way individuals perceive and form themselves as members of society –but rather than contributing to the further stigmatization of individuals who do not "live up" to the capitalistic standards we should start by combating the systems that segregated them like that –the neoliberalization of housing markets and the school system that serves the maintenance of the status quo rather than promoting critical thinking, as promised. Low income individuals are subjected to the sanctity of the neoliberal idea of "choice" or "consumer preference", that is a reproduction of the more privileged people. This is reflected in the choice of conditions and theoretical framework of the thesis, since I have chosen to concentrate more on structural elements to include in the analysis.

2.3 Neighbourhoods and Education

As for the concrete link between neighbourhoods and educational outcomes, there are a number of high-quality research papers that suggest the importance of geographical location in school choice, attendance and interaction of residents. The effect of systemic clustering low-income households has a noticeable effect on individuals growing up in the neighbourhood, this

evidence being suggested by the link between neighbourhoods and schools in different contexts (Boterman et al., 2019; Ladd, 2012; Otero et al., 2017; Sykes and Musterd, 2011). Geography of education determines school attendance, which means, depending on the structure of school choice, class homogeneity replicates itself in classrooms and shapes educational landscapes (Boterman et al., 2019). This affects the educational institution in lower-income neighborhoods, as stigmatized areas have lower access to quality institutions. Thus, some of the mechanisms that are associated with neighbourhood effects research are believed to find their most influential scene in the local schools. This is mostly because schools are a crucial space where children and their parents get to meet and interact with their neighbours. The child forms a peer group, learns skills and internalizes societal values that are considered valuable, this being echoed by the Bourdieusian importance of internalized dominant class capital (explained in more detail in the next section). Especially for children whose parents do not speak the native language, school exposure can improve language skills which are a crucial element to social integration.

On the other hand, it is not unrealistic to assume that children coming from wealthier households have much higher chances of doing well in school since their environment is more susceptible to correcting "problematic" occurrences –such as recognising and being able to hire extra help as well as having no financial barrier to extracurricular activities.

This effect is visible across multiple countries and timeframes, suggesting that looking at neighbourhood effects for youth has to consider its tie to education outcomes. Pong and Hao's (2007) study in the United States concludes that differences in educational performance can be explained by neighbourhood and school characteristics. While the performances of natives can be explained as mediated by school attributes, for young students with immigrant backgrounds the neighbourhood effect remained. Sykes and Musterd (2011) find that that in the Netherlands, neighbourhood effects seem to be less important for the educational performance of children when school effects are introduced in the model. Their findings suggest that any neighbourhood effect and educational outcomes research that fails to consider school context is incomplete. At the same time, Frankenberg (2013) US study shows a link between neighbourhood segregation and school segregation, drawing attention to the combined effect that that entails –that is, forced homogeneity.

As for evidence from Sweden, Brännström's (2008) study presents similar findings in a cross-classified model that reaches the conclusion that neighbourhood influence is probably transmitted through the school's context, evidenced as well in Andersson and Subramanian's (2006) result that link neighbourhood characteristics to educational outcome. While there are variations across Sweden, Malmberg and Andersson (2020) show that 25% of municipalities (especially more urban areas) have school segregation that can be traced back to neighbourhood segregation and school choice.

2.4 Reproduction of Society through Education

The link between intergenerational mobility, education and exclusion can be understood through the lens of Bourdieu. The education system reproduces the existing distribution of capital (more explicitly cultural capital) and is therefore a key component of the reproduction of the existing social structure — by default its power relations (Bourdieu and Passeron, 1977). The selection of individuals into different disciplines and/or classes also has a sort of self-fulfilling prophecy according to Bourdieu, where the selection reinforces differences between those in other institutions/disciplines (Bourdieu, 1987, p. 25). While there are some scholars that argue Bourdieu's theories of capital reproduction suggest that lower-class individuals do not experience high social mobility because they misunderstand how the system should be navigated (Varenne and Scroggins, 2015), I would suggest understanding it rather as how the transmission of capital/ lack of dominant class capital occurs through the lack of experiences and/or tools to access it.

In this sense, the purpose of the teaching, or pedagogical action, as Bourdieu and Passeron would call it, is hidden from society insofar as a reveal of its characteristics would directly undermine the power it holds. Because it responds to the dominant class and heavily imposes the internalization of dominant culture on people of all socioeconomic backgrounds, pedagogical action is intertwined with symbolic violence[1]. Through the aggregation to the

1 At a first glance, the use of the word "violence" does not hold. The understanding of violence is bound on the individual level and is closely tied to the physical. Symbolic violence such as different forms of systemic oppression and exclusion do not fall into a universal understanding of violence like it should. (Bourdieu and Passeron, 1977).

education system, it protects high cultural capital and prevents developing practices that are incompatible with it.

Yet if successfully internalized, that cultural capital, because it is deemed valuable by the market, returns in the form of economic capital, social capital, human capital –whose combination determine one's success. This internalization is referred to as Habitus, which refers to internalization of class culture and world views (Bourdieu, 1987). Habitus should not be understood as a personality trait albeit the internalization of ways of thinking that influence the manifestations of what is internalized. Not drawing on school benches could be interpreted as a habitualization of obedience and acknowledgement of property. The exteriorizations of Habitus are not mind-numbing replicas of selective exposure but carry with them signs of Zeitgeist (Reay et al., 2011)

The success of an individual within the system can be understood at how good they are at reproduction and how easily the habitus created in the educational system can transcend in and be applied to other areas of society. While education is the most influential instrument in the reproduction of social class, parents and outside surroundings play an important role as well (Bourdieu and Passeron, 1977, p. 43). The closer the connection between the interactions one has early on are to the desired cultural capital, the easier it is for the pupil to form that habitus. Bourdieu and Passeron find differences in educational outcomes dependent on residence and, generally, social origin in their Parisian study. The implications of this are that the process of exclusion can be framed through presence/absence of certain characteristics –yet the educational system instills the idea of economic success explained through meritocracy. It is not just the transmission of cultural capital, according to Bourdieu, but the intergenerational transmission of it in the form of symbolic capital that comes with the ability to support the construction of knowledge by calling on other forms of capital (such as having enough economic capital to afford tutoring) (Alanen et al., 2015, p. 35).

These theoretizations are supported by Reay et al (2011), describing how habitualization and family background are important in how middle class children in the US perform and get enrolled in school. The link between the marketization of education has also been discussed from a perspective of resource and advantage building (Reay et al., 2011, pp. 163–167). Ball (2003) emphasizes how individualism and the active competition on the educational landscape

are results of a narrative that instills the idea of safety as being achievable through the pressure of planning —and — how that perception is linked in turn to the habitus of the parent.

There is no scenario where people can be expected to not get formally educated, because individuals systemically depend on education. The market, closely intertwined with the education system, lays a very high value on educational capital as a necessary resource for social mobility. If a member of the lower classes strives for social ascension, the only way to achieve it entails educational success. This is because the education system legitimizes what the market deems as valuable traits and without which one can never achieve the broadening of opportunities that comes with accumulation of economic capital or, as Ball calls it "being drawn into the ontology of the market" (Ball, 2003, p. 165). At the same time, educational institutions are themselves judged by market standards, being highly subjected to public scrutiny on how well they fulfill their purpose.

3. FRAMING MALMÖ: LIVING AND LEARNING

This chapter begins the description of the case study of Malmö, Sweden. This section is split into three subsections that aim to frame the city's housing and educational landscape in order to help contour the context in which residence and educational outcomes are related. Moreover, this contextualization helps justify the choice of conditions for the analysis, which will be discussed in further detail in chapter four.

The chapter starts with the Swedish housing market, and how past neoliberalization policy tendencies have made it increasingly harder for low-income households to choose where to rent/ own housing. This, coupled with practices like renoviction and oligarch-monopolized building increase neighbourhood homogeneity by removing the agent of choice for lower income individuals and encouraging wealthier households to flee. As mentioned before in chapter two, these lower-income neighbourhoods remain in "capital devalorization" (Slater 2013) and remain stigmatized. The Swedish education system, as discussed further in the chapter, is also subject to controversy. Due to market-oriented policy changes that emphasize individual choice and encourage competition between schools, oftentimes creating a phenomenon similar to residential "white flight". After looking at the housing and education system in Sweden, it is suggested that schools that do well in this pseudo market attract and

cater to children that do not need as much guidance as other struggling pupils, leaving some schools with the task of accommodating limited resources to many children with specific needs.

3 1 Housing in Sweden

Sweden's housing market history is characterized by some of the same steps that can be observed in most western nations: after not having the infrastructure to adapt to a post- World War II society that was having more children than ever in recent history, the state was forced to intervene and subsidize the construction of housing complexes as well as implement new protections for renters (Terner Center for Housing Innovation, 2017). The post-war period saw a housing shortage: the demand for housing increased but there was not enough capital for construction and as a result the state decided to directly invest in the boosting of housing constructions. In 1942 the state gave non-refundable loans to municipalities to build and oversee the construction of new housing. The municipalities were therefore the owners of the housing complexes, but the state decides the way they handle their housing. It is important to mention that at this stage authorities focused on these housing policies as a population-wide project: these houses were supposed to be for everyone, and the goal was to ensure the rise of housing quality and overall life quality. The new project the government was concentrated on was the Million Dwellings Programme (miljonprogrammet), where the goal was that in 10 years the state would help the municipality construction companies build more than one million housing blocks, which they did (Hall and Viden, 2005).

There has been a lot of criticism concerning this project, but mostly that it prioritized building more houses rather than the quality of the final product. And while the facilities of the newly built housing solved many spacing problems such overcrowding, bathrooms and facilitating modern equipment for tenants to use, it did not account for the outdoor environment (Hall and Viden, 2005) [2]. By the end of the 70s, people with diverse backgrounds started to move into the programme, including low-income Swedes, but, because of an economic crisis, this did not last: the issue of household diversity rose regarding the class homogeneity of the residents (Boverket, 2014).

2 Yet there is a misconception in the way people think of these houses as being identical "concrete slabs". In reality, the homes and apartments were varied: some designed to accommodate students, young families, or other categories of social groups depending on how much space they would need (Hall and Viden, 2005).

The 90s marked a change of trajectory to a more neoliberal mode of governing the country. That meant that the state no longer engaged in the financial risks of subsidizing the municipalities companies who were in charge of building and maintaining housing. That risk transferred from the state to the owners
of the housing, in this case the municipalities and some private owners. State housing loans were abolished, interest subsidies were cut and the housing sector began to adopt a market-oriented approach (Boverket, 2014).

Probably the most important take from the changes that followed during the '90s in Sweden is that housing had become a commodity more than a right and emphasis was shifted towards the individual rather than the collective (Boverket, 2014). If the building efforts of the 60's underlined how the rapid construction of homes was a collective effort for the collective good, the changes in policy focused more on the consumer-individual and market-orientation than ensuring the people's social right to good quality housing. By lifting the advantages of municipalities on the housing markets, the institution that was entrusted with assuring the constant improvement of housing conditions could not take risks anymore, leading to a more scrutinized process of aiding and increasing measures such as means-testing (Tunström and Wang, 2019). Moreover, because of having to compete with the free market, the municipalities ended up selling a lot of their properties to private owners and had to adapt to a more "managerial" way of running the institution. Most municipality housing organisations are run as "limited liability companies" (Boverket, 2014) and offer social housing sparsely and on the basis of strict mean-testing (Tunström and Wang, 2019).

Because housing was now regarded as a market good, private investors and individuals were encouraged to buy and invest, raising the price of real estate and rents, as can be seen in Fig. 1. It could be argued that the Swedish housing market experienced a rise in housing prices as a result of an optimism-driven demand in property as future investments. The disposable income made available by the tax cuts in 1990 ensured a widespread wish of individuals to invest in real-estate, driving the prices of homes to a continuous growing trend. The figure below shows the development of single-family home prices and a steep increase since the arrival of the conservative party in the government (Birch Sørensen, 2013).

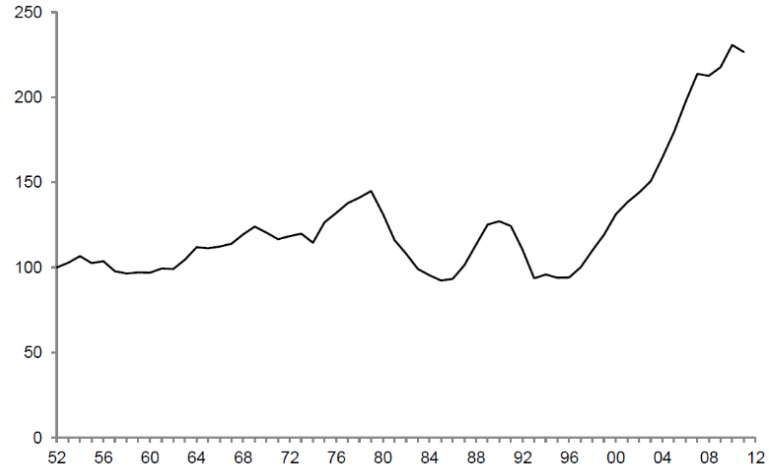

Figure 1 Real Housing prices for single-family homes in Sweden, 1950-2012 (Birch Sørensen, 2013)

Since the mid-90's Swedish household indebtedness has risen the debt to disposable income ratio to 185% on average. This number still varies across the country: for households with a new home in Stockholm, the rate of indebtedness is over 500% (Svenska Bankföreningen, 2019). What this means is that people who enter the housing market have not much choice but to take on debt, since Sweden is generally an owner's market rather than a renter's market.

3.1.1 Entering the housing market

Today Sweden's largest cities are among the most income and ethnic segregated cities in Europe. If one considers entering the housing market, be it a young swede or a newly arrived immigrant family, it is almost impossible to buy/find good renting space –having a lot of people resulting in loans or more than subpar living spaces. The issue of *renoviction* has accentuated these disparities even more –the practice of for-profit individuals and organisations to renovate housing complexes and as a result increase the rent has forced people out of their housing. This might come as a surprise for the Swedish welfare model known for imposing rent controls on apartments, but the law puts a cap on rent and specifies that it should be defined according to the estate's standards (Gustafsson, et al., 2019). Following this logic there is nothing stopping private owners from renovating and increasing rent to a point where a lower income household has to either move or be evicted. Therefore, large private housing owners contribute to the gentrification of an area. Moreover, because the housing strategy still follows the neoliberalisation and business approach it started in the '90s, increasing amounts of public housing stocks have been sold to financial moguls e.g. Blackstone, Victoria Park, Stena

(Gustafsson, et al., 2019). This leaves low-income people with not many options seen as public housing has not increased since 2013. In Uppsala, for example, it makes up less than 20% of options for multifamily housing (Gustafsson et al., 2019)

3.2 Education in Sweden

Although the swedish education system, like the housing one, is seen as one of the best in the world, there have been concerns reported as far back as the early 2000. Most of the concerns revolve around school drop-out and poor results for low-income individuals and especially people with immigrant backgrounds. At the PISA 2003 evaluation, more than 40% of first-generation pupils fail to reach baseline math level, according to OECD report (Schleicher 2006). While the reason for poor integration into the school system is debated by some, the report that issued the PISA results also claimed in their study that differences in education outcome can not be explained by individual attitudes towards school (Schleicher 2006). A later OECD report evaluated the state of the Swedish education system and came to the conclusion that it is socioeconomically exclusive, affecting immigrants the most(André et al., 2019). A system that was praised for collective-orientation, inclusion and efficacy is now an example of market forces having gone too far. Most of these critiques and more are attributed by scholars to have originated partly from the same political forces that affected the housing system to the 1990[3]. Both social-democratic as well as conservative politicians have pushed for the introduction of neoliberalism in Swedish society and placed a heavy market-focus on education. Today, the Swedish education system is, arguably, the most market oriented in the world (Fejes and Dahlstedt, 2019). With that, education started being seen more as a commodity than a social right, since the focus was shifted from personal development through acquisition of knowledge to making a child an employable, productive member of society. Individualistic tradition started to be enforced through employing emphasis on what is referred to as personal autonomy, initiative and choice. Yet the result has been deepening inequalities, exclusion, and more. All these concerns can be summarized in three dimensions: offering low-income pupils, immigrant and immigrant heritage pupils the same access to good schools,

3 Of course, school segregation was not introduced by neoliberalism. The process was already underway in Sweden, but the policies paved the way for an acceleration that together with increasing globalization have deepened the concern (Reimers 2019)

integration of pupils coming from outside the swedish education system into the system and encouraging native, middle and high-income households to not flee schools with non-natives.

