

Will my child ever go to a university?

The link between school segregation practices and Norwegian parents' expectations for their physically disabled child

Jon Erik Finnvold

Norwegian Social Research (NOVA), Oslo and Akershus University College

Abstract

How parents perceive their children's educational prospects can reveal a great deal about how their children will progress in the educational system. The paper examines the consequences of variations in inclusive education practices by investigating determinants of parents' educational expectations for their child. All parents included in the study had children with physical disabilities in primary school (mainly cerebral palsy and spina bifida). The empirical material includes results from a survey (Net sample = 491), in combination with information merged from a range of official registers. The results showed that the more the child is segregated from ordinary classroom education, the lower parental expectations are for their children's educational attainments. Other factors also significantly influencing parents' educational expectations include how parents' view their child's school performance, as well as various measures of the severity of the child's physical disability. However, these secondary factors could not account for the empirically strong association between segregation practices and parental expectations. Parental expectations were also significantly related to parental income and education. The findings indicate that the expectations of parents with higher income and education are less affected by school segregation practices.

Keywords: School segregation, physical disability, social inequality

Introduction

A relatively low educational achievement level for people with disabilities is recorded in a number of international studies. In England, an ‘attainment gap’ is found between children with and without special educational needs and disabilities: by the end of compulsory education, only 16.5% of children with special educational needs had achieved the expected level of academic attainment, compared to 61.3% for children with no special education needs (Humphrey, Wigelsworth and Barlow et al. 2013). A Norwegian study shows that in 2010 as much as 64% of a population of physically disabled people between ages 25 to 45 had never completed a secondary education, compared to 17% for the general population of the same age (Finnvold 2013).

This paper focuses on one factor with a potential influence on this achievement gap, namely parental aspirations or expectations for their children’s educational prospects. Recent research suggests that parental expectations for their offspring’s education closely predict the children’s own expectations (Benner and Mistry 2007; Beutel and Anderson 2008; Kirk, Lewis-Moss & Nilsen et al. 2011; Rimkute, Hirvonen and Tolvanen et al. 2012). The children’s expectations – and indirectly their parents’ – also affect their actual performance (Marjoribanks 2003; Scott-Jones 1995; Wood, Kurtz-Costes and Rowley et al. 2010). This paper explores the actual variations in expectations within a population of parents with children with physical disabilities. In particular, it investigates the extent to which variations in segregating practices in the contemporary Norwegian primary school environment contribute to differences in parental expectations.

Physical disability, school segregation and expectations

Over the past 60 years, the level of societal expectations of what people with physical disabilities can achieve in the educational system has been increasing. At the start of the 1950s Norwegian children with cerebral palsy (the most common physical disability) were not offered any public education, simply because of the prevailing societal belief that they could not benefit from it. In the mid- to late 1950s, on the initiative of the Norwegian Cerebral Palsy organisation, special institutions were set up. From the mid-1960s the institutionalisation of children with cerebral palsy was replaced by the establishment of both special schools and special classes in ordinary schools (Holte 2000). This change of policy allowed children with cerebral palsy to stay with their families and attend schools in their

local area. Whilst the number of special schools for people with disabilities peaked in 1980, it fell during the 1980s (Kunnskapsdepartementet 2009). In 2010 fewer than 2000 children were in Norwegian special primary schools (Rix, Sheehy and Fletcher-Campbell et al. p.122).

Norwegian children who are identified with learning difficulties receive special educational teaching. The number of children receiving special education has been increasing, totalling 8.6% of all primary school pupils in 2011 (Rix, Sheehy and Fletcher-Campbell et al. 2013). Despite the overall intention of integrating all children in conventional classes, a significant part of the special education takes the form of segregated education practices (Wendelborg and Tøssebro 2008, 2011). Parents with children in integrated school settings reported more teacher demand for achievement than did parents with children in special schools (Connor and Ferri 2007). It is therefore likely that segregation practices represent manifestations of expectations that teachers and professionals have towards specific groups or individuals, signals that might in turn be transmitted to and influence the parents' expectations as well. A US study has shown that high mother expectations represent a buffer in the face of low teacher expectations: outcomes tended to be better for children with a combination of low teacher expectations and high parent expectations, compared to children with low expectations from both parents and teachers (Benner and Mistry 2007). As children with disabilities constitute a group that is more susceptible to low teacher expectations, parental expectations are likely to have a particularly important role to play in this regard.

