Neighbourhood Effects on Immigrant Educational Attainment
Evidence from 2nd Generation Polish and Turkish Immigrants in Sweden

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Abstract

The goal of this study is to test for the existence of community (neighbourhood) effects on educational attainment among some 2000 young indigenous Swedes and 2nd generation Polish and Turkish immigrants to Sweden born in 1972 and 1976. It links data from two surveys (the 1996-97 immigrant survey and the 1999 survey of second generation Poles and Turks) with area data and uses Sequential Probit to model educational progress. Two community-level constructs (indicating economic deprivation and immigrant concentration) are used along with three family-level and four individual-level variables as correlates of individuals' educational attainment. Preliminary results show that individuals from economically deprived neighbourhoods have lower educational achievement, while those from neighbourhoods with high immigrant concentration seem to have better educational attainment. Further, we find that that parental education, family structure and ethnic background are strong predictors of educational attainment – with children from highly educated families making educational advancement while children from divorced families and those of Turkish origin lagging behind. More importantly, except for parental education, which continues to be an important factor throughout all educational levels, the importance of the other effects is limited only to lower educational levels.

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1. Introduction

A general definition of neighbourhood effect is a social interaction that influences the behaviour or socioeconomic outcome of an individual. Recent developments in social segregation, such as increasing concentration of poverty in urban areas, have prompted investigators and policy makers to examine the effects of such neighbourhood-level conditions on the well-being of residents. There is evidence of neighbourhood or locality effects on such phenomena as urban crime and deviant behaviour (Herbert, 1976), voting behaviour (Johnston, 1976), morale of the elderly (Bohland and Herbert, 1983; Lohmann, 1980), mental health (Smith, 1980) and child abuse and neglect (Gabrino and Crouter, 1978). Other more recent examples include Roosa, et al. (2003), Ainsworth (2002), Boyle & Lipman (2002), Rankin & Quane (2002), Pearl, Braveman, and Abrams (2001), and Blau et al. (2001), while Dietz (2002) provides a critical examination and review of the interdisciplinary research on neighbourhoods effects.

One way in which neighbourhoods may affect social mobility and quality of life is through their influence on educational outcomes of young residents. Kasarda (1993), for instance, found that drop out rates in severely distressed neighbourhoods are more than three times as higher as those in non-poverty neighbourhoods. Garner and Raudenbush (1991) also report that neighbourhood deprivation is important in the determination of social outcome like educational attainment.

Some broad sets of influences can be put forward. First, psychological studies have shown that some types of residential environments are associated with particular personality characteristics that predispose individuals to respond differently to education (Butcher, Ainsworth, and Nesbit, 1963; Moulden, 1980). The neighbourhood effect would therefore be an indirect effect through its influence on personality development and response to the educational process. Similarly, educational attainment tends to be motivated by individualistic competitiveness and therefore may be less important to individuals who live in areas where adherence to group norms and the maintenance of social cohesion are paramount (Robson, 1969).

Second, the nature of the residential environment can facilitate or constrain interactions among *individuals*. The quality and frequency of interactions may, in turn, influence cognitive development and hence attainment. For example, where overcrowding in the home forces children to play on the streets and where playing in the streets is the norm for the neighbourhood, younger children will have restricted contact with adults. Restricted contact with adults has been shown to influence young children's language development (Bernstein, 1970). Young adults, similarly, may be more susceptible to peer-group pressures in such an environment (Kelsall and Kelsall 1971). Robson (1969) also found that the development of parental attitudes toward education was related to the type of community ethos and residential environment.

Further, economic pressures may be associated with poor health, material and experiential poverty, and the pressure to leave school early. Although such economic pressures are essentially individual or family influences, the concentration of families who are suffering individual deprivation in specific localities, such as run-down public rental housing estates, is thought to predispose individuals in those areas to feel a sense of futility and hopelessness. In relation to education, a report cited in Garner and Raudenbush (1991) highlighted the problem

of educational relevance to future life in areas of predominantly manual employment as folows:

> *In a neighbourhood where the jobs people do and the status they hold owe little to their education it is natural for children as they grow older to regard school as a brief prelude to work rather than as an avenue to future opportunities.*

These effects are all something more than just an aggregation of individual characteristics. They are area effects. Clearly, knowing the degree to which neighbourhood characteristics influence educational outcomes is important to our understanding the process that reproduce social inequality.