Like most countries in the Western world, cost-free, compulsory education was introduced in Sweden in the 19th century. Ever since then, Sweden has had nine years of public education being mandatory, following a curriculum approved by the state. While highschool is not mandatory, the system has encouraged pupils to go on beyond the mandatory education requirements and continue their education from a selection of vocational, to university preparatory programmes (Taguma et al., 2010) Although starting out as a centralized model based on social engineering (Fejes and Dahlstedt, 2019) the system today is decentralized, municipalities being responsible for the schools in their local area, therefore increasing responsibility to the school itself and the school heads. The original centralized education model, whose main objective was leveling out the social inequalities in Swedish society and minimizing the damage done by market forces, has seen the need for reform because of how detached it was from needs and problems on a local level. The decentralization's goal was for more individuals to get involved in their teaching directly –for example, that different logistical decisions happen closer to home and that there is more control with the parents in what happens at the school (Taguma et al., 2010).

3.2.1 Privately managed schools

Municipally-managed schools are not the only types of schools available: individuals, with the help of state-vouchers, can open schools that are publicly funded but privately owned (often referred to as free schools). Pupils are usually enrolled in the school located the nearest from their home, but because children are allowed to attend any school they/their parents wish as long as it is in their municipality, there are families that opt for a school further from their neighbourhood. These Free Schools are often characterised by alternative teaching methods and, according to a report from the Swedish Ministry of Education their "*teaching [...] is to have more or less the same objectives as those of the municipal school"*(Skolverket, 2013, p. 9).

This leads to the municipal and the Free Schools competing on a quasi-market for pupils and funds. Yet free-schools are in a way easier to manage than municipal ones: they are not

obligated to offer all curriculums that municipal schools have to have and therefore turn away pupils who need that service, mostly non-natives. If a Free School suddenly becomes bankrupt or for some other reason disappears from the educational landscape, the responsibility of providing quality education for all falls on the municipal schools. At the same time, when one pops up, municipal schools have to make sure to remain appealing to keep their students (Dahlstedt and Vesterberg, 2019). Therefore, many times, they avoid sharing the responsibility of making sure all children are prepared to properly go through the system and oftentimes make it harder for municipal schools to plan education. In 2015/2016, only 12 Free Schools in the country offered preparatory programmes for learning Swedish –which means that those 12 Free Schools were the only ones beside municipal ones that could accommodate children that had needed to improve the language (Dahlstedt and Vesterberg, 2019). According to Arreman and Holm (2011) in some years, Free Schools in the country had a profit turnover of between 8 % and 50%.

Many express concerns that instead of providing an additional option for pupils, Free Schools deepen the problem of exclusion and school segregation (Dahlstedt and Vesterberg, 2019), since they seem to attract mostly natives and require a more detailed understanding of the city's educational landscape. Brandén and Bygren (2018) find that the establishment of Free Schools increases segregation due to the dynamics of school choice and the patterns that they support. Swedish pupils tend to attend schools further away from home if they live in an non-native dense area, while foreign-borns stay closer to home (unless they have highly educated parents) (Andersson et al., 2012).

Skolverket (2003) points out that there is an unequal distribution in information between parents that affects school choices. While schools frequently advertise their programmes to the parents, they can do so selectively. As such, in order for compulsory schools to have equal ratios of native-to-immigrant background pupils, 14% of the student body in Sweden would have to relocate (Pareliussen et al., 2019).

Although most researchers and politicians see school segregation as a problem, the sanctity of school choice remains. There are some that see Free Schools as a good opportunity for school competition to lead to innovation and better teaching (Wondratschek et al.,2013; Holmlund et al., 2015) yet there are strong voices advocating for regulating school choice and pointing out how different learning experiences can be for natives and non-natives.

3.2.2 Getting to highschool

At the end of that education cycle, a student can take different paths depending on their grades: choose a highschool programme catering to different career trajectories, vocational or non-vocational, (engineering, natural sciences, arts, economy, etc), leave formal education altogether, dependent or independent of their grades, or, because of a failure to pass the necessary classes to graduate, go to a highschool preparatory programme that is constructed to eventually get the student to a high school programme. At the age of 19, a pupil can no longer be admitted into highschool but has to attend the equivalent programme for adults.

Beach and Dovemark (2019) suggests that most school-age immigrants want to participate in a national highschool programme, and from my knowledge there is no research to dispute that belief. They argue that in order to do so, struggling or newly arrived non-natives have to attend preparatory classes that help them with language and other skills deemed necessary to properly benefit from the national programmes. But many pupils feel like they are being pushed towards vocational training and/or made to stay longer than they'd consider necessary. Most of the time, the reason is language.

"You try and try.. but they [the staff] stop us… well… can't we attend upper secondary [national programmes] I'm not able to fight for my studies anymore… I do not want to stay here at [the introductory programmes] I want and have to go on.. my friend doesn't want to come to school anymore after she realized she couldn't attend upper secondary school… I try to help her and talk to her.. but she says no, she won't get any further… if we're are going to be here for another year… we will do everything once again… we don't need that" (Beach and Dovemark, 2019, p. 40)

School competition and the education quasi-market is an important thing to keep in mind when considering how a pupil can reach highschool, since prestige has a lot to do with it. If we look at the highschool fairs that take place in every municipality yearly, we understand how prestige market-dependent the highschool choice has become. Each year, highschools display their programmes in a fair that is supposed to be a place for comparable information to make students choose the programmes best suited for their needs and aspirations. While school fairs and choices occur differently across Sweden, an ethnographic study in Malmö shows how native pupils are biased against some programmes/schools because of immigrants. Voyer's (2018)

study of a highschool fair in Malmö shows that because native students are considered "safe" by school administrations, schools are being whitewashed to attract those individuals from stable backgrounds who are most likely to not have any difficulties in their track and graduate. Between students themselves, schools are differentiated between "blatte"[4] and swedish schools, furthering the gaps between them and pupils with an immigrant background (Voyer, 2018).

3.3 Malmö, caught in the middle

When it comes to housing and education, Malmö displays many of the same socio-economic segregation patterns that can be found in Stockholm and Gotenburg (Salonen et al., 2019). The city is continuously growing and local authorities have been slow to respond to accomodate to the new demographic situations. What is most noteworthy here, in terms of housing accessibility, is the way large companies employ strategies of increasing housing prices and making them inaccessible, especially less financially stable households.

"The Norwegian based private housing investor Heimstaden strategically buys poorly maintained property from smaller landlords in Malmö, to renovate and 'upgrade' the rental housing stock. When a tenant moves out, Heimstaden renovates, increasing the value of the apartment and setting a higher rent before they lease the apartment to a new tenant. In contrast to other renovation projects, this strategy circumvents risks of mobilization of tenants since the apartment is empty. In the wake of mobilization among tenants against renovations, this strategy has become more and more common. The other side of this strategy is to keep maintenance as low as possible so as to increase the profit margin when someone moves out" (Gustafsson, et al., 2019, p. 6).

This has the effect of clustering low-income people in neighbourhoods where properties are not as expensive and where communities face more difficulties managing resources. Salonen et al. (2019), shows the city maintains a place as one of the highest segregated areas in Sweden. The inequality trend and economic recessions have pushed lower-income areas further down the social mobility spectrum, as is exemplified by Andersson and Hedman (2016). According

4 An othering term to distinguish between Swedish and foreigner

to them, the economic instabilities in the ‘90s have cut more lower-paying jobs that employed low capital individuals, decreasing their income and therefore urban mobility even further.

Salonen et al. (2019) also points out that the ethnic segregation is mostly caused by socioeconomic segregation. The high-income areas are in the western part of the city while the lower-income households cluster in the eastern and some of the southern part of the city. As we can see from the left side of Figure 3, the spending power calculated in their paper for the year 2016 shows clear socioeconomic clusterings that almost perfectly overlap with the minority density on the map on the right side.

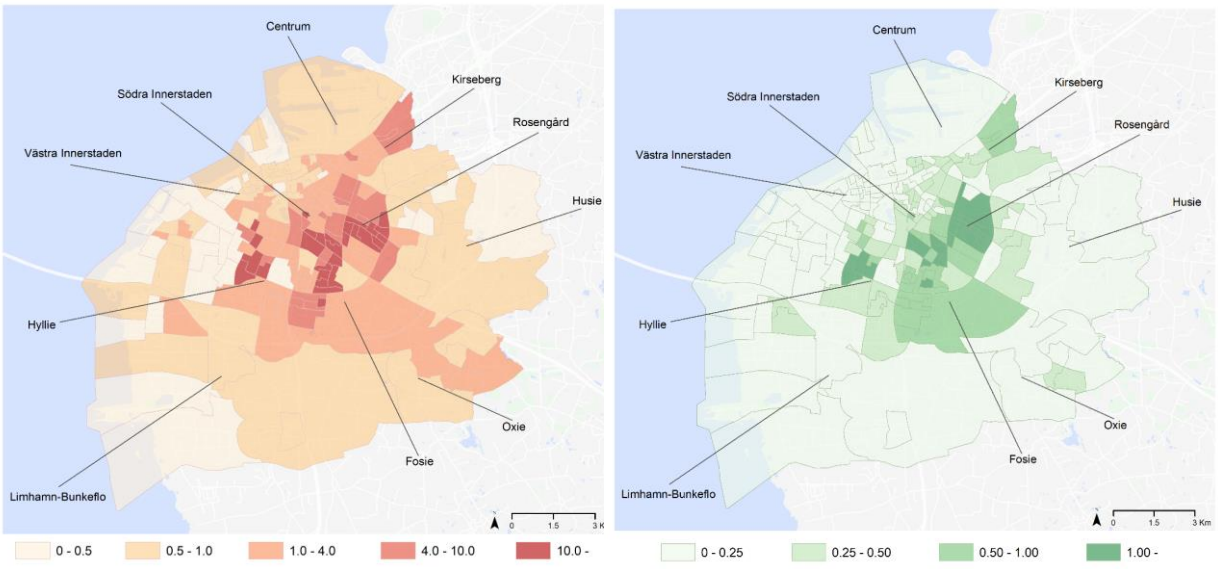

Figure 2 Spending power and ethnic density in Malmö, (Salonen et al 2019)

When it comes to the education system, the city is, as many other Swedish cities, caught between the quasi-marketplace of public and Free Schools.

The share of pupils qualifying for highschool in the city has large geographical disparities, ranging from 90% in areas such as Limhamn-Bunkeflo to as low as 40% in Rosengard (Skolverket 2019). The Table below (Table 2) shows the data for the year 2019, presenting all of Malmö middle schools, their graduation percentage and the part of the city (Stadsdel) they belong to. What we can notice are tendencies where the low-performing middle schools are overlapping with high ethnic density areas and low spending power, while the high-performing middle schools seem to be in richer, more Swedish areas.

Moreover, experts estimate that early school dropouts to be much higher in Malmö than the national average, as well as recognising the importance of geographical placement for educational attainment of pupils (Grander and Stigendal, 2014), while a new index ranking schools in the city shows that only two in 74 primary schools have an accurate representation of the city in their classrooms –suggesting an increasing trend in how segregated pupils from different backgrounds go to school (Persson, 2021).

Stadsdel	Schools	Graduationrate
Rosengard	Apelgårdsskolan	30
Rosengard	Värner Rydénskolan	31
Sodra Innerstaden	Möllevångsskolan	33
Fosie	MunkhÃ¤tteskolan	34
Centrum	Johannesskolan	39
Sodra Innerstaden	Sofielundsskolan	39
Fosie	Hermodsdalsskolan	40
Hyllie	Kroksbäcksskolan	45
Husie	Höjaskolan	47
Sodra Innerstaden	Stenkulaskolan	49
Fosie	Augustenborgsskolan	55
Hyllie	Lindeborgsskolan	56
Vastra Innerstaden	Dammfriskolan	56
Centrum	Rörsjöskolan-Zenith	57
Fosie	Söderkullaskolan	58
Kirseberg	Backaskolan	61
Oxie	Oxievångsskolan	62
Husie	Al-Salamahskolan	63
Husie	Videdalsskolan	65
Centrum	Rönnenskolan	68
Limhamn-Bunkeflo	Gottorpskolan	68
Sodra Innerstaden	Sorgenfriskolan	69
Limhamn-Bunkeflo	Pilbäckskolan	70
Centrum	Jensen grundskola Malmö 2	71
Vastra Innerstaden	Slottsstadens	71
Sodra Innerstaden	Kastanjeskolan	73
Centrum	Östra Skolan	77
Limhamn-Bunkeflo	Linnéskolan	77
Fosie	Boukefs Privatskola	83
Husie	Runstyckets skola	84
Husie	Bäckagårdsskolan	86
Husie	Montessorigrundskolan Maria	86
Hyllie	Mariaskolan	88
Hyllie	Mariaskolan	88

Limhamn-Bunkeflo	Ängsdalsskola	89
Limhamn-Bunkeflo	Strandskolan	89
Centrum	Västra Hamnens skola	90
Centrum	Vittra Västra hamnen	92
Limhamn-Bunkeflo	Bergaskolan	94
Hyllie	Bladins grundskola	94
Limhamn-Bunkeflo	Sveaskolan	97
Vastra Innerstaden	Malmö Montessoriskola	97
Hyllie	Malmö Idrottsgrundskola	99
Husie	Videdals privatskolor	100

Table 2 Malmö middleschools and their graduation rates for 2019 (Skolverket 2019)

4. CONCEPTUALIZATION OF OUTCOME AND CONDITIONS

The previous chapters have been crucial for the understanding of the theoretical lense through which the case study has to view the relationship between education and neighbourhood location. The history of decentralizing the housing and the education system has deepened gaps based on socioeconomic characteristics and foreign background by placing individual choice in the middle of the narrative. While, in theory, choosing where to live and where to learn is an advantage for individual needs and preferences, in practice, not everyone gets to have the same ability to make an informed choice, and inequalities deepen. Depending on resources, households are being pushed to the stigmatized parts of the city while the building industry is building houses that many cannot afford. In Malmö, this has been found to affect especially individuals with foreign background or who are young and at the start of their career. Children in general, be they from a low or high income neighbourhood, are less likely to attend schools with ethnic and socioeconomic representation. This is supported by Bourdieu's perspective of reproduction of society through education: those who posess high capital are the ones in position to recreate and pass it on because of their proximity to it. Through that framing, this chapter presents the motivation behind the selection of conditions and outcome, while laying out a sort of hypothesis on how the mechanism could theoretically work. Moreover, the chapters contain my expectations on how the conditions will matter in the analysis: that is, if they are sufficient or necessary for the educational success to occur.

The task of selecting conditions for neighbourhood research can prove itself to be tricky, since there are so many elements contributing to the wellbeing and therefore educational outcome of

an individual, as we have noticed in chapter two. Based on the theoretical framework established in the past two chapters and the original research questions that draw back to neighbourhood effects, there are four concepts to consider for this analysis: education, income, segregation, and school ownership. These concepts address individual characteristics as well as of school and neighbourhood, and are rooted in hypothesized mechanisms that will be described in more detail as this chapter continues. Six conditions were created to hypothesize about the four concepts: Highly Educated Parents (EP), Majority Post-Secondary Educated Neighbours (EN), High Disposable Income (DI), High Native School Segregation (SSG), Majority-Native Swedish Neighbours (NSG), School Choice (FS). This does by no means exhaust the list of concepts that have been deemed important in literature and should be re-evaluated through a critical lense and introduced in new models. Yet in the case of a QCA analysis, there is a recommended limit of six conditions to maintain the lisibility and interpretability of the solution paths (Schneider Wagemann 2012), as well as the other operationalization challenges met when trying to find data de-aggregated on neighbourhood level for certain concepts.