Individual child influences on parental expectations

Parental expectations will in part depend on the degree of segregation, including measures of how much time that their children take part in ordinary classroom education or attend special schools. The chances of being segregated are influenced by a number of factors that at the same time influence parental expectations. To better understand the direct influence of segregation practices on parental expectations, I build several individual child and family characteristics into the analysis. Children with disabilities vary in their cognitive and functional capacity. For example, whilst cerebral palsy is the most frequent diagnostic category for children with physical disabilities, for many of these children the diagnosis is hardly noticeable, with minor consequences. However, in comparison to the general population, co-morbidity amongst children with disabilities is nonetheless more frequent, as are additional functional limitations related to the senses and to difficulties in learning,

perception and verbal communication (Andersen, Skog and Svalund 2008; Kennes, Rosenbaum and Hanna et al. 2002; Odding, Roebroek and Stam 2006). Such variation will clearly have an impact on how parents perceive their children's educational possibilities. Variations will also influence the children's chances of being segregated from ordinary classroom education. Consequently, several indicators of cognitive and functional capacity are built into the empirical analysis.

Family influences on parental expectations

Segregation practices are also influenced by the children's family background. A recent study from Poland documents that children with disabilities from families with a higher socio-economic status (SES) were more likely to end up in integrative and regular schools than children from lower SES families, who more often were assigned to special schools (Szumski and Karwowski 2012). Evidence from several studies also suggests that boys and members of ethnic minority groups are over-represented in segregated education practices (Barton 1997; Hibell, Farkas and Morgan 2010; Shifrer, Muller and Callahan 2010). It follows that the empirical effect of segregation practices is likely to be filtered by the SES and ethnic background of the families, and consequently has to be built into the analysis.

Independently of the parental SES impact on the likelihood of the child's being segregated, parents' educational expectations will most likely be influenced by their own educational achievements. In Norway, the Scandinavian self-image of equality of opportunities has a limited application to the field of education (Reisel 2011), and strong SES gradients in educational attainments are well documented (Andersen and Hansen 2012). Previous research has shown that parental expectations are linked to the parents' own level of education, with parental achievement beliefs indirectly influencing child achievement (Davis-Kean 2005). Income might also have an effect on educational expectations. In a US study, Lareau observed that wealthy families with low-achieving children often sent their children to summer schools or arranged private additional tutoring to compensate for their children's learning difficulties (Lareau 1987; Lareau and Horvat 1999). However, results from a review of mainly American studies reported contradictory findings regarding parental social background and beliefs about their parenting roles in education (Hoover-Dempsey and Sandler 1997, p. 16).

Although compensating schemes for families with children with disability exist in Norway, the income generated will hardly balance the extra expenses associated with many forms of disability. Moreover, caring for children with disabilities will in some cases limit parents' labor market participation, further restricting their financial ability to provide extra educational resources. Thus parents who are in a position to, and have the motivation to spend extra resources toward their children's education will likely also have higher expectations.

The significance of ethnicity is not straightforward. One study shows the existence of negative stereotypes about African American boys in their mothers' beliefs about their sons' and daughters' academic competence, favoring girls over boys in academic domains (Wood et al. 2010). In general, minority parents might be expected to view education as a vehicle for upward social mobility and therefore have higher-than-average expectations (Kirk et al. 2011). In addition to SES, gender and ethnicity, family structure may also have an impact on expectations. As several studies have shown lower educational achievements amongst children in single-parent families, any analysis of variations in expectations must therefore take family status into account.

Expectations and disability studies

Research into the expectations of parents with children with disabilities compared to other groups is scarce and hard to come by. One study suggests that parents expect as much from their children with disabilities as they do from other children, and that progress in assistive technology, i.e. the availability of computers and universal design, foster parental beliefs in the possibility of achieving a higher education (Grigal and Neubert 2004; Masino and Hodapp 1996). Another study finds that for children with disability, family SES was a significant predictor of academic achievement and self-concept (Ju, Zang and Katsiyannis 2013). In a study from the US, parental expectations for their children's ability to graduate from high school was found to have a positive effect on achievement for children receiving special education (Zhang, Hso and Kwok et al. 2011). The study also analysed the possible empirical impact of SES and ethnicity on parent expectations, and concluded that whilst ethnicity could not predict expectations, fewer parents from low SES families expected their children to graduate from high school.