To this end, the present study focuses on examining for the existence and extent of community (neighbourhood) effects on educational attainment among some 2000 young indigenous Swedes and 2nd generation Polish and Turkish immigrants to Sweden born in 1972 and 1976.

2. Neighborhood Contextual Effects on Educational Outcomes

The debate over the magnitude and even the existence of neighbourhood effects, including the mechanisms that mediate these effects, is a controversial area of inquiry in the social sciences (Dietz, 2002). Numerous researchers have detailed the causes of concentrated urban poverty and explored its association with behavioral outcomes (e.g., Fainstein 1986-87; Farley 1988; Hughes 1989; Jargowsky & Bane 1991; Massey & Denton 1993; Wilson 1987, 1996). According to Ainsworth (2002), however, empirical research has generally neglected the processes through which neighborhood disadvantage influences individual and group behavior. Catsambis & Beveridge (2001), and South, Baumer & Lutz (2001) are recent exceptions while several studies have suggested the need for such research (Connell & Halpern-Felsher 1997; Datcher 1982; Duncan 1994; Ensminger, Lamkin & Jacobson 1996; Garner & Raudenbush 1991). Connell and Halpern-Felsher (1997), for instance, argue that their findings point to an "enormous gap in our empirical representation of processes mediating neighborhood effects on adolescent outcomes".

Because little is known about such processes, the question of how neighborhood context influences individual outcome is the most important unanswered question in neighborhood research. Ainsworth (2002) identifies and investigates several factors, derived from prominent theories, that may mediate the relationships between neighborhood characteristics and educational outcomes.

Wilson (1987, 1996) and others have described five interrelated mechanisms through which neighborhood characteristics affect educational achievement:

1) Collective Socialization
2) Social Control
3) Social Capital
4) Differential Occupational Opportunity, and
5) Institutional (i.e., school) Characteristics.

Collective Socialization

According to Wilson (1996), neighborhood characteristics influence collective socialization processes by shaping the type of role models youth are exposed to outside the home. He claims that neighborhoods where most adults have steady jobs foster behaviors and attitudes that are conducive to success in both school and work. Therefore, children in such advantaged neighborhoods are more likely to value education, adhere to school norms, and work hard because that is what they see modeled for them by neighborhood adults.

In neighborhoods in which many adults do not work, Wilson (1991) argues that life can become "incoherent" for youth because of the lack of structuring norms modelled by working adults. The school-related behaviors and attitudes of youth in disadvantaged neighborhoods are likely to be conflicted because of the competing influence of mainstream ideological imperatives and structural constraints resulting from a lack of opportunity that prevents youth from reaching their goals (Anderson 1999). For example, Wilson (1996) argues that the typical inner-city "ghetto" culture includes many elements of mainstream culture, including an achievement ideology, which suggests that if one works hard in school it will pay off in terms of a good job. This contention is consistent with several ethnographic studies that suggest ghetto residents adhere to the basic values of American society (Anderson 1978, 1999; Hannerz 1969; Liebow 1967; Rainwater 1970). What sets ghetto residents apart from other Americans is their inability to realize such ideals through legitimate means because of restricted opportunities and other social constraints (Massey & Denton 1993; Massey & Fong 1990; Wilson 1996; also see Merton's 1938 discussion of strain theory). [1] Thus, while some "ghetto" residents may gain status by adhering to the mainstream ideology and by putting down their neighbors who do not (Wacquant 1996), others are likely to scorn conventional American values altogether (Anderson 1990). As Massey and Denton (1993) state:

In response to the harsh and isolated conditions of ghetto life, a segment of the urban black population has evolved a set of behaviors, attitudes, and values that are increasingly at variance with those held in the wider society. As a result, an alternative status system has evolved within America's ghettos that is defined *in opposition to* the basic ideals and values of American society.