4.1 High Educational Outcomes (Edcap)

The outcome of this analysis is educational outcomes, which we often find in studies measured as either grades in specific subjects, be they national exams or specifically PISA grades, and studies show that early school performance is indicative of the educational success of a pupil later on (Chetty et al., 2016). Swedish official authorities find clear links between grade value and continuing education after 9th grade (SCB 2020). While they can be a good proxy as to a child's performance and response to school environment they can paint an incomplete picture of both performance and institution. This becomes especially important when considering the angle from which educational outcomes are attempted to be conceptualized in this thesis. As previously stated, the interest in educational outcomes comes mainly from a predisposition to regard it as a crucial part of lower-income individuals' chance to social mobility.Which is why the conceptualization of educational outcomes has to be something as a stepping stone to a good highschool. Therefore this concept should be understood not only as grades, but also graduation rate.

4.2 Highly Educated Parents (EP)

According to Bourdieu and Passeron (1977), parents perform an important role in the way a pupil performs in formalized education. Because, as described above, this institutionalized system has the role of habitualizing in children the culture of the dominant class, their success also depends on how far they start from the socially desired outcome. Their primary years, in a household of highly educated parents, means time spent being socialized by individuals who themselves have been successful in internalizing values important to educational institutions, as well as having the personal means to support that goal (books, ability to help with homework, etc.). This therefore has the effect of reducing the obstacles of habitualizing what is meant to be instilled in individuals.

From a more micro-sociological perspective, past neighbourhood research would make sense of this phenomenon through the mechanism of socialization and parental mediation (Nieuwenhuis and Hooimeijer, 2016). André et al. (2019) and Çelikaksoy and Wadensjö (2018) find that there is a strong relationship between educational attainment of parents and the child's educational outcome in Sweden. This relationship seems to be less so for immigrant families, yet it remains a relevant possible mechanism.[5] Hennerdal et al. (2020) also supports the relationship between parental education and educational outcomes in the Swedish context. Therefore, I expect this condition to be sufficient for the outcome.

4.3 Majority Post-Secondary Educated Neighbours (EN)

There are two proposed mechanisms through which educated neighbourhoods can impact educational outcomes of children: on the one hand, a socialization one, similar to parental mediation, in which a pupil spends time in an environment surrounded by people who have "the right" internalized values, therefore having a chance to internalize it in extra-familial social circles –refered in research sometimes as the "role model effect" (Ainsworth, 2002).

5 Oftentimes foreign higher education is not officially recognized as an equivalent, yet it still represents an individual having been through years of higher education.

On the other hand, from a structural point of view, neighbourhoods with high educational capital are also those that attract an urban environment that is more favorable to one's well being and reflects values of the dominant class. The absence of food deserts, more high culture hubs, more green space. I therefore expect this condition to be sufficient for the outcome aswell.

4.4 High Neighbourhood Disposable Income (DI)

Income is a trope in neighbourhood effect research. As expanded on in most of chapter two, the concept is at the center of almost every study on neighbourhood effects, and the cyclicity of poverty is one of the few consensus in the field. One of the mechanisms always cited here is social contagion, or conflict theory (Nieuwenhuis and Hooimeijer, 2016), but, as we have established in chapter two, this is more than questionable. I would like to propose a possible mechanism through which it is not the absence of income that creates conditions that lower performance, but rather the presents that shields from it. Having spending power ensures that what is purchased is also customizable to the individual/ entity that purchases it and is able to supplement whatever personal needs are not being met by public services. Pareliussen et al. (2019) finds that schools in low-income neighbourhoods have less materials and teachers, which is bound to make educational success tougher.[6]

Through the lense of Bourdieu, high economic capital is another characteristic of a household that is compatible with achieving high educational outcomes because it aligns with traits that the market desires. Therefore, the best performing schools should be the ones that belong in neighbourhoods with high disposable income -be it because the child belongs into a household from that specific high income neighbourhood or is exposed to it due to school. I therefore have the expectation that this condition is sufficient for the outcome to occur.

6 While André et al.'s (2019) Swedish study advise caution when blaming low performances on education expenditure without addressing school organization, it is notable that a good performance is dependent on having certain conditions and having competitive salaries for teachers.

4.5 High Native School Segregation(SSG)

According to reports on Swedish education, socioeconomic homogeneity between the native and wealthy can explain a lot of the differences in test results. This segregation benefits the well-endowed pupils because they tend to have an easier time going through formal education (Pareliussen et al., 2019, p. 13), and when they cluster, the environment becomes easy to navigate both by the child and by the educators. These schools are rarely accessible to low-income and/or ethnic heritage students, and they do well because of the homogenous environment they create at the cost of exclusion. In no way should this proposed mechanism read as ethnic children being "difficult", but as having more versatile needs that have to be addressed with different tools. While the absence of those needs makes teaching easier, at the other end of the spectrum it clusters children that have slightly different needs which can easily overwhelm school faculty. The same report reminds that *"teachers tend to move away from schools with a less favourable mix of pupils as they gain enough experience to compete for positions in schools with a more favourable mix, where work is easier and pay is higher on average"* (Pareliussen et al., 2019, p. 25)

Moreover, Andersson et al. (2010) test Schelling's argument of ethnic threshold tolerance and finds that in the Swedish school system, a school where "educational white flight" settles is where the percentage of minorities is kept under 4%. At the same time, school segregation is higher when minorities become more visible. Therefore I expect this condition to be sufficient for the outcome because

4.6 Majority Native-Swedish Neighbours (NSG)

Small (2009) notices a mechanism of exchange in neighbourhoods through informal settings: the formation of bridging social capital that leads to a better insight into the school system can be crucial for non-native families. A neighbourhood pre-school, for example, will inevitably bring together parents if not in an informal, social way at least in a formal setting of parent-teacher conferences. This information can take the form of discussing school choices to where to apply for school to something simple like being able to call 1177 for a doctor's appointment instead of waiting for hours in the phone queue. A majority Swedish neighbourhood could mean that more information on school choice gets around, which, combined with proximity,

make it more likely for a pupil to attend a certain school. These informal sources are also contributors to the stigmatization mechanism, where rumours can potentially "make or break" a school among both natives and non-natives. In the case of Stockholm, Bunar (2010) shows that some schools become stigmatized and remain stigmatized because of, among others, foreigner dense locations. Moreover, research shows that in Sweden native, middle-class pupils tend to travel more on their way to school then their foreigner, lower-class counterparts (Andersson et al., 2012).

4.7 School Choice (FS)

According to the analysis of the education system presented in chapter three, Free Schools are not obligated to cater to all children's needs –they represent an alternative that was introduced in order to boost school options and provide alternative curriculas (Fejes and Dahlstedt 2019). They represent a free-er, more resourceful competitor on the education market, and could also stand for concerns regarding the commodification of compulsory education and differences in outcome because of mechanisms created by school segregation.

For-profit schools show on average better adaptation to student needs (André et al., 2019) but the numbers can be traced back to the demographics of schools. Free Schools do not attract pupils with more diverse needs, which could oftentimes be attributed to things like alternative teaching style or lack of accomodation for a broad range of students. Because, for example, not all Free Schools have Swedish as a second language, they eliminate from the start pupils that would maybe struggle to perform. I therefore expect this condition to be sufficient for the outcome.

5. METHODOLOGY

This chapter has the role to discuss past methodologies in neighbourhood effect research as well as introduce the logic of the one applied in the ase study. It presents the benefits of using a mixed-method approach for studying the link between neighbourhood effects and educational outcomes.

After looking more closely at the theoretical motivations and previous research, it is important to briefly mention the empirical ways in which neighbourhood effects research has created the narratives that dominate the field today. In the past 10 years there has been an increasing push to try to complement what is a heavily quantitative field with more qualitative, detail-oriented research projects. Yet neighbourhood research achieves a lot of its results from quantitative methods. In itself, this is unproblematic as there are a number of high quality papers using statistical analysis and their findings are extremely valuable for the field. But what Galster (2012) shows is that qualitative research tends to be much more uniform in the mechanisms they find, while a more statistical, number-oriented approach has had less success in achieving common findings: not only contradicting results if a certain social phenomenon occurs in a neighbourhood, but about mechanisms, their intensity and generally how dynamic they are.

These epistemological differences in approaching research are not new, yet there is little mixed-method neighbourhood research that combines the context-specific in-depth mechanism tracing of qualitative methodologies and the generalizability of quantitative research. Small and Feldman (2012) argue that some of the narrative inconsistencies that are supported by quantitative research are the result of building on early assumptions about the universal effect of poverty on communities and a failure to include more qualitative perspectives into the construction of research programs.

This opens the door for a need for methodological variety. The method I chose for this thesis, fuzzy-set Qualitative Comparative Analysis (fsQCA) is a mixed-method that lays focus on conditions and their variation within studied cases and searches for commonalities between combination and intensity of conditions. It accepts the existence of multiple valid paths that could possibly produce a specific outcome and therefore postulates a need for contextuality and variation in how social phenomena occurs. In this case, this method is used coppled with

an understanding of the social, its ontology and aetiology that draw from Critical Realism. The result and suggested causal mechanisms are then revised using Process Tracing –a within-case analysis that, as an addition to QCA, strenghtens the theoreticized mechanism.

5.1 Worth revising: Methodology in Neighbourhood Effect Research

Weaknesses in an overwhelming quantitative approach can be pointed to by discussing selection bias, effect size and general causality (Small and Feldman, 2012), as well as temporal and spatial differences between findings. This can be some of the reasons why results differ in various research papers and motivates my choice and emphasis on an inquiry in neighbourood effects that is based on contextuality and nuance.

Sampling bias is a common problem that occurs due to the circular nature of neighbourhood segregation -if someone is unemployed, they will more likely move into a deprived neighbourhood. Thus, if not properly modelled, the correlation between unemployment and low-income neighbourhoods can be misinterpreted as a neighbourhood effect (Bergström et al., 2010). Residential mobility patterns contexts are therefore crucial when employing quantitative research. The concept of "choice" in household attainment is often misleading, since there are so many class determinants that influence how many options an individual has when moving into a neighbourhood.

The effect size refers to the assumed universality I was referring to above rather than considering case-specific characteristics. Location is a perfect example of that. More recent studies have focused on the difference in effect size and location (Howell, 2019) showing that countries can not be expected to have the same mechanisms and effect magnitudes when it comes to residential effects. A pretty simple example is the comparison between the US and almost any Western-European country. Differences in governance, labour markets, housing markets, education systems and so on form different environments where social phenomena occur differently –and while there are certainly similarities in mechanisms, they are not uniform. Considering, for instance, that educational outcomes and college attendance yield different results because Western Europe mostly has free education from primary school up to and including university –providing individuals with a considerable societal equalizer.

Researchers should therefore think contextually not only for countries, but also for cities. In Opportunity Insights' (2021) studies we can see a map of the US and how incomes vary depending on where the individuals with low-income parents grew up in. Figure 3 shows variation between state lines for hispanic children on the left and for white children on the right. A closer look reveals that in certain areas hispanic children seem to perform better and in others white children, supporting the need for contextuality.

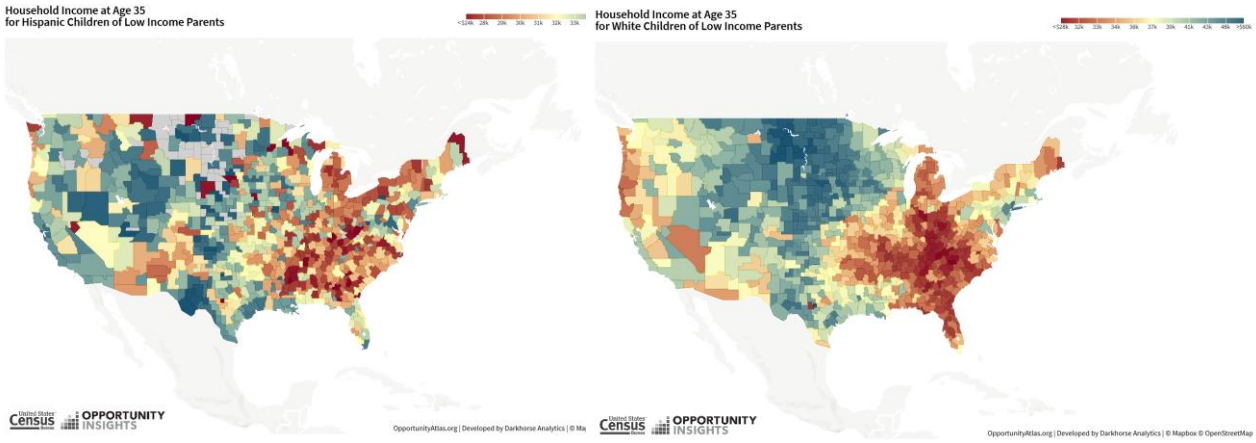

Figure 3 Intergenerational Mobility between different groups in the US (Opportunity Insights, 2021)

I would also like to argue that at the same time, timeframes are important. Macro-phenomena influence the public sphere which shapes attitudes towards certain groups and individuals. Considering the mechanism of stigmatization, the general perception of immigrants and/or other minority groups affects their formation of social capital if not their employment opportunities. A large amount of longitudinal studies use data from the '70's or, sometimes early 2000, and fail to discuss the ways in which that mechanism might have changed since then. In a european context, for example, the 2015 immigrant "crisis" has certainly changed the discourse on immigration and integration and therefore affected the way societies receive and are welcoming towards certain communities.

Considering all this, it only makes sense to try an approach that focuses on a specific location, at a specific time, with a methodology that is sensitive to context and allows variation in the the intensity and combination of studied concepts.

5.2 Choice of Methodology

The methodological problems that have been described above mostly have to do with applying an ontologically simplifying methodology to a field of uncertainty: While quantitative methodologies are great for dealing with producing generalizable assumptions and discovering patterns, the identification of the contextuality I was talking about in the previous section is less likely to reveal itself if not specifically intended. Yet the inconclusiveness of the use of this ontological and epistemological axioms may give way to the conclusion that a more case-based approach is needed. We can make assumptions for certain groups, in certain areas, at a certain time –the contingency of neighbourhood effects seems to be a matter of contextuality, as hinted in the previous chapters. That contextuality is linked to its complexity, and that the social is not a static occurrence. Even though QCA incorporates quantitative characteristics, it is a hybrid –and I argue that that could prove useful for providing more concrete results.

Because there are some methodological inconsistencies in integrating both a quantitative and a qualitative perspective for the field of neighbourhood effects, the following sections introduce QCA and frame it under a view of Critical Realism, which can bring immense value to how the research community constructs future studies about the geography of living. The cross-case analysis of QCA is then to be complemented by a within-case analysis, Process Tracing. What this does is take individual cases and look closely at their characteristics and establish if the mechanism suggested is empircally supported.

5.2.1 An introduction to QCA logic

Developed by Ragin (1987), QCA is a mixed-method set-theoretic method that searches for solution paths considered sufficient for an outcome. Usually, those solution paths are formed of combinations of conditions rather than single conditions. What conditions are deemed relevant is decided while focusing on a specific number of cases present in the researchers database. The method is therefore not statistically inferential, but offers a very in-depth view of the cases at hand by researching an outcome through selecting conditions based on theoretical considerations and determining if they are sufficient/necessary. The most important

characteristics of QCA logic can be summed up in *Set-Membership, Equifinality, Asymmetry* and *Configurations of Conditions*, which will be briefly introduced below along with an explanation of the concepts of *necessity* and *sufficiency*. For deeper understanding of the methodology and its philosophy I recommend Ragin (2009), Ragin und Rihoux (2009), Schneider und Wagemann (2012) and Dușa (2019)'s work.