Methods

Population of investigation

The population under investigation was identified through an official register that included recipients of compensatory cash benefits. In Norway, families with a child with a disability or a chronic disease may apply for public income support to compensate for expenses related to the severity of the disease. Such benefits are granted by the Norwegian Labour and Welfare Service (NAV). The cash benefits are of two types: the *basic benefit*, which is intended to compensate for additional expenses related to the disability or chronic disease, and the *attendance benefit*, which compensates families for expenses related to home care and nursing of the child. To be entitled to a benefit, the child must suffer from a chronic condition, even after an adequate treatment programme is established. The family sends an application to the local labour and welfare service. A physician-certified, official diagnosis must be included in the application, documenting the child's condition. The diagnosis and the severity of that condition constitute the only valid criteria for receiving the benefits; neither income nor any other aspects of the family situation are considered.

Definition of physical disability

Based on the availability of diagnoses in the register of basic and attendance benefits, 'physical disability' in this study includes cerebral palsy (about 80% of total sample, ICD-10 code G80) and spina bifida (10 %, ICD-10 code Q5). The remaining 10% contained neurological conditions with implications for physical disability (ICD-10 codes Q71-73, Q78.0, G12, G70-73).

Sample and response rate

A total of 804 mothers and fathers with a child between 6 and 16 years of age (per. 01.01.2012) having a confirmed diagnosis related to physical disability were identified in the register of the NAV. In most cases, the children lived either with both their parents or with their mother. A postal questionnaire was sent to the mother's address. When the child lived only with the father, then the father received the questionnaire. Organised and prepared by

Statistics Norway, the questionnaire was collected in April–June 2012. A total of 491 answers were received, resulting in a response rate of 61%. This response rate is normally considered a respectable result, as it matches the same level as surveys that Statistics Norway conducts using CATI-based personal interviews. Access to information available in official registers allowed me to compare the net sample with the non-responders. Non-responders tended to have lower education than responders (response rate of 50% for parents with primary education as their highest achieved education, compared to 69% for those with a university education of any duration). Although response rates were also lower for one-parent families, the difference was not statistically significant. The level of cash benefits (an indicator of relative need) had no impact on the parents' tendency to respond, nor did the country of origin. Somewhat surprisingly, parents born in non-western countries (i.e. outside the EU, the OECD, the US, Canada, Australia and New Zealand) tended to have an average response rate.

Merging of registers

Given the availability of unique personal identification numbers available for the basic and attendance benefit register, as well as for a number of other official registers available for all persons with a personal residence in Norway, I could construct a file with information about educational attainment, the individual's family background, and other relevant variables. The variables used in the study are as follows:

- Educational attainments: Individually based official education statistics collected by Statistics Norway document the educational activities of all Norwegian residents from completion of lower secondary school to completion of all tertiary education.
- Severity of condition: The benefits register also includes information about the amount of benefits that the family received in 2008. Families in the lowest quartile received an average amount of 5,600 NOK (about 680 euros), families in the highest quartile 36,400 NOK (about 4,400 euros). The variation in the amount of received benefits can be considered an indicator of the severity of the disease.
- Information about parents' income: This data was derived from tax registers.
- Co-resident biological parents: Population statistics were used for identifying individuals living at the address of both biological parents.

- Age and gender: Information about age and gender was retrieved from the general population register.
- Country of origin: Information in the general population register made possible the identification of the parents' country of origin.

Questionnaire

From the results of the survey questionnaire, several measures were included for capturing the parents' aspirations for their children's educational career. Other measures were related to inclusive education practices, the children's functional ability and parents' perceptions of their children's performance in school. The precise wording of the questionnaire items is presented in Table 1.

Statistical analysis

The data were analysed using multiple logistic regression models.

Characteristics of sample

The characteristics of the sample appear in Table 1. To some extent boys are over-represented, an expected result given that the frequency of disability in many cases is over-represented amongst boys. Younger age groups appear under-represented. As not all parents are aware from the outset of the possibility of applying for benefits, many will acquire this knowledge at later stages and apply then. As the table shows, the children's functional status varies considerably, from those able to walk unassisted (23%) to those who are dependent on a wheelchair operated by others (19%). The amount of benefits that the families receive is grouped into three categories indicating variations in the level of need for assistance as formally ascertained by the Norwegian national insurance organisation. The group with the least need (22% of sample) received an annual amount of 14,000 NOK (about 1,650 euros) whereas the group with the highest level of need (18% of sample) received 94,000 NOK (about 11,100 euros).