Therefore, the accidental or emergent cultural transmission of structurally adaptive behaviors and attitudes that discourage success in school may take place in disadvantaged neighborhoods (Hannerz 1969; Swidler 1986; Wilson 1996). Specifically, with fewer positive role models in their neighborhood, children may be less likely to learn important behaviors and attitudes that lead to success in school (e.g., high educational expectations or effort), both because of a lack of exposure to them and because they have no direct evidence that these attitudes and behaviors are useful or desirable.

Social Control

In addition to collective socialization processes, neighborhood levels of social control — or the monitoring and sanctioning of deviant behavior — may also influence the educational performance of neighborhood youth. Neighborhoods with fewer adults or adults with limited time to influence the lives of youth also are likely to have fewer people involved in organizing community activities (Anderson 1990; see also Stewart, Simons & Conger n.d.). Children in such communities have fewer choices about how to spend their time in constructive ways and therefore are more likely to take part in deviant activities (Wacquant 1996). With limited adult

supervision, peer-group influences may become stronger relative to parental influence. If this is the case, subcultures that resist mainstream (adult) culture — including school norms — are more likely to develop. That is, students who are monitored less, given fewer activity options, and subject to more influential peer subcultures may be more likely to develop antischool attitudes and behaviors. This situation may increase the number of youth in a neighborhood who choose to drop out of high school.

Social Capital

A third mechanism through which neighborhood context can influence educational outcomes is the amount and quality of social capital (or social networks) that exist in a given community (Wilson 1996). Sampson and Groves (1989) and Wilson (1996) argue that children who live in advantaged neighborhoods are more likely to be exposed to helpful social networks or adults who can provide positive resources, information, and opportunities that may be educationally beneficial (e.g., access to the use of personal computers, job opportunities, or help with a science fair project). Alternatively, individuals in impoverished neighborhoods may be disadvantaged not only by smaller social networks (Wacquant & Wilson 1989) but also by networks that are less beneficial than those in more advantaged neighborhoods as a result of the social position of partners, parents, siblings, and friends (Sampson & Groves 1989). Under these conditions, ties to groups or individuals with few resources could prove to be negative, because those ties represent obligations rather than the ability to draw upon each other's useful information and resources (Portes 1998; Van Haitsma 1989). The importance of neighborhood context is further supported by Wilson's (1996) argument that in impoverished neighborhoods "children are disadvantaged because the social interaction among neighbors tends to be confined to those whose skills, styles, orientations, and habits are not as conducive to promoting positive social outcomes as are those in more stable neighborhoods" (63).

Occupational Opportunity

Wilson (1996) also emphasizes the importance of occupational opportunity in structuring the lives of neighborhood youth. Several researchers have argued that perceptions of occupational opportunity positively affect educational outcomes (Ainsworth-Darnell & Downey 1998; MacLeod 1995; Ogbu 1978; Willis 1976). While most students, regardless of their neighborhood type, are taught that anyone can be successful if they work hard enough, the degree to which this ideology is supported by the concrete experience of adolescents may vary by neighborhood context (Massey, Gross & Eggers 1991; Turner, Fix & Struyk 1991; C. Wilson 1992; W. Wilson 1987). If students are motivated to succeed in school because they believe that education will pay off the form of a good job, then experiencing such discrimination may call into question the association between academic success and job opportunities and may affect their academic effort. Moreover, if youth living in disadvantaged neighborhoods perceive no difference in the occupational prospects of their older peers who completed high school and those who dropped out, they are likely to become discouraged and stop demonstrating academic effort.