If a condition is *necessary* for an outcome it is, in set-relation language, a superset of the outcome. What this means for a particular set of analysed cases is that the necessary condition is present every time the outcome is present: Necessary conditions, unlike sufficient ones, can not lead to an outcome on their own (Dușa, 2019). If a condition is *sufficient* for the outcome, it is a subset of the outcome. The condition is never present in the absence of the outcome. To make this relationship clearer, the figure below presents a visual aid in the form of Venn diagrams. The one on the left is a visualization of necessity, while on the right of sufficiency. (Dusa 2019)

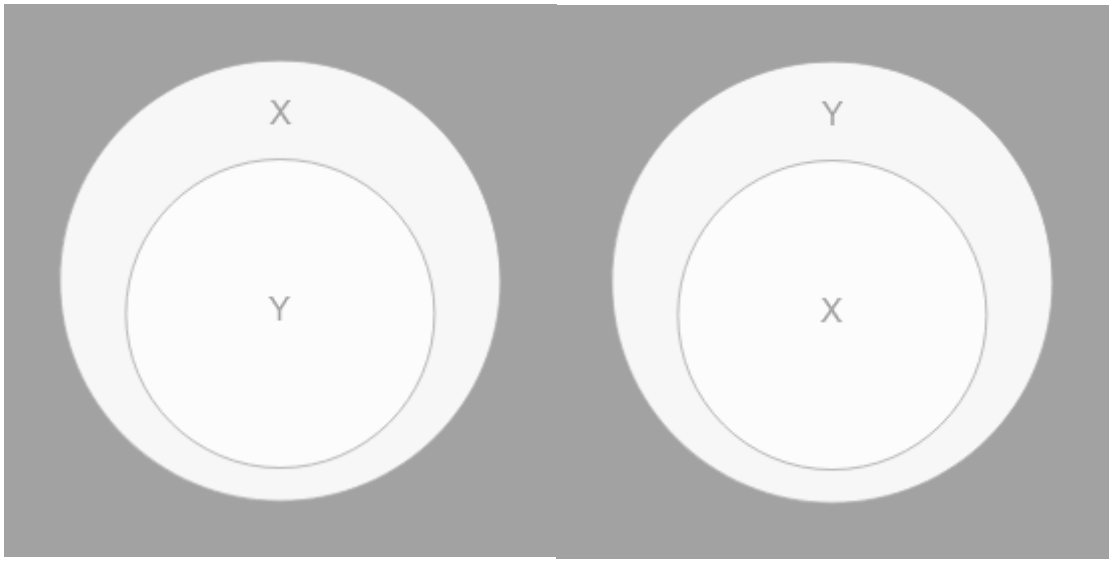

Figure 4 Venn diagramm for Necessity (left) and Sufficiency (right) (Dusa, 2019)

Set-membership refers to the characteristics of cases to be in or out of a chosen condition, and is the characteristic of QCA responsible for what I have previously referred to as variation across cases. In fuzzy-set Qualitative comparative Analysis (fsQCA), through the process of calibration, a case is placed on a spectrum of 0-1, where everything below 0.5 is considered

out of the set and everything that is above 0.5 is in the set. [7] The 0.5 is considered a point of "maximum fuzziness" (Ragin, 2009) a state where the researcher can not tell for sure if a case fulfills all the conditions necessary to be considered in the set. The important thing when considering calibration of fuzzy-sets is to think in spectrums: while some cases fit better in the outcome/condition-set than others, there is room for variation when considering what is in and what is out of a set (Ragin 2009).

Equifinality refers to the validity of all outcome paths resulting from the analysis. What QCA ultimately asks is how do sufficient conditions combine in leading to an outcome. More often than not it turns out that in reaching a certain outcome, because of the nature of the social world, in some cases conditions combine differently but form the same outcome (Schneider and Wagemann, 2012). Consider how you can bake a cake using milk, butter, flour and eggs, but you can at the same time achieve a cake without using any of those three ingredients or by substituting some of them. Those two paths will achieve the same outcome, baking a cake.

Asymmetry is a characteristic of the relationship between condition, outcome, and their specific negation. It is wrong to assume that one condition that is sufficient for an outcome will also create a sufficiency relationship between the negation of the condition and the negation of the outcome (Schneider and Wagemann, 2012).[8] Just because an economic crisis creates reform does not mean that the absence of an economic crisis creates non-reform.

Configuration of conditions is important in a QCA context because it postulates that conditions have to be together in a certain state to form the mechanism that leads to an outcome, which speaks to the complexity of social phenomenon (Schneider and Wagemann, 2012)[9] . A reform can be created because of an economic crisis, but that crisis has to happen with having someone in power that is willing to create reform, the authorities have to be able to enforce said reform, and so on.

7 fsQCA is not the only variation of QCA. There exists also "simpler" versions of QCA, crisp-set QCA, where the conditions are dichotomous instead of being on a scale or multi-value QCA, where conditions are both dichotomous and scalar. The reason I go deeper into fsQCA rather than explaining the different varieties in the main text is because they are not important for the understanding of this case study –and rather than overcomplicating things I chose to stay in a simpler argument. For more details on variants of QCA, see Ragin and Rihoux (2009)

8 The negation of a condition refers to a boolean algebra operation through which the value of the case in a specific condition is reversed, e.g. if the condition value is 0.3, then the negation of the condition is 0.7 (1-value).

9 In using QCA language, we talk about conditions that are combined using logical AND (condition*condition), signaling the fact that the case's membership in that particular set is the lowest value of the combined conditions. Therefore, the value of a case covered by the solution containing multiple conditions is the lowest that particular case scores in any of the conditions.

The application of fsQCA is done in accordance to Schneider and Wagemann's (2012) criteria for conducting the analysis and will use Duşa's QCA package in R (2019). To determine if conditions or combinations of conditions are sufficient and/or necessary for the outcome, there are four main steps to go through: (I) calibrating conditions, (II) conducting a necessity analysis, (III) constructing a truth table and through logical minimization have a sufficiency analysis and (IV) producing the the final, intermediate solution through Enhanced Standard Analysis.

5.2.2 Process tracing and QCA

QCA and Process Tracing complement each other very well because of where they look for causality: QCA is a cross-case analysis and Process Tracing is a within-case analysis. While the first looks at cases to find a potential causal path by establishing combinations of conditions, the ladder strengthens the argument by isolating cases and taking a closer look at the characteristics of those chosen cases and the mechanism that allows that causal path to concretely operate (Beach, 2018). What this means is that Process Tracing can serve as a test for the theoreticized mechanism derived from the intermediate solution path in QCA. Of course, this is not the extent through which Process Tracing can help a researcher make sense of a causation. There are different ways to go about within-case analysis: in this instance I will be using theory testing (Beach and Pedersen, 2013) to determine if the QCA result's interpretation can expanded among a few selected cases.

While Critical Realism technically has an aetiological belief that does not dismiss the possibility of uncovering causality, I would like to stress that the analysis' findings are supportive of causation but by no means imply it and a generalization of it. Because of reasons stated above and more, I urge caution when interpreting the results to anything more than suggestive of causality.

5.3 Making sense of results: An ontological starting point

Expanding upon the Critical Realist framework means additional understanding of my choice to use QCA in this particular study. While Critical Realism is mainly based on ontology (Fleetwood 2014), it caters to a more flexible epistemological encounter. By this I mean that there are no strict rules on how to use methodology under a Critical Realists' framework, quantitative or qualitative. From this philosophical perspective, QCA can offer a more appropriate way of study because it is case-based and (depending on what form of QCA is employed) shows the state of certain phenomena and their complexity as a snapshot (Gerrits and Verweij, 2013). The logic of QCA fits Critical Realism well because it is built on a contingent, complex reality. The uniqueness of different systems is visible for QCA, being reflected in the main assumptions of the method that allow the researcher to construct complexity into their research, which have been described in chapter three.

Critical Realism, having Roy Bhaskar as its initial meta-theoreticist, is an influential theoretical perspective that has shaped sociological thought and argued for a reconsideration of what, at that time, was considered philosophically pasee (Fleetwood, 2014). While it does not directly address epistemological concerns, it challenges the way we tend to uniformly think about the social world: the world can (and when applying this meta-theory should) be seen as different systems that interact with each other and through a multitude of continuous interactions structure is born (or what Bhaskar calls stratified ontology (Bhaskar, 1978)). While, in general, social reality is heavily created by discourse and language, there are systemic entities that are extra-discursive, proposing duality as a starting point (Fleetwood, 2014). Critical Realism therefore draws one of its strengths from acknowledging the fragility of knowledge that, in academic contexts, is constructed by epistemological choices, yet believes in uncovering tendencies and power structures that can be understood as suggesting causation (Fleetwood, 2014; Gerrits and Verweij, 2013).

Because of that Critical Realism does not make use of the "objective", by which I mean predictability. There are some predictive tendencies based on knowledge of causal mechanisms, yet it *"is not precise, but not spurious either"* (Fleetwood, 2014, p. 194). While in this philosophy's language of causality we talk of tendencies, there are no guarantees: just because something has a tendency to trigger a certain phenomenon it does not mean it will

always do. In any social situation there are multiple mechanisms each pushing towards certain tendencies, structures that interact with each other. These are exclusively bound by temporal and spatial factors, reality being contingent (Fleetwood, 2014; Gerrits and Verweij, 2013).

Applying this ontological thought to the present study, we should understand segregation, and the effects it creates, as a result of interacting systems that do not follow any specific historical path that imply an intertwinement between structure and agency. This implies the existence of a possibility that a multitude of conditions (or systems) cause a certain outcome – but slight changes in those systems can also hinder the appearance of the outcome. Changes can refer to anything: from the intensity of how a system interacts, to the passing of time and so on. For example, the level of segregation present in a certain location is dependent on how immigrants and refugees are perceived and integrated by the society they now live in, which is influenced by how foreigners are portrayed in the news.

6. DATA AND OPERATIONALIZATION

Before going into the application of the presented methodology, the data and operationalization of conditions must be introduced. There are 38 cases in the Data representing Conditions taken either from Malmö Kommun's official database or from the Skolverket project SALSA. All the data stems from the year 2018-2019. These are 38 out of a total of 44 middle schools in Malmö that were active in 2019. Because each school was associated with a neighbourhood ('Delområde') using the Malmö Stadsatlas (Malmö Stad 2021c), 6 schools whose location is in a Delområde specifically dedicated to a service (e.g. a park or stadion) or was on the border between two Delområde has been excluded, as well as schools that could not be matched with neighbourhood data. Chapter five has discussed importance of concepts and has presented the six conditions chosen for the analysis. Below is a description of each condition's operationalization –for more details on each school's value please see the calibration chapter in the Appendix.

The outcome, *High Educational Outcomes*, comes from the SALSA project and is measured by looking at both average grades as well as graduation rate of Malmo's middle schools. Both of these measurements look at the averages of pupils finishing their compulsory education, so children who would start highschool in the fall of 2019. Graduation rates in Malmo's

educationary landscape at that time vary from 30% to 100%, while the average grade can go from 125-283(Skolverket 2019). As mentioned in chapter four both of these two components are important for the operationalization of educational success since they dictate who can have their pick of highschools and therefore the condition will be created using a logical AND operation.

For *Highly Educated Parents* I used SALSA data as well. The value varies between 1-3 and represents both parents' level of education. 1 point is given for completion of primary/lower secondary school, 2 points for high school education and 3 points for post-secondary education. In my sample, the values vary from 1.62 to 2.81 (Skolverket 2019).

The condition *Majority Post-Secondary Educated Neighbours* represents the percentage of residents who have tertiary education in each Delområde the schools are located in. The calculation of this percentage was possible by taking data from Malmö Kommun's official database. The geographies of Malmo show variation, the lowest value reaching 20% and the highest 67% (Malmö stad 2021b)

High Native School Segregation is a condition operationalized in Skolverket's (2019) SALSA databses by looking at the graduating classes in Malmo's middle schools and determining a percentage of pupils with foreign background graduating. These are students who have been studying in Sweden for the past four years, but who prior to that have not lived in Sweden or attended a Swedish school.

The condition *Majority Native-Swedish Neighbours* measures the percentage of residents without any foreign background for each Delområde. Malmö Kommun data reveals glimpses of the harsh disparities in the city: while in some neighbourhoods native-Swedish residents reach up to 76%, on the other end of the spectrum, that number does not reach 25%, the lowest being 6%. (Malmö stad 2021b)

For *High Disposable Income*, Malmö stad (2021b) gives access to each neighbourhood's average disposable income for the year 2018. The values for the selected neighbourhoods range from 96.372 SEK to 297.735 SEK.

School Choice is a dichotomous condition, giving us the information if a school is owned and run by the municipality or by a private actor. According Skolverket (2019), there are 12 Free Schools and 26 municipally schools in the database.

7. ANALYSIS

Chapter two and three have been crucial for the understanding of the lens through which this thesis views the relationship between education and neighbourhood location. The history of decentralizing the housing and the education system has deepened gaps based on socioeconomic characteristics and foreign background by placing individual choice in the middle of the narrative. While, in theory, choosing where to live and where to learn is an advantage for individual needs and preferences, in practice, not everyone gets to have the same ability to make an informed choice. Depending on resources, households are being pushed to the stigmatized parts of the city while the building industry is building houses that many cannot afford. In Malmö, this has been found to affect especially individuals with foreign background or who are young and at the start of their career. The same thing can be said about some schools in the city that are keeping low-income, non-native students away. Through that framing, chapter four presented the motivation behind the selection of conditions and outcome and the challenges in operationalizing the concepts behind the conditions.

In order to expand and provide some empirical evidence to this narrative and conduct the exploratory analysis for the swedish city, chapter six begins the analysis which will be guided by the two questions presented in the introduction of the paper:

a)How does segregation matter in combination with other conditions in impacting high educational outcomes in Malmö?
b)What role do neighbourhoods play in the path to high educational outcomes?

To remind the reader of the steps of the analysis described in chapter three, the steps for conducting a good fsQCA reserch are calibrating the raw data to form conditions, conducting a necessity analysis followed by constructing a truth table to perform the sufficiency analysis and ending with producing an intermediate solution through the Enhance Standard Analysis.

To complement fsQCA, Process Tracing will be added to enrichen interpretation of the results in chapter six. This addition is a within-case analysis that interrogates the causal paths suggested by the fsQCA result and looks at how the interpretation holds up.

7.1 Calibration process

The calibration process consists of transforming raw values for each case into its equivalent in the set-membership of each condition using cut-offs. These are qualitative and contextual to a set, if we remember the characteristic of set membership explained in chapter three (Rihoux and Ragin, 2009) . If I have, for example, data for 12 people's ages, I will probably create equal ordinal categories based off quartiles, while in QCA I am transforming them in relation to a condition, e.g. "very old", "older" and have the freedom to think less about how the cases between 0-0.5 are not equal to the cases 0.5-1. Out of the three possible calibration methods, this study uses direct calibration, meaning, after looking at the data, its distribution and the qualitative anchors the researcher uses a software to construct the data in an S shaped curve (Dusa, 2019)[10]. Table 3 shows the cutoff choices for each condition. For more details regarding the cutoff choices as well as a more detailed description of the process of calibration, please see the Appendix.

Condition	**Calibration Cut-offs**
High Average Grade	0=200, 0.5=220, 1=270
High Graduation Rate	0=0.45, 0.5=78, 1=95
Majority Native Swedish Neighbourhood	0=0.35, 0.5=0.60, 1=0.75
High Native School Segregation	0=17, 0.5=10, 1=4
High Disposable Income	0=145, 0.5=185, 1=240
Majority Post-Secondary Educated Neighbours	0=0.29, 0.5=0.55, 1=0.63
Highly Educated Parents	0=1.95, 0.5=2.45, 1=2.70

Table 3 Calibration Cut-offs

10 Direct calibration is not the only approach that can be followed when transforming raw data. There are also cases where the researcher chooses to build groups irrespective of qualitative information, so the software builds equal categories following a specific distribution shape (mechanical calibration) or when they decide that every case will receive a value determined by hand (direct assignment calibration), and disregard the quantitative aspects that come with distribution of sets. (Dusa 2019).