As the table makes clear, a majority of the children were fully integrated in regular classroom education (44%). However, as many as 20% of the children spent less than half of the time in regular classrooms, and 14% attended special schools.

Table 1. Sample characteristics

| | |
|--|-----|
| Gender | |
| Boy | 58 |
| Girl | 42 |
| Total | 100 |
| Grade in primary school | |
| 1-4 | 21 |
| 5-7 | 37 |
| 8-10 | 42 |
| Total | 100 |
| Ability to walk | |
| Can walk unassisted | 23 |
| Walk unassisted, but not long distances | 17 |
| Can walk, but restricted mobility | 20 |
| Usually use a wheelchair, but operate it independently | 21 |
| Dependent on a wheelchair that has to be operated by others | 19 |
| Total | 100 |
| Amount of compensatory cash benefit (annual mean NOK) | |
| Low (14 260) | 22 |
| Medium (46 598) | 60 |
| High (94 107) | 18 |
| Total | 100 |
| Family | |
| Lives with both parents | 77 |
| Lives with one parent | 23 |
| Total | 100 |
| Mothers' country of birth | |
| Norway, EU, USA, Canada, Australia, New Zealand | 89 |
| Asia, Africa, South America | 11 |
| Total | 100 |
| Mothers' educational attainment | |
| Primary school | 17 |
| Secondary school | 38 |
| University/tertiary education | 45 |
| Total | 100 |
| Parent's income level (annual mean NOK) | |
| Low (1 quartile, 434 966) | 25 |
| Low/medium (2 quartile, 591 004) | 25 |
| Medium/high (3 quartile, 690 0086) | 25 |
| High (4 quartile, 1024 815) | 25 |
| Total | 100 |
| Inclusion in regular classroom education | |
| In a regular class all of the time | 43 |
| In a regular class at least half the time | 24 |
| In a regular class less than half the time | 20 |
| In a special school | 14 |

| | |
|---|-----|
| Total | 100 |
| Parents evaluation of the child's school performance | |
| Very good | 18 |
| Good | 29 |
| Average | 23 |
| Below average | 30 |
| Total | 100 |

Results

Descriptive statistics

Table 2 shows how parents vary in their expectations. The first row shows that 17% believe that their child will end with only a primary education, that 47% expect that their child will pass secondary education, and that 36% assume that their child will obtain a university education. In sharp contrast, the second row shows the actual achievements of a previous generation of the physically disabled (born 1965-1985), drawn from the same register comprising the same diagnoses. In this comparative sample, as many as 64% of the children with disabilities ended with primary education as their highest completed education, with only 14% acquiring a university education. The third row shows the results from a random sample drawn from the general population born 1965-1985. Interestingly, the actual achievements of this third group correspond to the parental expectations for their disabled child. As most of the parents in this last group are likely between ages 25 and 45, it follows that parents expect their disabled children to acquire an educational level similar to that which their own generation achieved.

Table 2. Educational expectations and actual achievements. Sample with and without physical disability. %.

| | Total | Primary edu- cation | Secon- dary edu- cation | Univer- sity/ tertiary edu- cation | (N) |
|---|-------|---------------------------|-------------------------------|--|---------|
| <i>Individuals with physical disability:</i> | | | | | |
| Parental responses to the question 'What length of education do you think that your child will achieve'. 2012 | 100 | 17 | 47 | 36 | (462) |
| Sample born 1965 – 1985, actual achievements in 2010 | 100 | 64 | 22 | 14 | (1750) |
| General population born 1965 – 1985, actual achievements in 2010 | 100 | 17 | 42 | 41 | (19800) |
| Based on a previous register analysis | | | | | |

Table 3 presents the variation in the educational expectations for each variable. Expectations for girls are slightly higher than for boys. Expectations appear to decrease when the child approaches the end of primary school. Immigrants seem to have moderately higher expectations; and single parents, slightly lower expectations. A clear pattern emerges for the connection between the mother's education and her expectations. A total of 26% of mothers with only primary school education expect their children to achieve a university education, compared to 47% for mothers with a completed university education. A similar association exists for income: For the lowest income group, 25% of the parents expect their child to obtain a university education, corresponding figure for parents in the highest income group was 53%.

Although clear patterns exist between income, education and expectations, far more noticeable gradients exist for expectations and measures of school performance, ability to walk, amount of received cash benefits (an indicator of the need for assistance), and school segregation. As expected, a very close correlation between performance and parental expectations can be observed. The same applies to the ability to walk and the indicator of the need for assistance. Inclusion practices also appear to have a marked impact on parental expectations. Expectations are particularly low for children who spend less than half of their time in a regular class: only 2% of the parents of those children expect their child to attend university.