Institutional Characteristics

A fifth mechanism through which neighborhood context can influence educational outcomes is the neighborhood's effect on institutional characteristics, such as the schools students attend. While school quality varies from one school district to another, quality also varies with

neighborhood context. For example, neighborhoods may affect school quality through the inability of inner-city neighborhood schools to recruit and retain good educators (Jencks & Mayer 1990). Resulting strains could deteriorate school atmosphere and the school's ability to control student behavior. Wacquant (1996) argues that students from disadvantaged neighborhoods are more likely to attend inferior schools that spend less time on teaching and learning. In support of this claim, Wilson (1996) states that inner-city residents are more likely to complain about uncaring and unqualified teachers and the lack of school resources. Similarly, Simcha-Fagan and Schwartz (1986) argue that neighborhood effects on an individual's association with delinquent peers are primarily indirect and mediated through weak attachment to school. Although such institutional mediation of neighborhood effects seems likely, it has received relatively little theoretical consideration in the neighborhood literature.

A long-term ambition of the present investigation may be extended to addressing the mediation of neighbourhood effects on educational outcomes with the above theoretical processes in mind. The primary goal of the current version is, however, limited to an outline of analytical model and presentation of some preliminary results.

3. Data Set and Measures

Data Sources

The data used for analyses come from two major sources, each subdivided into an immigrant and native-born Swedish segment:

(1) The 1996-97 immigrant survey along with comparable data on the native-born Swedish population. These data contain extensive information on immigrants coming from Turkey, Iran, Chile and Poland.

(2) The 1999 survey of second generation Turks and Poles, along with data on young adults who are native born of native born parents.

We link survey data at the individual level on these immigrant groups and the comparable native-born population with community- or neighborhood-level areal characteristics.

Measures and Definitions

The *Outcome variable* is the individuals' Educational Attainment and has ten levels ranging from "only compulsory education" to "above long post gymnasium education".

Individual Measures

Individual Measures are the Respondent's Age in 1998 (22 or 26), Sex (Male, Female), Current Residence (Metro, Non-Metro) and Ethnicity (Swede, Turkish, Polish).

Family Measures

The *Family level* variables are Parental Education (with 4 levels), Childhood Family Structure (Intact, Nonintact), and Economic condition when growing-up (Mostly very well, Mostly well, mostly poor, Mostly very poor).

Community (Neighbourhood) Measures

The two *Community (Neighbourhood) level* variables are constructs reflecting the community's level of economic well being and immigrant concentration.

The first construct (Econ. Factor) reflects an underlying or latent variable identifiable as a joint measure of a community's level of affluence and nuclear family formation. It is made-up of the community's proportions of men and women employed, the proportion of families with high disposable incomes, the proportion of families including couples, and the proportion of families with two or more children.

By contrast, the second construct (Prob. Factor) measures a community's underlying marginality or undesirability, though it also picks up very dense, primarily urban communities. It is constructed mostly from the community's total population, proportion born in non-European countries, and proportion on social welfare.

[Note: This section needs to be enlarged with a review of the literature on the effects of the above-listed measures on the outcome variable and relating it to the Swedish context]

4. Statistical Model

A Sequential Probit Model

Since the actual educational process requires successful completion of the prior level (grade) for passage into the subsequent one, a sequential decision model accurately reflects the real educational process (Upchurch, Lillard, and Panis, 2002). The model of educational attainment used in this paper specifies the probability of progressing to successively higher grade completion levels, conditional on having completed the next lower level – a discrete sequential choice model. Apart from measures covariates, the sequential probabilities may depend on individual and decision-varying covariates and unobserved heterogeneity in the propensity to continue.

We distinguish ten educational levels as listed below:

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0. Comped (Only Compulsory Education)
1. Comped+ (Comp Educ. & either studying or >1 yr after age 16)
2. Shgym (Only short gymnasial education)
3. Shgym+ (Short gym. & either studying or >2 yr after age 16)
4. Lgym (Only long gymnasial education)
5. Lgym+ (Long gym. & either studying or >4 yr after age 16)
6. Shpgym (Only short post-gymnasial education)
7. Shpgym+ (Short postgym. & either stud. or >6 yr after age 16)
8. Lpgym (Only Long Post gymnasial Education)
9. Lpgym+ (Long postgym. & either stud. or >8 yr after age 16)

Thus, there are up to nine sequential choices of whether to continue to the next level (s = 1, 2, …,9), each conditional on having continued to the previous level.