7.2 Testing Conditions for Necessity

After the conditions have been calibrated, the second step of testing for necessity can begin. In our case, there were no distinguishable necessary conditions that meet the Consistency, Relevance of Necessity (RoN) [11] and Coverage thresholds that are characteristic of this kind of relationship between condition and outcome[12]. Because the existence of a necessary condition has a big impact on the solution, I do not want to loosen up criteria to determine a condition as a superset, even if, generally, thresholds in QCA are not set in stone. While the Consistency threshold for school segregation is above the 0.9 recommended threshold, the RoN and Coverage are not. There are several configurations of conditions that reach the .9 threshold, as can be seen in the table below. But because there are no prior theoretical considerations of any of those two conditions together, they will be disregarded. Therefore we can conclude that there are none of the selected conditions are necessary for the outcome High Educational Outcomes.

	inclN	**RoN**	**CovN**
SSG	0.919	0.686	0.647
FS+DI	0.950	0.635	0.624
FS+EN	0.907	0.600	0.584
NSG+EP	0.905	0.715	0.662

Table 4 Necessity analysis

7.3 Testing for Sufficient Paths

The third step represents the sufficiency analysis, whose main tool is the truth table. The truth table represents every possible iteration of combinations of the presence and absence of conditions. The number of rows in a truth table are 2^k, where k is the number of conditions in the analysis. Cases get matched with a truth table row and the consistency value of the entire

11 Relevance of Necessity shows that a value is not trivial. There are conditions that would appear necessary but should not be included in analysis –such as the presence of oxigen every time a fire starts (Dusa 2019)

12 From a quantitative perspective, consistency (or inclusion) is much like significance levels in regressions: it asks how close a subset relation exists between the condition and the outcome. Coverage in turn can be understood as a sort of effect size in regression analysis: how much of the cases are covered by the specific condition (Dusa, 2019)

configuration of conditions for each row is calculated. At the same time, rows that do not get cases assigned to them are referred to as logical remainders and serve an important purpose in QCA analysis.

This is the point where PRI is introduced: the sufficiency equivalent for RoN, the Proportional Reduction in Inconsistency is responsible for alerting the researcher if a truth table row is better suited for explaining the negation of the outcome as the value drops below 0.5. While there is no specific threshold for the PRI, Schneider and Wagemann (2012) advise caution when choosing which configurations get to enter the logical minimization process. If a row has a PRI threshold close to 0.5, the consistency score of the negated truth table might be very close to the one in the original truth table –leading to confusion and faulty assumptions.

As we can see in the table below, row 62 -32 have very good scores in both consistency and PRI. Row 30, while having a very good consistency score, has a lower PRI. But because there is no large jump in consistency score, and the case has the outcome present, I decided to include it in the analysis. The only unexplained cases that contain the outcome are case 26 in row 37, case 35 in row 28, case 31 in row 38 and case 30 in row 29. At the same time, the truth table does not show any contradictory cases –meaning that all the configurations of conditions that have been deemed sufficient for the outcome (OUT=1) are members of the outcome set.

The configurations of conditions that are deemed sufficient enter the logical minimization process, in our case the bolded ones from the truth table. What logical minimization does is take two truth table rows and eliminate conditions that differ in those two rows –and so on— until all the rows have been compared to each other (Schneider and Wagemann, 2012, chap. 4.3.1). This means that if I have a row that has an identical configuration of conditions except for one condition, that conditions will be considered redundant and eliminated. This gives us the complex solution, then the parsimonious one, and, finally, the intermediate solution.

Row	FS	DI	NSG	SSG	EN	EP	OUT	n	incl	PRI	cases
62	*1*	*1*	*1*	*1*	*0*	*1*	*1*	*3*	*1.000*	*1.000*	*32, 37, 38*
61	*1*	*1*	*1*	*1*	*0*	*0*	*1*	*2*	*1.000*	*1.000*	*28,29*
63	*1*	*1*	*1*	*1*	*1*	*0*	*1*	*1*	*1.000*	*1.000*	*27*
64	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*0.994*	*0.989*	*34*
32	*0*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*0.960*	*0.896*	*33*
30	*0*	*1*	*1*	*1*	*0*	*1*	*1*	*1*	*0.944*	*0.780*	*36*
37	1	0	0	1	0	0	0	1	0.844	0.574	26
28	0	1	1	0	1	1	0	1	0.839	0.530	35
38	1	0	0	1	0	1	0	2	0.836	0.702	15,31
26	0	1	1	0	0	1	0	1	0.835	0.000	25
39	1	0	0	1	1	0	0	2	0.776	0.160	23,24
29	0	1	1	1	0	0	0	3	0.696	0.273	21,22,30
21	0	1	0	1	0	0	0	1	0.631	0.187	17
25	0	1	1	0	0	0	0	1	0.530	0.000	20
27	0	1	1	0	0	1	0	3	0.492	0.083	6,10,18
5	0	0	0	1	0	0	0	4	0.426	0.065	11,13,14,16
3	0	0	0	0	1	0	0	3	0.348	0.000	2,4,19
1	0	0	0	0	0	0	0	7	0.185	0.000	1,3,5,7,8,9,12

Table 5 Truth table for Edcap

Note: To make the truth table easier to read, each school has been assigned a number according to its membership in the outcome set. As such, cases 1-25 do not pass the 0.5 threshold in the High Educational Outcomes set, while cases 26-38 do.

The configurations of conditions that are deemed sufficient enter the logical minimization process, in our case the bolded ones from the truth table. What logical minimization does is take two truth table rows and eliminate conditions that differ in those two rows –and so on— until all the rows have been compared to each other (Schneider and Wagemann, 2012, chap. 4.3.1). This means that if I have a row that has an identical configuration of conditions except for one condition, that conditions will be considered redundant and eliminated. This gives us the complex solution, then the parsimonious one, and, finally, the intermediate solution.

Before starting the minimization process for the parsimonious and the intermediate solution, the researcher must decide which logical remainders can not be included in the analysis because they are untenable (Schneider and Wagemann, 2012, p. 211) by which they can be going against necessity, contradicting common sense or if they can not exclusively be attributed to the analysis for the presence of the outcome (an analysis for the negation of the outcome must be conducted separately). For the cases at hand, we only remove the truth table rows that cannot be exclusively used for this truth table, since there are no illogical affirmations or necessary conditions to keep in mind. The complex solution (consisting of including no logical

remainders in the minimization) and the parsimonious solution (consisting of including all viable logical remainders in the minimization process) can be seen in more detail in the appendix. [13]

7.4 Enhanced Standard Analysis and Solutions

The intermediate solution, the main product of the fsQCA analysis, is conducted by once again introducing all logical remainders into the analysis but this time making use of directional expectations. These are theoretically-based assumptions that the researcher has when selecting conditions, much like hypothesizing about variables' direction in statistical analysis. As mentioned in the description of each condition, I expect all six conditions to be sufficient for the outcome. The solution is presented in table 6 below and contains two paths that differ through only one condition: *School Success* and *Individual Success.*[14]

	inclS	**PRI**	**covS**	**covU**	**cases**
FS*DI*NSG*SSG	0.989	0.985	0.367	0.055	27,28,29,32,34,37,38
EP*DI*NSG*SSG	0.981	0.967	0.582	0.271	32,33,34,36,37,38
M1	0.979	0.965	0.637		

M1: FS*DI*NSG*SSG + EP*DI*NSG*SSG

Table 6 Intermediate Solution

The two paths require schools to be wealthier and homogenous: combining High Disposable Income, Majority Native Swedish Neighbours and High Native School Segregation with either Highly Educated Parents or functioning as a Free School. While the result suggests that there is more than one way to achieve educational success, it also shows that there is no path to that outcome where school is in an environment that has any of the conditions negated. These results support the framework created in the previous chapters: that educational success is largely concentrated in areas that tend to be dominted and accessible to wealthier natives –making a claim for the importance of geography in the educational landscape of Malmö. At the same time, some social actors have information about the educational quasi-market that creates an

13 Result of Complex: and Parsimonious:

advantage in navigating the education system. This refers to information educated parents have on what to look for their child's education as well as the knowledge privately owned schools have about their ability to be flexible and become attractive on the educational landscape.

We notice that there are four schools covered by both paths: Angsdalsskola (32), Malmö Montessoriskola (34), Sveaskolan(37), and Videdals privatskolor (38). Vittra Vastra hamnen (27), Runstyckets skola (28), and Montessorigrundskolan Maria (29) are only covered by the *School Success* path, while Bergaskolan(36) and Strandskolan (33) can only be explained by the *Individual Success* path.

7.5 Results and Interpretation

As hinted in the previous section, these very small differences in paths *School Success* and *Individual Success* show us evidence that is in line with the argument Bourdieu makes: that the education system is a self perpetuating tool that works for people who already have high forms of capital, especially cultural capital –and that their participation and success in the system is highly dependent on acquiring skills that are valued in the market. The educated parent pushes the *Individual Success*, knowing what to look for in the educational landscape and the Free School pushes *School Success*, knowing how it has the flexibility to attract pupils that are from the start more enclined to perform well.

The Swedish education system has been transformed, through the enforcement of neoliberal mentalities and is now among the most market-oriented institutions in Europe. This means the link between school and market is becoming stronger, since school administrations are incentivised to compete with one another and this quasi-market forces school leadership to adopt a very business-like view (Voyer, 2018). Information is, therefore, crucial: be it from a highly educated parent who knows what to ask of the education market or managing to attend a Free School, which has the information and the freedom that attracts a certain homogeneity that is easier to manage and will help turn a profit. This information imbalance deepens school inequalities, because it also relies on channeling resources on both parts to achieve said success. This strenghtens the lense of understanding Bourdieu not as lower capital individuals not using

tools appropriately in navigating the system but rather the system being exclusive, and oftentimes in place to help protect the status of high capital individuals. For the path *Individual Success*, for example, the information on how schools compare to one another, how to apply on waiting lists, that some schools offer transportation and more is technically available, but inaccessible to those with little familiarity to the system or where to get their information. Therefore, the „available" information is as good as non-existent for individuals who cannot use it.

This can be seen in Figure 5, which depicts a visual interpretation of the suggested framework that influences all the mechanisms. Under the framework of a system that reproduces values and market qualities through education, success is achieved when there is knowledge of what is asked of one as a school/ as an individual, while at the same time having the financial and institutional means to remove possible barriers. This gives way to a reproduction of society through the legitimacy that the education system creates.

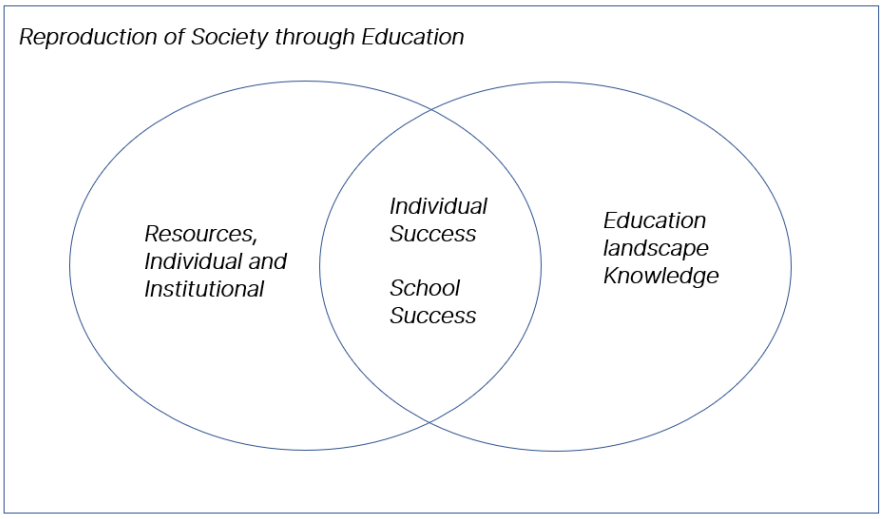

Figure 5 Visual of *Individual Success* and *School Success* solution paths

The solution paths' similarity also seems to suggest a confirmation of the narrative proposed in chapter two, three and four. In both paths, the schools are in areas with a majority native population and high disposable income –suggesting that they, through their location and selection process, create a clustering of „uncomplicated" pupils. Yet the schools homogeneity is also heavily enforced by the pre-selection households go through when moving into those neighbourhoods. To answer the question posed at the beginning of this paper, how do

neighbourhoods matter in the path to high educational outcome and ultimately, to a successful education career –the answer could lie in how both neighbourhoods and schools separate and segregate. In the case of Malmö, we have one of the youngest and most diverse cities in Sweden in terms of demographics. At the same time, we have some of the most rough geographical divides between rich and poor, Swedish and foreign background.

For *Individual Success*, being in a high income area (and most probably household) could have an enriching as well as, as suggested in chapter 4.4, a protective factor. Neighbourhood segregation, which oftentimes is a result of income disparities, may themselves work as information channels through which households discuss school choice options. For *School Success*, a wealthy area means resources and a reputation that draw in better educators, while a majority Swedish neighbourhood encourages the homogeneity of pupils that do not need extra assistance with things like language. Both paths create school segregation: information and tools are unevenly distributed,

What this result means for the theoretical mechanisms described in chapter two, more specifically Galster's table, it is suggested that future neighbourhood research should concentrate more on understanding systemic patterns and forms of symbolic violence rather than trying to justify individual outcomes from inside the neighbourhood. And while we can see institutional arguments that suggest things like a lack of competence from local authorities, it is not nearly contextual enough.

7.6 Process Tracing

In the research community in general, causality is called out too early — which is why the previously described explanation (ultimately, at this stage, a proposed causal mechanism) will now be subjected to a within-case analysis to check its validity. To do so, this chapter draws on Process Tracing, which, as noted earlier in the methodology section, is a very good pair for a cross-case analysis such as QCA. After finding solution paths that hint at a certain causal mechanism, it is wise to test them out in singled out cases –in literature also referred to as the theory testing form of Process Tracing (Beach, Pedersen 2013; Beach Rohlfing 2018). Schneider and Rohlfing's (2013) advice for best practices in combining cross- and within-case

analysis will be used, so that for every causal path I have selected two uniquely covered cases to take a closer look at.[15] For the first path, *School Success*, the selected cases are Runstycketsskola and Montessorigrundskola Maria, while for the second one, *Individual Success*, I will zoom in on the municipally managed schools Bergaskolan and Strandskolan.

Before going into the particularities of the individual paths, table 5 presents the four schools with their calibrated condition scores. As we can see, all the schools reside in neighbourhoods with virtually all native residents and have a 9th grade with virtually no foreign background pupils.

School	High Disposable Income	High Native School Segregation	Majority Native Swedish Neighbourhood	Highly Educated Parents	School Choice	High Education Outcomes
Runstycketsskola	0.60	0.99	0.85	0.31	1	0.73
Montessorigr. Maria	0.60	0.99	0.85	0.42	1	0.77
Bergaskolan	0.88	0.98	0.96	0.91	0	0.94
Strandskolan	0.82	0.98	0.96	0.76	0	0.87

Table 7 Set-membership of schools in case study

Moreover, as seen in Figure 6 depicting Malmö's spending power geographically, all of these four schools are situated in places where they are almost exclusively surrounded by high spending power in locations that are very far from the marked red zones.