Table 3. Descriptive statistics. **Parental expectations regarding their children's educational prospects. %. (N).**

| | Response to the question 'What length of education do you think that your child is going to have?' | | | | |
|--|--|-------------------|---------------------|--------------------------------|-------|
| | | Primary education | Secondary education | University/ tertiary education | |
| Total | 100 | 17 | 47 | 36 | (462) |
| Gender | | | | | |
| Boy | 100 | 17 | 49 | 34 | (264) |
| Girl | 100 | 17 | 42 | 40 | (198) |
| Grade in primary school | | | | | |
| 1-4 | 100 | 25 | 35 | 40 | (97) |
| 5-7 | 100 | 19 | 41 | 40 | (173) |
| 8-10 | 100 | 12 | 56 | 32 | (208) |
| Ability to walk | | | | | |
| Can walk unassisted | 100 | 8 | 43 | 49 | (97) |
| Walk unassisted, but not long distances | 100 | 10 | 37 | 53 | (79) |
| Can walk, but restricted mobility | 100 | 16 | 53 | 31 | (91) |
| Usually use a wheelchair, but operate it independently | 100 | 16 | 46 | 38 | (94) |
| Dependent on a wheelchair that has to be operated by others | 100 | 39 | 52 | 8 | (71) |
| Amount of compensatory cash benefit | | | | | |
| Low (14 260) | 100 | 26 | 59 | 15 | (96) |
| Medium (46 598) | 100 | 17 | 45 | 38 | (280) |
| High (94 107) | 100 | 7 | 34 | 59 | (86) |
| Parents' evaluation of the child's school performance | | | | | |
| Very good | 100 | 1 | 11 | 88 | (80) |
| Good | 100 | 5 | 44 | 52 | (132) |
| Average | 100 | 11 | 62 | 27 | (107) |
| Below average | 100 | 43 | 56 | 2 | (131) |
| Family | | | | | |
| Lives with both parents | 100 | 17 | 44 | 39 | (413) |
| Lives with one parent | 100 | 16 | 54 | 30 | (104) |
| Mothers' country of birth | | | | | |
| Norway, Europe | 100 | 18 | 46 | 36 | (413) |
| Asia, Africa, South America | 100 | 10 | 45 | 45 | (49) |

Mothers' educational attainment

| | | | | | |
|-------------------------------|-----|----|----|----|-------|
| Primary school | 100 | 22 | 52 | 26 | (73) |
| Secondary school | 100 | 17 | 55 | 27 | (172) |
| University/tertiary education | 100 | 15 | 38 | 47 | (208) |

Parent's income level

| | | | | | |
|------------------------------------|-----|----|----|----|-------|
| Low (1 quartile, 434 966) | 100 | 28 | 48 | 25 | (109) |
| Low/medium (2 quartile, 591 004) | 100 | 14 | 49 | 37 | (112) |
| Medium/high (3 quartile, 690 0086) | 100 | 16 | 50 | 34 | (113) |
| High (4 quartile, 1024 815) | 100 | 10 | 37 | 53 | (117) |

Inclusion in regular classroom education

| | | | | | |
|--|-----|----|----|----|-------|
| In a regular class all of the time | 100 | 3 | 31 | 66 | (206) |
| In a regular class at least half the time | 100 | 15 | 59 | 27 | (116) |
| In a regular class less than half the time | 100 | 47 | 51 | 2 | (86) |
| In a special school | 100 | 28 | 69 | 4 | (54) |

Table 4 displays the connection between parental education and expectations for groups of children with different school performance. The results in the final column (parents who expect their children to acquire a university education) clearly show that, regardless of the parents' assessment of school performance, parents with a higher education are considerably more likely to expect their children to end up with a university education.