We use a multilevel sequential probit model of individual choice. Person j progresses from having completed education level s to complete the next level s+1 if his/her propensity to continue" is positive, $I_s > 0$. The probability of progressing is thus determined by the probit index function

$$I_s = \alpha_{0s} + \alpha'_{1s} X_s + \varepsilon^s + u_s \quad \text{for s = 1,2,…,9,}$$

where X_s is a vector of exogenous covariates affecting schooling decisions, $\boldsymbol{\alpha_{0s}}$ and $\boldsymbol{\alpha_{1s}}$ are decision-specific intercepts and coefficients, respectively, ε^s is an individual specific residual term (heterogeneity) affecting all levels of decision, and u_s is a decision specific stochastic element (normalized to $\sigma_{us} = 1$, for all s). Each is assumed to be normally distruibuted:

$$\varepsilon^s \sim N(0, \sigma^2_{\varepsilon s}) \text{ and } u_s \sim \text{iidN}(0, 1)$$

The residual terms are assumed independent of each other and all exogenous covariates X_s. However, as will be mentioned latter, the model does allow for correlation between the individual component ε^s and the endogenous explanatory variables (between the community-specific heterogeneity terms related to various decision process). The model also allows parameters to vary across decisions (hence the s subscript on the parameter vector α); we will estimate two intercepts and two sets of other parameter estimates, one for up to gymnasium level school progression and one for post-gymnasium decisions.

The probability of any given level of completed education, s, (or the aggregate distribution of completed education), conditional on the sequence of covariates X is given by

$$P[s \mid \Xi(s)] = \begin{cases} \int_{\varepsilon^s} f_n\left(\varepsilon^s \mid \sigma^2_{\varepsilon^s}\right) \Phi\left[-(\alpha'_s \underline{X}_s + \varepsilon^s)\right] \prod_{l=1}^{s-1} \left(\alpha'_l \underline{\underline{X}}_l + \varepsilon^s\right) d\varepsilon^s, & s = 0,1,...,8 \\ \int_{\varepsilon^s} f_n\left(\varepsilon^s \mid \sigma^2_{\varepsilon^s}\right) \prod_{l=1}^{s-1} \left(\alpha'_l \underline{\underline{X}}_l + \varepsilon^s\right) d\varepsilon^s, & s = 9 \end{cases}$$

where $\Xi(s)$ denotes the full set of vectors of covariates at each of the decision points, $\underline{X}_l$ is the stacked vector of all covariates at each decision (exogenous and endogenous if any), and $f_n(.)$ is the normal density function.

The model has some important features for our purpose. First, the explanatory variables may differ by decision level, reflecting the changing and dynamic environment of educational decisions over time. A second unique feature is that by modeling schooling progression we allow the "risk set" to change with the level of choice; that is individuals who progress through school may be systematically different in unobserved ways from those who drop out at earlier levels. Heterogeneity in the propensity to continue in school is incorporated via an individual-specific residual term ε^s, which is constant across decisions (and raises or lowers continuation probabilities at all levels).

Conditional Likelihood for a Sequential Probit Model with Heterogeneity

The conditional (on ε^s) likelihood of any observed sequence of decisions may be written as

$$L^s\left[s \mid \Xi(s), \varepsilon^s\right] = \begin{cases} \Phi\left[-(\alpha'_s \underline{X}_s + \varepsilon^s)\right] \prod_{l=1}^{s-1} \Phi\left(\alpha'_l \underline{\underline{X}}_l + \varepsilon^s\right), & s = 0,1,...,8 \\ \prod_{l=1}^{s-1} \Phi\left(\alpha'_l \underline{\underline{X}}_l + \varepsilon^s\right), & s = 9 \end{cases}$$

where Ξ(s) denotes the full set of vectors of covariates at each of the decision points, and the vector of covariates $\underline{X}_l$ at each decision includes the full set of covariates (exogenous and endogenous outcomes of other processes). If a woman is still enrolled in school at the time of the final interview, the education process is censored.