15 The cases are not only chosen because of their unique path . For more details about case selection after inspecting the suficiency plots, please see the Appendix

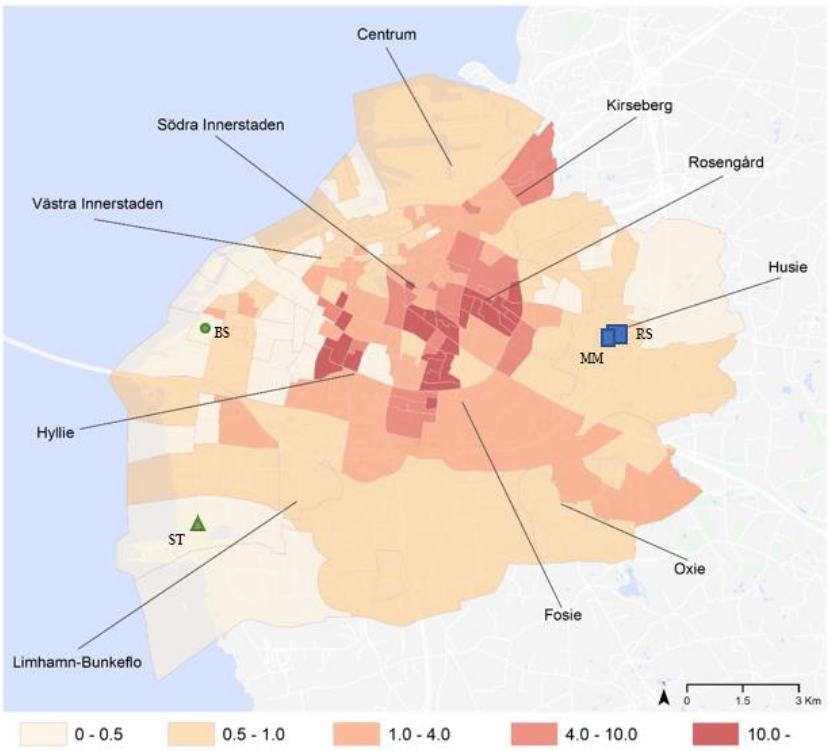

Figure 6: School location in Malmö's income geography (adapted from Salonen et al., 2019)

While there are similarities between the two paths, each of them has a unique proposed causal mechanism behind them. The following two sections mean to contrast and explain the differences while presenting additional evidence that is meant to strenghten the validity of the claims.

7.6.1 School Success.

For one, Free Schools have alternative teaching methods that tend to attract native upper-middle class parents and have restricted class sizes, as can be seen in table 6. The two schools in our examples have more than four times less pupils than the average municipally managed school, even less than a normal privately owned school. For the other, they tend to use their flexibility to avoid pupils that could use more attention, such as people with a foreign background. An indication of that is the Swedish as a second language programme. Technically, all schools are obligated by law to introduce this discipline in their curricula to help cater to all children's needs. According to Skolverket, some schools take advantage of the fact that that law is interpretable and do not offer any assistance to non-natives. Neither Runstyckets Skola nor Montessorigrundskola Maria invest resources in Swedish as a second

language, which can be seen by the fact that none of those schools hosted exams for this particular subject (Skolverket 2021a). What this does is create an unequal playing field that puts an unnecessary pressure on the municipal schools to accomodate more people with less resources, thereby lowering their efficacy. What a large majority of Free Schools is doing in Malmö (we have to remember that there are still some free-schools that are not included in the sample) is to avoid the costs of investing resources in helping integrate all children into the system cohesively by catering to the upper classes.

In this quasi-market where schools compete for funding and children, this represents an immense advantage that is deepened by the symbolic capital these institutions enjoy by being in the geographical area they are in. A qualitative study interviewing Malmo school principals shows in their interview transcript: *"According to me the rumour about a school is one of the most important for one school to be considered good"* (Staykov 2013, p. 46). In a more mixed Free School, the leadership declares that *"they ask whether many immigrants go to this school. We say yes, we have, we are living in Malmö. And then they say well we don't think this is good so we'll change the school*" (Staykov 2013, p. 61). This is strengthened by past research findings that natives tend to enroll out of local schools when they live in an ethnically dense neighbourhood (Andersson et al., 2012)

School	**Number of pupils (9th grade)**
Montessorigr. Maria	20
Runstycket Skolan	24
Average Public School	90
Average Free School	36

Table 8 Class sizes comparison (Skolverket 2021b)

Another way in which Free Schools avoid lower-class, foreign background pupils is through their alternative teaching methods. In our two examples, Montessorigrundskola Maria and Runstyketsskola, we have two instances of advertising for a Montessori technique, which is a more popular alternative teaching method that is characterized by things like lack of grading and generally being in less formal environments (MontessoriGrundskolan Maria, 2021) –and

a school that, according to its website, is pushing forward education on teaching a pupil how to study (studieteknik) and practices self-evaluation (Runstyckets Skola Malmö, 2021). [16]

7.6.2 Individual Success

In contrast to School Success, Individual Success is a possible mechanism that focuses on the individual's knowledge of what to ask of the educational landscape. As a result, this oftentimes clusters these pupils to schools that for example have smaller classrooms or have a more modern approach to teaching. Because, as was postulated by Bourdieu, those pupils are closer to the capital that is supposed to be internalized, they are more successful throughout their time in the education system.

Aside from their advantage of individual resources, information on schools is crucial. Skolverket (2003) stresses how the school choice reform and the system in general is benefitting the highly educated that know how to navigate the choosing process if not have the tools to navigate the choosing process. The transcript of Malmö school principals reads: *"the information on skolinspektionen and skolverket is not easy to comprehend. It is too complicated for regular people*" (Staykov, 2013, p. 48) and that *"definitely it is the well-educated parents that have higher standards and requirements "*(Staykov, 2013, p. 52).

To turn to our two case studies for the *Individual Success* group of schools, Bergaskolan and Strandskola, I took on the role of an interested parent and started looking for information about both schools (having that I would know about the schools in the first place). All the information about the schools and their programmes seems to be in Swedish. Skolverket and Skolinspektion's websites have some information in English, but they only seem to show one how the chain of hierarchies are, what the curriculum is about (Skolinspektionen 2021). Problematic for some parents with migrant backgrounds, there does not seem to be any centralized website to show a non-Swedish speaker or someone less familiarized with the educational landscape the schools in Malmö and what focuses they have and how to get on any waiting lists.

16 An obvious question is if the educational success of these schools could be explained by those newer teaching methods Lillard et al. (2017) shows that while Montessori schools tend to improve results of all children, for pupils of high and middle-income background public schools will give virtually the same result. Where it makes a significant difference is in the results of low-income pupils.

The way the market intertwines with the school system is visible in this path by the way highly educated parents are more knowledgeable in their need to demand certain conditions for the pupil in exercising the school choice. At the same time, this shows is the exclusive character of the school choice system in Malmö, if not in the whole Sweden. While, technically, the possibility of making an informed school choice is viable, it is reserved for individuals who are Swedish speakers and/or to those who have time for that extensive research. This means that in practice, for many, the possibility of making an informed decision is non-existent.

7.7 Analysis annotations

7.7.1 Negation

Literature on QCA recommends running the analysis for the negated outcome (Schneider and Wagemann 2012, p. 279). A more detailed analysis of the same configurations of conditions used in the main analysis deemed sufficient for non-high educational outcomes can be found in the appendix. Notice how I did not say "low educational outcomes" because the negation of the condition is not its logical equivalent. The outcome was not necessarily coded to match that description if inverted (although some parts of the results can be interpreted as supporting the analysis), and the principle of asymmetry applies. Just because X is sufficient for Y does not mean that the absence of X is sufficient for the absence of Y. The fact that the negated intermediate solution does not correspond to the main analysis intermediate solution does not take anything away from the theoreticized mechanism. If we wanted to look at schools with low performance, we would have to rework the qualitative theoretical framework through which we calibrated the outcome.

The analysis yields the M1: ~FS*~SSG*~EP + ~FS*~NSG*~EN*~EP solution. Interestingly enough, non-Highly Educated Parents has been determined a necessary condition for the negated outcome; which means that there is no case of non High Educational Outcomes where it is not present. This could be an indication in support of the Individual Success suggested mechanism; that parents who are non-Highly Educated, because they do not know how the

system works and what to ask of it are not as in control of the Educational Outcomes as other parents.

7.7.2 Robustness

Schneider and Wagemann (2012) also recommend running robustness tests, which can be found in the Appendix. The robustness checks do not yield results that are very different from the main analysis. The inclusion of SSG as a necessary condition produces the exact same intermediate solution, while making the PRI threshold stricter adds the EN condition to the two solution paths. As predicted by Schneider and Wagemann, the robustness that changes the and PRI thresholds test yields a solution that is in a subset/superset relationship (in this case the ladder) of the main analysis intermediate solution. An additional case sensitivity analysis was performed where one of the best performing schools' neighbourhood was changed, (Montessorigrundskola Malmo, that is at almost the border of two Delomrade) and the solution paths remained the same.

7.7.3 Limitations and Concerns

Of course, no research endeavour is free of limitations. Methodologically, there are studies that call out on limitations regarding things like calibration or condition selection (Glaesser and Cooper, 2014; Rihoux and Ragin, 2009) yet under the lense of having no perfect methodology the best a researcher can do in a paper is to employ transparency in data and application, which I have provided here.

The issue of data reliability is relevant in this kind of analysis as well. The fact that, as of now, there is no way for me to link the students in the SALSA data to their homes is a shortcoming. While past research suggests children who are in the vicinity of good schools do not travel far, there is no conclusive link to confirm that in the context of Malmö's middle schools. Moreover, as Galster (2012) points out, neighbourhood borders are not set in stone, which makes any neighbourhood effect analysis at risk of faulty assumptions. Neighbourhoods are not glass domes in which people live their lives – living at the edge of a neighbourhood, for example, might open one's exposure to elements that could be missing in one's neighbourhood, changing the dynamic of their interaction with the neighbourhood.

8. CONCLUSION AND DISCUSSION

This paper has investigated the importance of neighbourhoods in achieving high educational outcomes in Malmö, Sweden. The previous chapters have discussed a need for revision in the neighbourhood effect research in terms of methodology and theoretical considerations, as well as emphasizing the responsibility the researcher has when making causal affirmations that can transform into policy. Using fsQCA and Process Tracing, the analysis revealed a possible causal mechanism whereby resources are being channelled to educational success through information about the educational landscape, for both individuals and schools as actors in that educational landscape.

Answering the first research question that sought to investigate the role segregation has within combinations of conditions that lead to educational success in Malmö, we see that the condition is relevant both through classroom and to neighbourhood segregation. The combination of conditions deemed sufficient for the outcome were the location of a school that is segregated in a neighbourhood that is majority Swedish, has high disposable income and is either a Free School (the 'School Success' path) or whose parents are highly educated (the 'Individual Success' path). In this combination, segregation is a product of systemic inequality that is deepened by market-oriented mentalities –in the educational landscape, in a way, the two paths represent the 'supply and demand' of social reproduction that excludes individuals with more diverse needs: the privately-owned schools provide conditions and environments that cater to the educated parent, who is more demanding of the educational institution in terms of results. For neighbourhoods, income and ethnic segregation is a result of the exclusive housing market that is becoming more and more unaccessible to the non-wealthy –which in turn influences the composition of schools either by proximity and/or by the unintentional bridging social capital it fosters. The result, coupled with knowledge on neighbourhood and school segregation can be traced back to significant inequalities in income and, most cases, information. This is worrying for Sweden, since the country is experiencing the highest rising trend in income inequality among OECD countries (OECD 2015). If the debate in the public sphere does not reach conclusions that influences real policy change, the gap between low and high capital will keep growing. Schools will continue intentionally/unintentionally keeping lower income, foreign background students away, to their institutional success.

The second research question draws from the importance of considering segregation for educational outcomes. The thesis provided evidence as of why neighbourhoods matter for educational success. For *Individual Success,* because they can be a way of finding information about schools through unintentional connections that are being formed within the neighbood as well as increased likelihood of being in the proximity of a successful school. For *School Success*, wealthy, Swedish neighbourhoods matter for reproducing an „unproblematic" group of pupils either by being close to them or by maintaining a reputation of being in an „unproblematic" neighbourhood. As evidenced in Malmö's case by Staykov (2013) and Voyer (2018), the stigmatization of areas and pupils of foreign background plays to the advantage of schools who can appear to be as Swedish as possible. That, combined with the flexibilities that privately-owned schools enjoy in crafting an exclusive curriculum, ensures a considerable educational advantage at the expense of the excluded.

Both of the suggested causal mechanism fits well with Bourdieu and Passeron's study and writings on the reproduction of society through the education system, yet it is worth mentioning that the results are directly valid only for the city of Malmö in 2018-2019. While the schools in Malmö are subjected to many of the same factors as schools in other parts of Sweden and one can fit the mechanism for Sweden in general, differences in systems or reactions to conditions could alter the result in a case and context sensitive method such as QCA. It could be that the situation is completely different in rural areas, or in areas where socioeconomic segregation is less visible than in bigger cities. And there is also no one „villainous actor" to accuse: for example, while some Swedish education reports accuse Free Schools of inflating their students' grades, for the city of Malmö, that seems to not be true (Skolverket 2021 a)Therefore I would argue that local policy implementations based on research that has an emphasis on contextuality.

The results of the thesis enrich neighbourhood effect and educational outcome literature not only by conducting an analysis using a cross-case mixed-method, but also by shining light on the importance of structural powers for achieving educational outcomes. To return to Galster's table presented in chapter two –the four mechanisms that he presents have to be understood under a bigger framework of intertwinement with the market. In Malmö case, we talk about neoliberalist tendencies in both the housing and the education sectors that play an important

role in understanding homogeneity in education and residency. The fact that there is a distinguishable pattern that could possibly determine educational success hints that the neighbourhood research community has to focus more on connections with the systemic problems: in the Swedish city, patterns of educational performance can be seen not only from the disadvantaged side, but also from the advantaged one.

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10. APPENDIX

The following table represents the matching of the middle schools with their equivalent numbers that can be seen in the analysis and throughout solution tables in the Appendix.

Number	Schools
1	Värner Rydénskolan
2	Sofielundsskolan
3	Apelgårdsskolan
4	Möllevångsskolan
5	Munkhätteskolan
6	Johannesskolan
7	Hermodsdalsskolan
8	Stenkulaskolan
9	Höjaskolan
10	Dammfriskolan
11	Lindeborgsskolan
12	Augustenborgsskolan
13	Rörsjöskolan-Zenith
14	Söderkullaskolan
15	Backaskolan
16	Oxievångsskolan
17	Videdalsskolan
18	Sorgenfriskolan
19	Rönnenskolan
20	Gottorpskolan
21	Pilbäckskolan
22	Slottsstadens

23	Kastanjeskolan
24	Östra Skolan
25	Linnéskolan
26	Boukefs Privatskola
27	Vittra Västra hamnen
28	Runstyckets skola
29	Montessorigrundskolan Maria
30	Bäckagårdsskolan
31	Mariaskolan
32	Ängsdalsskola
33	Strandskolan
34	Malmö Montessoriskola
35	Västra Hamnens skola
36	Bergaskolan
37	Sveaskolan
38	Videdals privatskolor

10.1 Calibration

This section's role is to dive deeper into the process of calibration that has brought the conditions and outcome used for the analysis. In this process, wherever they were needed, some of the qualitative points that were considered in the process of choosing thresholds are revealed, along with quantitative concerns. Because QCA is not yet a very common method used in sociology, the calibration of the outcome will be described in great detail to get the reader familiar with the decision process.

10.1.1 High Average Grade

The calibration of this outcome is a perfect example of the mixed-method nature of QCA and how it offers contextual flexibility. The database contained school average grades in a range of 125-283 out of a possible score of 320. When deciding where the point of maximum fuzziness should reside, there is a balance between the qualitative information and maintaining a proper distribution of the outcome. The qualitative information to be taken into account for this condition was the SCB report on education and Skånegy's (2019) Meritvärden för nationella program. The SCB report gives us the following information:

"*There is a clear link between grade value from compulsory school and completed post-secondary education. For pupils with a grade value of between 240 and 320 points in the ninth grade, 98 percent of 21–23-year-olds had completed at minimum a three-year upper secondary programme in 2019. The corresponding figure for those with a grade value of below 80 was 25 percent.*"(SCB, 2020, p. 12)

hinting that the 0.5 threshold should be 240. Yet, that report's analysis is based on the whole country of Sweden –which is why the Meritvarden for Malmö are important. Getting into (a well-ranked) highschool in Malmö is relative -dependent on how all the children do in that year. A middle-range grade can get a pupil into an exclusive highschool of choice if for some reason everyone in that year performs poorly. The report shows that with an average of around 220, there are about two highschools for any profile in which a pupil with that grade would be accepted in (Skånegy, 2021).