Table 4. Educational level in groups of parents according to their assessment of children's present school performance and future educational prospects. Percent. (N). 2012

| School performance | Parents educational expectations on behalf of their physically disabled child | | | | | | | | | | | |
|--------------------|---|-----------|----------|------|---|-----------|----------|------|--|-----------|----------|------|
| | Expect child to acquire primary education | | | | Expect child to acquire secondary education | | | | Expect child to acquire tertiary education | | | |
| | Parents' own level of educational attainment | | | | | | | | | | | |
| | Primary | Secondary | Tertiary | (N) | Primary | Secondary | Tertiary | (N) | Primary | Secondary | Tertiary | (N) |
| Very good | (1) | | | | (9) | | | | 9 | 31 | 60 | (68) |
| Good | (5) | | | | 16 | 48 | 36 | (58) | 17 | 20 | 63 | (65) |
| Average | (11) | | | | 17 | 48 | 35 | (66) | 7 | 41 | 52 | (29) |
| Below average | 27 | 34 | 39 | (56) | 15 | 42 | 43 | (72) | (1) | | | |

Multivariate analyses

Table 5 displays the results from a series of stepwise multivariate regression analyses (models 1-3). The first row presents the odds-ratio from univariate analyses. In addition to documenting statistically significant correlations, the present odds-ratios can be used for comparing changes when more variables are included in the multivariate analyses (models 1-3). Model 1 includes individual factors such as gender, age, functional ability, level of compensatory benefit (perception of assistance needed as estimated by the Norwegian Labour and Welfare Service, NAV), and parents' evaluation of school performance.

As expected, and as previously observed in the descriptive statistics, parents' expectations are strongly correlated with their evaluation of their child's school performance. A strong correlation also exists between the level of cash benefits and parental expectations. Importantly, the results show a marked difference in the odds-ratios for the variable describing functional ability (model 1, second row) compared to the odds-ratios in the univariate analysis (model 1, first row). Parents of children in the category 'usually use a wheelchair but drive independently' are significantly more likely to believe that their child will acquire a university education than the reference group with children who can walk unassisted (odds-ratio of 2.90, model 1). In the univariate analyses, the direction of the empirical association was the opposite (odds-ratio of 0.64, not significant). A comparison of two groups of parents with the same assessment of their children's school performance shows that those parents with a child using a wheelchair that he or she can operate himself or herself have higher expectations for their child than do parents of children who can walk unassisted. Inclusion of the variable describing educational performance appears to actually change the expected direction between expectations and functional ability.

Including family variables in model 2 shows that, irrespective of functional ability or school performance, children of parents with university education and parents in the highest income group have markedly higher expectations for their children. A substantial decrease in the log-likelihood of the model indicates that the family variables significantly increase the descriptive power of model 1 over model 2.

In model 3 the degree of inclusion in ordinary classroom education is added. A reduction in the log-likelihood confirms that segregation has an independent effect on parental expectations. Model 3 also validates the finding of no linear correlation between functional ability and expectations. Indeed, parents of children who can walk unassisted have a lower

odds-ratio than all the other groups. The association was significant for only two of the groups: those who can walk unassisted but not for long distances, and children dependent on a wheelchair that they can operate independently. In model 3, where income is the important SES variable, parents in the highest income group are almost four times more likely to expect their children to acquire a university education than parents in the lowest income group.

In terms of odds-ratios, segregated children in ordinary schools and children attending special schools are the two groups with the lowest parental expectations. Strong correlations also exist between school performance and expectations.

Table 5. Logistic regression analysis. Probability of parents expecting their children to acquire a university education. Odds-ratio