5. Preliminary Results

Our preliminary results are displayed in Tables 1-6 in the Appendix. Table 1 contains summary statistics of the community-level (level 1) and family- and individual-level (level 2) variables. It is shown, among others, that the 2058 individuals analysed here come from communities and that the number of individuals per community varies between 1 and 34. The average educational attainment for the entire sample was 3.34 and about 28% of the individuals come from divorced parents, etc..

Table 2 shows the frequency distribution of the sample across the various levels of the variables, together with mean educational level in each sub-sample. Thus, Polish have the highest educational level (4.60) while Turks have the lowest overall level (3.60) with Swedes' educational level (4.35) close to the overall average (4.33). Table 3 is a more detailed frequency distribution of educational level across the various variables while Table 4 is just another variant of Table 3 in which progression ratios are displayed.

In Table 5, we present a cross tabulation of educational attainment across one of the community-level variables, ethnicity, and sex. We note that individuals coming from neighbourhoods with Low "Problem"-factor have by far the lowest Educational Attainment than those with Medium and High values on this factor. While this may sound contrary to common knowledge, this will be the case in the results from the model as we shall see later. Wee also note that, in general, females have higher attainment (4.40) than males (4.25). Except for Poles, females have higher attainment than males. Sex differentials in educational attainment is minimum among Swedes and highest among Turks.

In Table 6, we present estimates from sequential probit model on the effects of the various covariates on the propensity to continue education. We have grouped the nine transitions into two groups: transitions to the five lowest educational levels (up to gymnasium) in one group and transitions into highest four levels (post gymnasium levels) in another group. Further, we have restricted the coefficients (including the intercept) to be equal within a group, but to differ between the two groups. The baseline categories (not listed in Table 6) are the first levels of each variable (see Table 2 for the entire list of variables and their levels).

The first set of estimates show that individuals comes from a neighbourhoods with medium-level economy perform better than those from neighbourhoods with low-level economy, while those coming from high-economy neighbourhoods do not differ appreciably from those with low-level economy. The "Problem" factor, which is a reflection of immigration concentration (among others), shows that individuals from neighbourhoods with high value on this factor do better in their education.

Parental education has a strong positive effect while disrupted family has a strong negative effect on educational progress. Moreover, the older generation (born in 1972) and those of Turkish origin have lower educational attainment than their respective reference categories.

The second set of estimates in the same Table show that parental education continues to be important determinant of educational attainment even at higher levels of education, while attainment-differentials across the other variables diminishes at higher levels of education. One exception is that the effect of Age at Interview is now reversed. The older generation (born in 1972) achieved worse at lower levels but did better at higher educational levels (??).

6. Discussion and suggestions for future work

Discussion

Discussion on how our results relate with earlier similar studies and the policy implications of the present results (to be included later).

Limitations of the present work (how it may be improved in future works)

The model used here reflects the changing and dynamic environment of educational decisions over time. It would be relevant to incorporate family formation patterns and decisions in modeling educational attainment. For instance, an individual may marry/cohabit. divorce/separate and/or have child within or outside a union (marriage or cohabitation), all while in the process of making educational decisions in high school or college.

The individual-specific heterogeneity term plays an important role in allowing correlation between education and the outcomes of other related processes – which allows us to directly model the endogeneity of marital status and children in modeling educational attainment. Thus, the model can explicitly incorporate the testable possibility that marriage and fertility outcomes (among others) are endogenous to educational decisions. In such a case they will be correlated with the individual heterogeneity term ε^s at the aggregate level. Failure to incorporate or adjust for endogeneity will result in inconsistent (asymptotically biased) estimates of the parameters of the educational choice equations. Thus, a more comprehensive model that jointly models multiple outcomes in individuals' transition to adulthood (such as family formation, fertility, labor force participation, and educational attainment) would be a more suitable approach to our present problem.

Further, the data used in the present study does not include an explicit information on whether an individual is still enrolled. Thus, we have assumed that all individuals in our sample have completed their education. Though modelling issues get a bit more complex when some respondents are still in school, it is inappropriate to, for instance, include someone with EdAtt = 3 but still in school in the model for transition from level 3 to level 4. This is so because s/he has not yet decided to leave school after obtaining EdAtt = 3.