From a more quant-oriented point, ideally, the thresholds occur in a larger gap in the data, similar to when constructing categories for statistical analysis. Cases that are very close together should not be separated (unless strong qualitative grounds to do so) because the value shows that they perform almost identical. Table x, also showing the distribution of the raw value, shows that the gap in the condition high average grade seems to happen between 218-225. Which is why the 0.5 inclusion threshold for this particular condition has been chosen to include everything over 220 as being more in than out the set. The exclusion threshold is set to 200 and the full inclusion one at 270.

Schools	Average grade	Calibrated value
Värner Rydénskolan	125	0
Sofielundsskolan	154	0
Apelgårdsskolan	159	0.00013
Möllevångsskolan	174	0.00114
Munkhätteskolan	179	0.00239
Johannesskolan	181	0.0032
Hermodsdalsskolan	188	0.00891
Stenkulaskolan	189	0.01031
Höjaskolan	191	0.0138
Dammfriskolan	202	0.06599
Lindeborgsskolan	206	0.11293
Sorgenfriskolan	213	0.26298
Augustenborgsskolan	214	0.29249
Rörsjöskolan-Zenith	215	0.32386
Oxievångsskolan	217	0.39134
Söderkullaskolan	218	0.42692
Pilbäckskolan	225	0.57308
Rönnenskolan	226	0.58743
Videdalsskolan	227	0.60162
Slottsstadens	227	0.60162
Gottorpskolan	229	0.62948
Kastanjeskolan	231	0.65651
Östra Skolan	236	0.71955
Vittra Västra hamnen	237	0.73128
Montessorigrundskolan Maria	241	0.77498
Linnéskolan	241	0.77498
Backaskolan	244	0.80429
Bäckagårdsskolan	250	0.85404

Malmö Montessoriskola	254	0.88103
Runstycketsskola	256	0.89283
Boukefs Privatskola	258	0.90359
Västra Hamnens skola	261	0.91792
Ängsdalsskola	266	0.93755
Bergaskolan	268	0.9441
Strandskolan	276	0.96435
Videdals privatskolor	279	0.96995
Mariaskolan	280	0.97162
Sveaskolan	283	0.97611

Cut-offs: 0=200, 0.5=220, 1=270
Table a Calibration of condition High Average Grade (Skolverket), own calibrations

10.1.2 High Graduation Rate

The other condition, high graduation rate, has a range from 30 to 100, and the thresholds chosen are 0=45, 0.5=78, 1=95. Because an analysis of the city is a more closed-in environment, the values themselves are good qualitative information on a school's graduation performance.

When calibrating, the researcher also has to be aware of overly skewed data. Of course, depending on the definition of the outcome a set might be more restrictive or not. Notice that in this case the two conditions that create the outcome are high average-grade and high graduation rate –not highest grade and highest graduation rate. If those were indeed the conditions, the 0.5 and 1 threshold would have had to be pushed up –in the process creating an outcome so restrictive it would have led to having very few middle-schools to score over 0.5 on both conditions.

If both conditions are present, then the outcome high educational outcomes is also present.Therefore, the middle-schools are considered in the set are 14-fold: Videdals privatskolor, Sveaskolan,Bergaskolan, Västra Hamnens skola, Malmö Montessoriskola, €ngsdalsskola, Strandskolan, Mariaskolan, BäckagŒrdsskolan, Montessorigrundskola Maria, Runstyckets skola, Vittra Västra hamnen, Boukefs Privatskola, Gottorpskolan

Schools	Graduation Rate	Calibrated Value
Apelgårdsskolan	30	0.013616
Värner Rydénskolan	31	0.014868

Möllevångsskolan	33	0.017721
MunkhÃ¤tteskolan	34	0.019343
Sofielundsskolan	39	0.029893
Johannesskolan	39	0.029893
Hermodsdalsskolan	40	0.032592
Höjaskolan	47	0.05919
Stenkulaskolan	49	0.069945
Augustenborgsskolan	55	0.113832
Lindeborgsskolan	56	0.123147
Dammfriskolan	56	0.123147
Rörsjöskolan-Zenith	57	0.13311
Söderkullaskolan	58	0.143747
Backaskolan	61	0.179928
Oxievångsskolan	62	0.193472
Videdalsskolan	65	0.23868
Rönnenskolan	68	0.290645
Gottorpskolan	68	0.290645
Sorgenfriskolan	69	0.309378
Pilbäckskolan	70	0.328759
Slottsstadens	71	0.348741
Kastanjeskolan	73	0.390282
Östra Skolan	77	0.477708
Linnéskolan	77	0.477708
Boukefs Privatskola	83	0.703915
Runstyckets skola	84	0.738698
Bäckagårdsskolan	86	0.799892
Montessorigrundskolan Maria	86	0.799892
Mariaskolan	88	0.849671
Ängsdalsskola	89	0.870482
Strandskolan	89	0.870482
Västra Hamnens skola	90	0.888789
Vittra Västra hamnen	92	0.918701
Bergaskolan	94	0.941102
Malmö Montessoriskola	97	0.964113
Sveaskolan	97	0.964113
Videdals privatskolor	100	0.978341

Cut-offs: 0=45, 0.5=78, 1=95
Table b Calibration of condition High Graduation Rate (Skolverket 2019), own calibrations

10.1.3 Highly Educated Parents

The thresholds for this condition were chosen having in mind that the inclusion in the set had to be high enough to be certain that an assumption about the parent's education for every child in that class can be made. On a scale where 3= graduated post-secondary education, the value for 0.5 was chosen at 2.45.

Schools	**Education of Parents**	**CalibratedValue**
Apelg‘rdsskolan	1.62	0.007482

Hermodsdalsskolan	1.63	0.007932
Sofielundsskolan	1.64	0.008409
Stenkulaskolan	1.7	0.01193
Munkh?tteskolan	1.75	0.01595
V?rner Ryd?nskolan	1.8	0.021295
M?llev‘ngsskolan	1.83	0.025305
Augustenborgsskolan	1.89	0.035648
R?rsj?skolan-Zenith	1.99	0.062451
Boukefs Privatskola	2	0.065989
Johannesskolan	2.03	0.077749
H?jaskolan	2.04	0.082078
Sorgenfriskolan	2.04	0.082078
Lindeborgsskolan	2.07	0.096409
R?nnenskolan	2.18	0.169384
S?derkullaskolan	2.22	0.205145
B?ckag‘rdsskolan	2.23	0.214914
Gottorpskolan	2.23	0.214914
Oxiev‘ngsskolan	2.25	0.235452
Ästra Skolan	2.25	0.235452
Dammfriskolan	2.26	0.246218
Pilb?ckskolan	2.29	0.280452
Videdalsskolan	2.31	0.304821
Kastanjeskolan	2.31	0.304821
Runstyckets skola	2.32	0.317442
Slottsstadens	2.35	0.35689
Vittra V?stra hamnen	2.36	0.370517
Montessorigrundskolan Maria	2.4	0.426916
Linn?skolan	2.47	0.558618
Backaskolan	2.5	0.64311
V?stra Hamnens skola	2.51	0.669664
Strandskolan	2.55	0.764548
—ngsdalsskola	2.57	0.804291
Mariaskolan	2.6	0.854042
Bergaskolan	2.65	0.913374
Videdals privatskolor	2.69	0.9441
Sveaskolan	2.74	0.968187
Malm? Montessoriskola	2.81	0.985797

Cut-offs: 0=1.95, 0.5= 2.45, 1=2.70
Table c Calibration of condition Highly Educated Parents (Skolverket 2019), own calibrations

10.1.4 Majority Post-secondary Educated Neighbours

The 0.5 threshold was chosen to respect the condition’s qualitative adjective. Therefore, the 0.5 cut-off is at 55%.

Schools	**% of people tertiary education**	**Calibrated value**
V?rner Ryd?nskolan	0.198	0.018229
Apelg‘rdsskolan	0.241	0.029331

Hermodsdalsskolan	0.241	0.029331
Augustenborgsskolan	0.284	0.046869
Oxiev‘ngsskolan	0.31	0.061923
Munkh?tteskolan	0.312	0.063252
S?derkullaskolan	0.316	0.065989
Boukefs Privatskola	0.316	0.065989
Mariaskolan	0.33	0.07646
H?jaskolan	0.333	0.078894
Backaskolan	0.34	0.08485
Lindeborgsskolan	0.381	0.128545
Runstyckets skola	0.405	0.162181
Montessorigrundskolan Maria	0.405	0.162181
B?ckag‘rdsskolan	0.446	0.235452
Videdals privatskolor	0.455	0.254292
Videdalsskolan	0.491	0.338909
Pilb?ckskolan	0.519	0.413124
Gottorpskolan	0.52	0.415872
—ngsdalsskola	0.52	0.415872
Bergaskolan	0.522	0.421384
Sveaskolan	0.522	0.421384
R?rsj?skolan-Zenith	0.528	0.438034
Linn?skolan	0.53	0.443617
Stenkulaskolan	0.534	0.454824
Slottsstadens	0.542	0.477366
Sofielundsskolan	0.57	0.764548
Kastanjeskolan	0.57	0.764548
M?llev‘ngsskolan	0.572	0.785086
R?nnenskolan	0.579	0.846547
Ästra Skolan	0.579	0.846547
Dammfriskolan	0.584	0.88103
Malm? Montessoriskola	0.61	0.971
Strandskolan	0.616	0.979899
Johannesskolan	0.626	0.988744
Sorgenfriskolan	0.667	0.998983
V?stra Hamnens skola	0.674	0.999326
Vittra V?stra hamnen	0.674	0.999326

Cut-offs: 0=0.29, 0.5=0.55, 0.63

Table d Calibration of condition Majority Post-Secondary Educated Neighbours (Malmo stad 2021), own calibrations

10.1.5 High Neighbourhood Disposable Income

According to Malmö’s official data, the average disposable income in 2018 in Malmö was 187,785 SEK, while the poverty line in Sweden for the same year is around 145,200 SEK. Therefore, a case will score above the 0.5 threshold if the neighbourhood’s average disposable income is above 185,000 SEK. While, arguably, the cut-off could have been placed higher, around 185.000 is where there is a natural gap in the data.

School	Average Disposable Income in Neighbourhood	Calibrated value
Värner Rydénskolan	96.372	0.001466
Hermodsdalsskolan	108.616	0.003602
MunkhÃ¤tteskolan	123.018	0.010328
Augustenborgsskolan	123.577	0.010757
Apelgårdsskolan	125.584	0.012448
Oxievångsskolan	146.129	0.054098
Rönnenskolan	147.382	0.059017
Östra Skolan	147.382	0.059017
Backaskolan	154.487	0.095687
Söderkullaskolan	155.444	0.101959
Boukefs Privatskola	155.444	0.101959
Mariaskolan	156.865	0.111943
Sofielundsskolan	158.79	0.126823
Kastanjeskolan	158.79	0.126823
Möllevångsskolan	163.43	0.169695
Rörsjöskolan-Zenith	168.373	0.227246
Stenkulaskolan	168.815	0.23301
Lindeborgsskolan	177.069	0.358057
Höjaskolan	180.418	0.416469
Sorgenfriskolan	190.796	0.576956
Videdalsskolan	192.225	0.59551
Runstyckets skola	192.644	0.600902
Montessorigrundskolan Maria	192.644	0.600902
Bäckagårdsskolan	194.867	0.629071
Gottorpskolan	196.55	0.649839
Ängsdalsskola	196.55	0.649839
Videdals privatskolor	197.445	0.660662
Pilbäckskolan	200.414	0.695337
Johannesskolan	200.508	0.696402
Slottsstadens	201.529	0.707833
Dammfriskolan	202.532	0.718813
Strandskolan	214.542	0.829422
Bergaskolan	223.842	0.888886
Sveaskolan	223.842	0.888886
Linnéskolan	235.737	0.937977
Malmö Montessoriskola	236.143	0.939
Västra Hamnens skola	297.735	0.997613
Vittra Västra hamnen	297.735	0.997613

Cut-offs: 0=145, 0.5=185, 1=240
Table e Calibration of condition High Disposable Income (Malmo stad 2021) own calibrations

10.1.6 High Native Segregated School

According to SALSA, the 9th grade classrooms in Malmö middle schools have a percentage of newly immigrated pupil (meaning swedish pupil with foreign parents) ranging from 0 to 27%. The 0.5 anchor

is set at 10% because that is in my view the logical gap in otherwise very close values that would still reflect a school with a low percentage of non-natives. The exclusion point is 4 %, to keep in line with the „tolerance point" Andersson et al. (2010) find in their Swedish study

School	% pupils with foreign background	Calibrated value
Sofielundsskolan	27	0.000784
M?llevëngsskolan	24	0.002762
Johannesskolan	24	0.002762
Hermodsdalsskolan	23	0.004201
Apelgërdsskolan	23	0.004201
Munkh?tteskolan	21	0.00969
V?rner Ryd?nskolan	20	0.014682
Dammfriskolan	19	0.022189
H?jaskolan	16	0.074206
Sorgenfriskolan	16	0.074206
R?nnenskolan	15	0.108789
Stenkulaskolan	14	0.15676
Gottorpskolan	14	0.15676
Augustenborgsskolan	13	0.220647
Linn?skolan	12	0.301268
V?stra Hamnens skola	11	0.396365
S?derkullaskolan	9	0.620281
Lindeborgsskolan	9	0.620281
Videdalsskolan	9	0.620281
Oxievëngsskolan	8	0.727402
R?rsj?skolan-Zenith	8	0.727402
Pilb?ckskolan	6	0.876853
B?ckagërdsskolan	5	0.920832
Vittra V?stra hamnen	5	0.920832
Malm? Montessoriskola	3	0.968786
Strandskolan	2	0.980658
Bergaskolan	2	0.980658
Slottsstadens	1	0.98807
ƒstra Skolan	0	0.992663
Backaskolan	0	0.992663
Boukefs Privatskola	0	0.992663
Mariaskolan	0	0.992663
Kastanjeskolan	0	0.992663
Runstyckets skola	0	0.992663
Montessorigrundskolan Maria	0	0.992663
óngsdalsskola	0	0.992663
Videdals privatskolor	0	0.992663
Sveaskolan	0	0.992663

Cut-offs: 1=4, 0.5=10, 0= 17
Table f Calibration of condition High Native School Segregation (Skolverket 2019), own calibrations

10.1.7 Majority native-Swedish Neighbours

Like the majority educated neighbours condition, there is no threshold for the swedish example. to avoid skewness, the point of maximum fuzziness has been set to 60%. According to the Malmö stad statistics, the range of native-Swedes in the selected neighbourhoods ranges from 6 % to 82% in 2019.

Schools	% of natives in the neighbourhood	Calibrated Value
Värner Rydénskolan	0.064	0.004967
Apelgårdsskolan	0.137	0.010516
Hermodsdalsskolan	0.159	0.013018
MunkhÃ¤tteskolan	0.215	0.022129
Augustenborgsskolan	0.233	0.026544
Söderkullaskolan	0.347	0.077048
Boukefs Privatskola	0.347	0.077048
Mariaskolan	0.382	0.105305
Backaskolan	0.41	0.134143
Oxievångsskolan	0.453	0.191116
Rörsjöskolan-Zenith	0.466	0.211621
Rönnenskolan	0.472	0.221613
Östra Skolan	0.472	0.221613
Höjaskolan	0.492	0.25731
Stenkulaskolan	0.519	0.311096
Möllevångsskolan	0.52	0.313204
Lindeborgsskolan	0.527	0.328169
Sofielundsskolan	0.564	0.412574
Kastanjeskolan	0.564	0.412574
Videdalsskolan	0.566	0.41734
Johannesskolan	0.601	0.504907
Bäckagårdsskolan	0.619	0.592175
Videdals privatskolor	0.639	0.682558
Gottorpskolan	0.659	0.760996
Ängsdalsskola	0.659	0.760996
Vittra Västra hamnen	0.662	0.771541
Västra Hamnens skola	0.662	0.771541
Runstyckets skola	0.689	0.851578
Montessorigrundskolan Maria	0.689	0.851578
Sorgenfriskolan	0.693	0.861231
Slottsstadens	0.702	0.88103
Malmö Montessoriskola	0.712	0.9
Dammfriskolan	0.722	0.916431
Bergaskolan	0.763	0.96082
Sveaskolan	0.763	0.96082
Strandskolan	0.775	0.968786
Linnéskolan	0.788	0.975645
Pilbäckskolan	0.82	0.986855

Cut-offs: 0=0.35, 0.5=0.60, 1=0.75
Table g Calibration of condition Majority Native Neighbourhood (Malmo Stad 2021), own calibrations

10.1.8 School Choice

This condition is a dichotomous condition, exploring if the school in question is managed by the municipality or by private individuals, where 0 is assigned to municipal schools and 1 is assigned to free schools, to see if there are paths that specifically call for one type of educational institution. Notice that there is much less qualitative information here: because of data availability and the nature of the condition, we have no ability to check for variation between cases.