| | Univariate analyses | Multivariate analyses | | |
|--|---------------------|--------------------------------|--------------------------------|--------------------------------|
| | Odds-ratio | Model 1 Adjusted odds-ratio | Model 2 Adjusted odds-ratio | Model 3 Adjusted odds-ratio |
| Gender | | | | |
| Boy | 1 | 1 | 1 | 1 |
| Girl | 1.31 | 1.41 | 1.47 | 1.45 |
| Grade in primary school | | | | |
| 1-4 | 1 | 1 | 1 | 1 |
| 5-7 | 1.01 | 1.39 | 1.24 | 1.38 |
| 8-10 | 0.69 | 0.66 | 0.53 | 0.61 |
| Ability to walk | | | | |
| Can walk unassisted | 1 | 1 | 1 | 1 |
| Walk unassisted, but not long distances | 1.18 | 2.06 | 2.24 | 2.67* |
| Can walk, but restricted mobility | 0.46* | 1.14 | 0.99 | 1.60 |
| Usually use a wheelchair, but operate it independently | 0.64 | 2.90* | 2.62 | 2.93* |
| Dependent on a wheelchair that has to be operated by others | 0.10*** | 0.54* | 0.48 | 1.17 |
| Amount of compensatory cash benefit | | | | |
| Low (14 260) | 2.43*** | 2.10*** | 1.88 | 1.34 |
| Medium (46 598) | 1 | 1 | 1 | 1 |
| High (94 107) | 0.28*** | 0.14*** | 0.13*** | 0.17** |
| Parents' evaluation of the child's school performance | | | | |
| Very good | 1 | 1 | 1 | 1 |
| Good | 0.39*** | 0.32*** | 0.29*** | 0.30*** |
| Average | 0.38*** | 0.30*** | 0.28*** | 0.31*** |
| Below average | 0.22*** | 0.20*** | 0.15*** | 0.19*** |
| Family | | | | |
| Lives with both parents | 1 | - | 1 | 1 |
| Lives with one parent | 0.67 | - | 0.77 | 0.93 |
| Mothers' country of birth | | | | |
| Norway, Europe | 1 | - | 1 | 1 |
| Asia, Africa, South America | 1.46 | - | 1.71 | 1.72 |
| Mothers' educational attainment | | | | |
| Primary school | 1 | 1 | 1 | 1 |
| Secondary school | 1.07 | - | 0.90 | 0.87 |
| University/tertiary education | 2.53*** | - | 2.11 | 1.78 |
| Parents' income level | | | | |
| Low (1 quartile, 434 966) | | | | |
| Low/medium (2 quartile, 591 004) | 1.75 | - | 1.74 | 2.30 |
| Medium/high (3 quartile, 690 0086) | 1.54 | - | 1.47 | 1.46 |
| High (4 quartile, 1024 815) | 3.42*** | - | 3.13* | 3.92** |
| Inclusion in regular classroom education | | | | |

| | | | | |
|--|---------|---------|---------|---------|
| In a regular class all of the time | 1 | - | - | 1 |
| In a regular class at least half the time | 0.19*** | - | - | 0.34** |
| In a regular class less than half the time | 0.01*** | - | - | 0.08** |
| In a special school | 0.02*** | - | - | 0.06** |
| Log likelihood | - | -160.56 | -141.70 | -127.68 |

*p < 0.05, **p < 0.01, ***p < 0.001;

Discussion

Segregation practices have a strong empirical impact on parental expectations. Segregated children who spend less than half their time in ordinary classes or who attend special schools are almost never expected to complete a university education. This finding holds even when variables such as functional status, assessment of individual need for assistance (cash benefit), or parents' evaluation of school performance are included in the analyses. Special education implies supplemented resources intended for boosting and aiding the children's educational performance. When special education takes the form of segregation, the end result is the opposite: segregation practices systematically lower the expectations that parents have for their children's educational prospects and most likely lower the children's belief in their own prospects in the educational system. Stereotypes about the academic capabilities of children with disabilities may create a negative feedback loop, thereby contributing to the perpetuation of the gap in educational outcomes between children with physical disabilities and other children (table 2). The situation appears to be such a feedback loop, whereby the teachers' reduced expectations lower the students' self-image and effort, in turn leading the teacher to present less demanding material, in turn resulting in reduced cognitive achievement (Farkas, Grobe and Sheehan et al. 1990).

An important question here is why segregation practices have these particular effects on parental expectations: what is the actual quality of the special education offered in Norway to children with physical disabilities, and must this teaching take the form of segregated practices?

As most studies of inequalities in educational opportunity in Scandinavia challenge the egalitarian self-image of universalistic welfare state regimes, this study is no exception. The multivariate analysis shows that the higher income groups in particular have a markedly more optimistic view of their children's educational future. One possible interpretation of this finding is teacher bias: the teacher perceives lower levels of performance from children in

lower-income families, even when the child's actual performance is no different from that of the other children. The teacher's lower level of expectations then influences the parents' evaluation of their child. Another, perhaps more plausible, interpretation is that the more well-off families find ways of using their funds to the benefit of their children's education, thereby increasing their belief in their children's possibilities.

As anticipated, expectations are lower for children who perform below average or who receive relatively high amounts of cash benefits. School performance and level of cash benefits (indicator of need for assistance) possibly indicate variations in cognitive capacity. However, the multivariate analyses found no linear correlation between functional ability and expectations. When comparing their child to children with similar school performance, parents might conclude that a vocationally oriented career is less likely for a child with a more severe functional limitation. Consequently, they more often expect their children to acquire a higher education than do parents with children who can walk unassisted.