Third, convergence problems have made it impossible to estimate the variance of heterogeneity terms at both the individual and community levels in the present analysis. However, we intend to pursue further this issue in the near future.

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(Note that this is "an entire catalogue" – most of those listed here are not yet incorporated in the text, and others – cited in the text – do not appear in the list).

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Appendix: Tables of Empirical Results

Table 1: Documentation for 'C:\Program\aML2\EducAtt_2003\AmlOut_2.dat'
Created on Tue May 20 16:20:49 2003 with raw2aml version 2.00.
Ascii data set: 'C:\Program\aML2\EducAtt_2003\AmlInp_2.dat'

Number of observations (Communities): 676
Maximum number of level 2 branches in any observation: 34
(Maximum number of individuals from the same community)

LEVEL 1 VARIABLES:

Variable	N	Mean	Std Dev	Min	Max
_id	676	338.5	195.2887	1.0	676.0
Econ	676	1.156805	0.8955683	0.0	2.0
Prob	676	0.5073964	0.7292442	0.0	2.0

LEVEL 2 VARIABLES:

Variable	N	Mean	Std Dev	Min	Max
EdAtt	2058	4.340136	2.062219	0.0	9.0
ParEd	2058	1.333333	1.025995	0.0	3.0
Fam	2058	0.2789116	0.4485729	0.0	1.0
ECond	2058	0.9873664	0.730498	0.0	3.0
Resid	2058	0.6404276	0.4799917	0.0	1.0
Age	2058	0.4698737	0.4992129	0.0	1.0
Sex	2058	0.5262391	0.4994324	0.0	1.0
Ethn	2058	0.303207	0.6121437	0.0	2.0

Table 2: Frequency distribution of the sample and mean-level of educational attainment across various variables.

	Covariate/levels	#	%	Mean Educ. level
Community-level variables	**Economy Factor**			
	Low	678	32.9	4.20
	Medium	696	33.8	4.64
	High	684	33.2	4.10
	Problem Factor			
	Low	684	33.2	3.81
	ProbFac (Med)	685	33.3	4.61
	ProbFac (High)	689	33.5	4.42
Family-level variables	**Parental Educ.**			
	Below Gymnassie	479	23.3	3.54
	Short Gymnasium	789	38.3	3.89
	Long Gymnasium	415	20.2	4.70
	College	375	18.2	5.43
	Family of Origin			
	Intact	1484	72.1	4.63
	Disrupted	574	27.9	3.85
	Family Economy			
	Mostly very well	472	22.9	4.53
	Mostly well	1230	59.8	4.40
	Mostly poor	266	12.9	4.27
	Mostly very poor	90	4.4	3.03
Ind.-level var.	**Residence**			
	Metro	740	36.0	4.21
	Non Metro	1318	64.0	4.43
	Age at Interview			
	22 years	1091	53.0	4.43
	26 years	967	47.0	4.20
	Sex			
	Male	975	47.4	4.25
	Female	1083	52.6	4.40
	Ethnic Backgr.			
	Swede	1602	77.8	4.35
	Polish	288	14.0	4.60
	Turkish	168	8.2	3.60
	Total	2058	100	4.33

Table 3:

	Respondent's Educational Attainment	Frequency	%	Cum %
0	Comped (Only Compulsory Education)	86	4.2	4.2
1	Comped+ (Comp Educ. & either studying or >1 yr after age 16	136	6.6	10.8
2	Shgym (Only short gymnasial education)	202	9.8	20.6
3	Shgym+ (Short gym. & either studying or >2 yr after age 16	196	9.5	30.1
4	Lgym (Only long gymnasial education)	431	20.9	51.1
5	Lgym+ (Long gym. & either studying or >4 yr after age 16	478	23.2	74.3
6	Shpgym (Only short post-gymnasial education)	98	4.8	79.1
7	Shpgym+ (Short postgym. & either stud. or >6 yr after age 16	365	17.7	96.8
8	Lpgym (Only Long Post gymnasial Education))	47	2.3	99.1
9	Lpgym+ (Long postgym. & either stud. or >8 yr after age 16)	19	0.9	100.0
	Total	2058	100.0	