Schools	Free School
Backaskolan	1
Kastanjeskolan	1
…stra Skolan	1
Boukefs Privatskola	1
Runstyckets skola	1
Montessorigrundskolan Maria	1
Mariaskolan	1
€ngsdalsskola	1
Sveaskolan	1
Videdals privatskolor	1
Malmš Montessoriskola	1
Vittra VŠstra hamnen	1
Slottsstadens	0
Strandskolan	0
Bergaskolan	0
BŠckagŒrdsskolan	0
PilbŠckskolan	0
Ršrsjšskolan-Zenith	0
OxievŒngsskolan	0
Lindeborgsskolan	0
Sšderkullaskolan	0
Videdalsskolan	0
VŠstra Hamnens skola	0
LinnŽskolan	0
Augustenborgsskolan	0

Stenkulaskolan	0
Gottorpskolan	0
Ršnnenskolan	0
Hšjaskolan	0
Sorgenfriskolan	0
Dammfriskolan	0
VŠrner RydŽnskolan	0
MunkhÌ?tteskolan	0
ApelgŒrdsskolan	0
Hermodsdalsskolan	0
MšllevŒngsskolan	0
Johannesskolan	0
Sofielundsskolan	0

Table h Free Schools of Malmo (Skolverket 2019)

10.2 Negation Analysis

10.2.1 Necessity Analysis

	inclN	RoN	covN
~EP	0.946	0.772	0.854
~DI+~SSG	0.915	0.721	0.815
~NSG+~SSG	0.906	0.788	0.850

Table i Necessity Analysis for non-High Educational Outcomes

After performing the necessity Analysis, non-Highly Educated Parents has been deemed necessary for the analysis of the negated outcome

10.2.2. Sufficiency Analysis

Table j represents the truth table for the negated analysis. There are no rows deemed sufficient where a negated outcome is not present.

	FS	DI	NSG	SSG	EN	EP	OUT	N	incl	PRI	cases
1	*0*	*0*	*0*	*0*	*0*	*0*	*1*	*7*	*1.000*	*1.000*	*1,3,5,7,8,9,12*
25	*0*	*1*	*1*	*0*	*0*	*0*	*1*	*1*	*1.000*	*1.000*	*20*
3	*0*	*0*	*0*	*0*	*1*	*0*	*1*	*3*	*0.985*	*0.977*	*2,4,19*
26	*0*	*1*	*1*	*0*	*0*	*1*	*1*	*1*	*0.983*	*0.895*	*25*
5	*0*	*0*	*0*	*1*	*0*	*0*	*1*	*4*	*0.960*	*0.935*	*11,13,14,16*
27	*0*	*1*	*1*	*0*	*1*	*0*	*1*	*3*	*0.954*	*0.917*	*6,10,18*
21	*0*	*1*	*0*	*1*	*0*	*0*	*1*	*1*	*0.915*	*0.813*	*17*
29	0	1	1	1	0	0	0	3	0.886	0.727	21,22,30
39	1	0	0	1	1	0	0	2	0.845	0.420	23,24
28	0	1	1	0	1	1	0	1	0.819	0.470	35
30	0	1	1	1	0	1	0	1	0.802	0.220	36
63	1	1	1	1	1	1	0	1	0.728	0.000	27
37	1	0	0	1	0	0	0	1	0.708	0.203	26
32	0	1	1	1	1	1	0	1	0.645	0.104	33
38	1	0	0	1	0	1	0	2	0.612	0.296	15,31
61	1	1	1	1	0	0	0	2	0.597	0.000	28,29
64	1	1	1	1	1	1	0	1	0.426	0.000	34
62	1	1	1	1	0	1	0	3	0.381	0.000	32,37,38

Table j Truth table for non-High Educational Outcomes

The following three tables represent the complex, the parsimonious and the intermediate solution for the negated outcome. Before conducting the analysis, as per Schneider and Wagemann's (2012) advice, untenable assumptions have been removed. For this analysis, because non-Highly Educated Parents was deemed necessary, all EP=1 logical remainders have been removed.

	inclS	**PRI**	**covS**	**covU**	**cases**
~FS*~DI*~NSG*~SSG*~EP	0.993	0.992	0.460	0.297	1,3,5,7,8,9,12; 2,4,19
~FS*DI*NSG*~SSG*~EP	0.960	0.934	0.228	0.103	20; 6,10,18
~FS*~NSG*SSG*~EN*~EP	0.954	0.927	0.188	0.073	11,13,14,16; 17
M1	0.967	0.959	0.638		

M1: ~FS*~DI*~NSG*~SSG*~EP + ~FS*DI*NSG*~SSG*~EP + ~FS*~NSG*SSG*~EN*~EP → ~Edcap

Table k Complex Solution for negated outcome

	inclS	PRI	covS	covU	cases
~FS*~NSG*~EP	0.966	0.959	0.582	0.100	1,3,5,7,8,9,12,2,4,19,13,14,16, 17
~FS*~SSG*~EP	0.961	0.953	0.645	0.163	1,3,5,7,8,9,12,2,4,19,20.6,10,18
M1	0.951	0.941	0.744		

M1: ~FS*~NSG*~EP + ~FS*~SSG*~EP → ~Edcap

Table l Parsimonious Solution for negated outcome

	inclS	PRI	covS	covU	cases
~FS*~SSG*~EP	0.961	0.953	0.645	0.264	1,3,5,7,8,9,12; 2,4,19;20; 6,10,18
~FS*~NSG*~EN*~EP	0.975	0.970	0.469	0.089	1,3,5,7,8,9,12; 11,13,14,16; 17
M1	0.951	0.941	0.734		

M1 ~FS*~SSG*~EP + ~FS*~NSG*~EN*~EP → ~Edcap

Table m Intermediate Solution for negated outcome

10.3 Robusness

10.3.1 Determining SSG as necessary

While the intermediate solution already looks like the condition has been determined necessary (the term is present in both solution paths), the step was not taken to remove all necessity-contradicting logical remainders. It might well be that one of those untenable logical remainders might have dominated the solution for another condition and give the solution at hand.

The intermediate solution with SSG as a necessary condition is the same as the main analysis.

10.3.2 Higher PRI thresholds

Perform the analysis with the PRI threshold set to 0.9 exclude the logical remainder row with a 0.780 PRI. Both solution terms seem to be the same except for the addition of Highly Educated Neighbours to the configuration of conditions. Below, the three tables show the complex, the parsimonious and the intermediate solution

	inclS	PRI	covS	covU	Cases
FS*DI*NSG*SSG	0.989	0.985	0.367	0.162	8,29; 32,37,38; 27; 34
DI*NSG*SSG*EN*EP	0.975	0.947	0.443	0.239	33; 34
M1	0.977	0.962	0.606		

M1: FS*DI*NSG*SSG + DI*NSG*SSG*EN*EP → Edcap

Table n Complex Solution for PRI Robustness

	inclS	PRI	covS	covU	(M1)	(M2)	cases
NSG*SSG*EN*EP	0.976	0.946	0.471	0.244	0.266	0.244	33; 34
FS*DI*SSG	0.952	0.935	0.369	0.002	0.164		28,29; 32,37,38; 27; 34
FS*NSG*SSG	0.960	0.943	0.428	0.039		0.201	28,29; 32,37,38; 27; 34
M1	0.957	0.924	0.635				
M2	0.960	0.931	0.672				

M1: NSG*SSG*EN*EP + (FS*DI*SSG) →Edcap

M2: NSG*SSG*EN*EP + (FS*NSG*SSG) → Edcap

Table o Parsimonious Solution for PRI Robustness

	inclS	PRI	covS	covU	cases
FS*DI*NSG*SSG	0.989	0.985	0.367	0.162	28,29; 32,37,38; 27; 34
DI*NSG*SSG*EN*EP	0.975	0.947	0.443	0.239	33; 34
M1	0.977	0.962	0.606		

M1: FS*DI*NSG*SSG + DI*NSG*SSG*EN*EP → Edcap

Table p Intermediate Solution for PRI Robustness

10.3.3 Case Sensitivity

To test out the sensitivity to chosen neighbourhood, I have changed the neighbourhood of one of the schools that is situated at the border of two different Delomrade (Malmo Montessoriskola was moved from Solbacken to the neighbourhood Bellevuegarden). The three tables represent the three solutions.

	inclS	**PRI**	**covS**	**covU**	**(M1)**	**(M2)**	**cases**
DI*SSG*~EP*FS*NSG	1.000	1.000	0.170	0.042	0.071	0.042	27,28,29
DI*SSG*EP*~FS*NSG	0.964	0.921	0.271	0.101	0.101	0.271	33,36
DI*SSG*~EN*EP*NSG	0.974	0.941	0.377	0.000	0.108		36
DI*SSG*~EN*FS*NSG	1.000	1.000	0.238	0.002		0.110	28,29
M1	0.982	0.967	0.549				
M2	0.982	0.967	0.551				

M1: DI*SSG*~EP*FS*NSG + DI*SSG*EP*~FS*NSG + (DI*SSG*~EN*EP*NSG) → Edcap

M2: DI*SSG*~EP*FS*NSG + DI*SSG*EP*~FS*NSG + (DI*SSG*~EN*FS*NSG)→ Edcap

Table q Complex Solution for Case Sensitivity

	inclS	**PRI**	**covS**	**covU**	**(M1)**	**(M2)**	**cases**
SSG*EP*NSG	0.983	0.966	0.581	0.286	0.325	0.286	32,33,36,37,38
DI*SSG*FS	0.962	0.944	0.314	0.003	0.058		28,29,32,37,38,27
SSG*FS*NSG	0.958	0.936	0.377	0.026		0.081	28,29,32,37,38,27
M1	0.965	0.938	0.639				
M2	0.961	0.931	0.663				

M1: SSG*EP*NSG + (DI*SSG*FS) → Edcap

M2: SSG*EP*NSG + (SSG*FS*NSG) → Edcap

Table r Parsimonious Solution for Case Sensitivity

	inclS	**PRI**	**covS**	**covU**	**cases**
DI*SSG*EP*N	0.981	0.965	0.528	0.271	32,33,36,37,38
DI*SSG*FS*NSG	0.992	0.988	0.312	0.055	27,28,29,32,37,38
M1	0.979	0.963	0.583		

M1: DI*SSG*EP*NSG + DI*SSG*FS*NSG → Edcap

Table s Intermediate Solution for Case Sensitivity

10.4. Choosing cases for Process Tracing

Below we have Figure a, representing the Individual Success solution path, and Figure b, representing the School Success solution path. They are visual representations of how cases score in solution paths, and should not be read as normal scatter plots. The bottom left ones, the cases that have no numbers, are the cases where the outcome is not present. Because School Success has a dichotomous variable, it could not be properly depicted in the visual. So we see middle schools like Bergaskolan (36) scoring high, even though it is a publicly owned school.

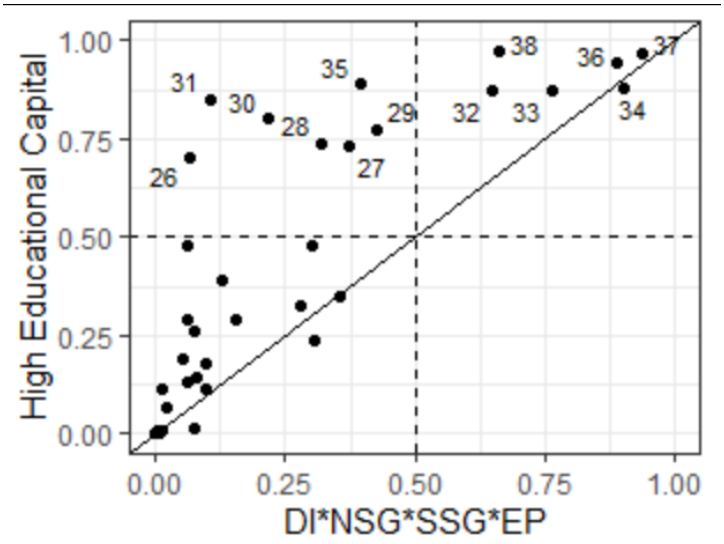

Fig a Individual Success Sufficiency Plot

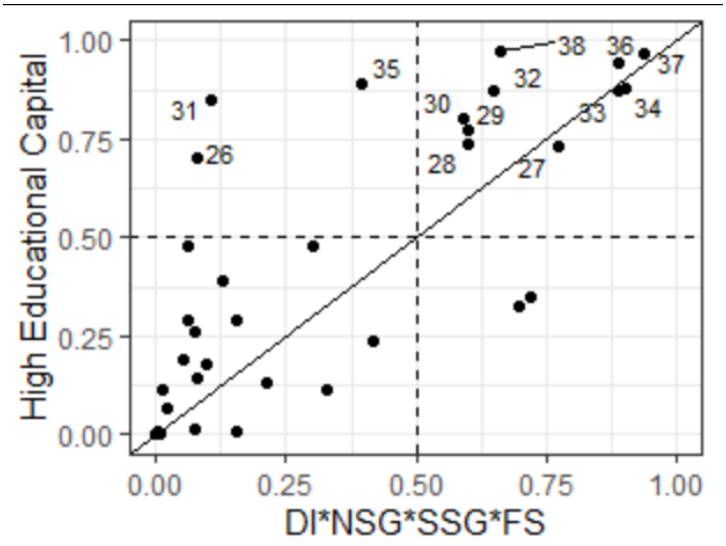

Fig b School Succes Sufficiency Plot

According to Schneider and Rohlfing (2013), cases should be selected according to how close they are to the top right corner and their unique coverage to the path. In this case, the cases selected were the only ones to not be covered by the other path.

10.5 Complex and Parimonious Solution

Tables t and u represent the results and parameters of the parsimonious and of the complex solution

	inclS	**PRI**	**covS**	**covU**	**cases**
FS*DI*NSG*SSG	0.989	0.985	0.363	0.005	27,28,29,32,34,37,38
DI*NSG*SSG*EP	0.981	0.966	0.579	0.271	32,33,34,36,37,38
M1	0.978	0.964	0.634		

M1: FS*DI*NSG*SSG + DI*NSG*SSG*EP → Edcap

Table t: Complex solution for the High Educational Outcomes

	inclS	**PRI**	**covS**	**covU**	**(M1)**	**(M2)**	**Cases**
NSG*SSG*EP	0.982	0.967	0.633	0.286	0.325	0.286	32,33,34,36,37,38
FS*DI*SSG	0.957	0.941	0.365	0.002	0.057		27,28,29,32,34,37,38
FS*NSG*SSG	0.960	0.943	0.428	0.026		0.081	27,28,29,32,34,37,38
M1	0.963	0.937	0.690				
M2	0.962	0.936	0.714				

M1: NSG*SSG*EP + (FS*DI*SSG) → Edcap
M2: NSG*SSG*EP + (FS*NSG*SSG) → Edcap

Table u: Parsimonious solution for High Educational Outcomes