Table 4: Summary statistics of Educational Progression

EdAtt	Educational Level	# Cases	Cases with no progress	Progression Ratios
0	Only Compulsory Education	2058	86	95.82
1	Comp Educ. & either studying or >1 yr after age 16	1972	136	93.10
2	Only short gymnasial education	1836	202	89.00
3	Short gym. & either studying or >2 yr after age 16	1634	196	88.00
4	Only long gymnasial education	1438	431	70.03
5	Long gym. & either studying or >4 yr after age 16	1007	478	52.53
6	Only short post-gymnasial education	529	98	81.47
7	Short postgym. & either stud. or >6 yr after age 16)	431	365	15.31
8	Only Long Post gymnasial Education	66	47	28.79
9	Long postgym. & either stud. or >8 yr after age 16	19	-	-
Total	Total			

Table 5: Cross tables of mean values of Educational Attainment (with 10 levels scaled from 0 = lowest to 9 = highest) across three variables (the "Problem" Factor, Ethnicity, and Sex).

"Prob" Factor	Swedes		Poles		Turks		Total		Gr Tot.
	Males	Females	Males	Females	Males	Females	Males	Females	
Low	3.66	3.98	4.10	3.88	3.00	4.00	3.68	3.96	**3.81**
Medium	4.53	4.70	4.60	4.96	3.93	3.64	4.51	4.70	**4.61**
High	4.56	4.56	5.19	4.35	2.97	4.03	4.43	4.41	**4.42**
Total	**4.25**	**4.44**	**4.75**	**4.49**	**3.18**	**4.33**	**4.25**	**4.40**	
	4.35		**4.60**		**3.60**				**4.33**

Table 6: Estimates of covariate effects on the propensity to progress to various Educational levels.

		Up to gymnasium Educ. levels			Post-gymnasium Educ. levels		
	Covariate	**Estimate**	**Std. Err.**	**T-value**	**Estimate**	**Std. Err.**	**T-value**
	Constant	0.932***	0.094	9.932	-0.645***	0.189	-3.408
Community-level variables	**Economy Factor**						
	Medium	0.103**	0.049	2.092	-0.012	0.098	-0.119
	High	-0.0189	0.048	-0.390	-0.074	0.101	-0.733
	Problem Factor						
	ProbFac (Med)	0.226***	0.050	4.528	0.169	0.105	1.617
	ProbFac (High)	0.144**	0.058	2.479	0.172	0.120	1.436
Family-level variables	**Parental Educ.**						
	Short Gymnasium	0.070	0.060	1.168	0.193	0.136	1.420
	Long Gymnasium	0.364***	0.066	5.503	0.283**	0.134	2.111
	College	0.704***	0.078	9.060	0.369**	0.147	2.513
	Family of Origin						
	Disrupted	-0.269***	0.051	-5.293	-0.107	0.099	-1.084
	Family Economy						
	Mostly well	0.043	0.062	0.694	0.042	0.101	0.416
	Mostly poor	0.113	0.079	1.432	-0.018	0.146	-0.120
	Mostly very poor	-0.205**	0.101	-2.034	-0.017	0.254	-0.067
Ind.-level var.	**Residence**						
	Non Metro	0.081	0.050	1.627	0.012	0.094	0.123
	Age at Interview						
	26 years	-0.178***	0.043	-4.156	0.487***	0.079	6.174
	Sex						
	Female	0.022	0.045	0.495	0.099	0.082	1.206
	Ethnic Backgr.						
	Polish	-0.065	0.064	-1.015	0.085	0.123	0.693
	Turkish	-0.183**	0.081	-2.261	0.076	0.180	0.425

**: Estimate statistically significant at 5% significance level
***: Estimate statistically significant at 1% significance level