This paper has several limitations. First, although parents of non-western origin expect more of their children, the result was not statistically significant. The finding in itself was neither as expected nor unexpected. What is unexpected, however, is that immigrants of non-western origin did not appear to have a lower response rate than average. The implication is that the sub-sample of immigrants may not be representative. Yet the criteria for the sample imply that these immigrants have already passed a filter: they have become recipients of cash benefit. Thus the more vulnerable families may likely have greater difficulties in acquiring the benefits and consequently be under-represented amongst families who actually receive them.

Second, the parents themselves may actively influence the process of segregation. The segregation variable may represent both the schools' practice and the influence of the parents' wishes and level of aspirations for their children. However, the most likely scenario is that the parents accept the solution that the school authorities present to them. In the case of special schools, parents will have few other choices because the educational authorities have allocated the relevant pedagogical resources to these particular institutions. Wanting 'the best' for their child, parents will again choose the option offered to them. A third limitation is the absence of a variable that more directly attempts to capture variations in cognitive capacity.

Ultimately, the discrepancy between the parents' expectations for their children in 2012 and the actual attainments of previous generations (table 2) raises questions as to whether previous generations of children with physical disabilities and their parents were

given equal educational opportunities for realising their aspirations. Without analyses that can identify previous generations of individuals with disabilities whilst at the same time including information about their experiences with segregation practices, assessing the impact of segregation on educational attainment is not possible. However, given the findings presented in this study, I argue that segregation practices, and the consequences for parental expectations, represent an important factor in the documented achievement gap. The results presented in this paper, as well as other research from Norway (Wendelborg and Tøssebro 2008; 2010) , emphasise the need for rethinking the current pedagogical practice of segregation in Norwegian primary education.

Acknowledgement

This research was funded by The Sophies Minde Foundation and The Norwegian Directorate for Children, Youth and Family Affairs. Many thanks to Lars Grue, Jon Ivar Elstad, Kari Eika and Nathalie Reid for their helpful comments.

Address for correspondence

Jon Erik Finnvoll

Norwegian Social Research (NOVA),

Oslo and Akershus University College of Applied Sciences,

Postboks 4 St.Olavs plass

0130 Oslo,

Norway

Email: jef@nova.no

References

- Andersen, G. L., Irgens, L.M., Hagaas, I., Meberg, A.E. & Vik, T. (2008) 'Cerebral palsy in Norway: Prevalence, subtypes and severity', *European journal of paediatric neurology*, 12 (1), pp. 4-13.
- Andersen, P. L. & Hansen, M. L. (2012) 'Class and Cultural Capital--The Case of Class Inequality in

Educational Performance', *European sociological review*, 28 (5), pp. 607-21.

Barton, L. (1997), 'Inclusive education: romantic, subversive or realistic?', *International Journal of Inclusive Education*, 1 (3), pp. 231-42.

Benner, A. D. & Mistry, R. S. (2007) 'Congruence of mother and teacher educational expectations and low-income youth's academic competence', *Journal of Educational Psychology*, 99 (1), 140 -147.

Beutel, A. M. & Anderson, K. G. (2008) 'Race and the educational expectations of parents and children: The case of South Africa', *The Sociological Quarterly*, 49 (2), pp. 335-61.

Connor, D. J. & Ferri, B. A. (2007) 'The conflict within: Resistance to inclusion and other paradoxes in special education', *Disability & Society*, 22 (1), pp. 63-77.

Davis-Kean, P. E. (2005) 'The influence of parent education and family income on child achievement: the indirect role of parental expectations and the home environment', *Journal of Family Psychology*, 19 (2), pp. 294 - 297.

Farkas, G., Grobe, R.P., Sheehan, D. & Shuan, Y. (1990) 'Cultural resources and school success: gender, ethnicity, and poverty groups within an urban school district', *American Sociological Review*, pp. 127-42.

Finnvold, J (2013) *Langt igjen? Levekår og sosial inkludering hos menneske med fysiske funksjonsnedsetjingar. NOVA Rapport 12/2013.* (A long way to go? Living conditions and social inclusion for people with physical disabilities. NOVA Report 12/2013).

Grigal, M. & Neubert, D. A. (2004) 'Parents' in-school values and post-school expectations for transition-aged youth with disabilities', *Career Development for Exceptional Individuals*, 27 (1), pp. 65-85.

Hibel, J., Farkas, G. & Morgan, P.L. (2010) 'Who is placed into special education?', *Sociology of Education*, 83 (4), pp. 312-32.

Holte, T (2000) 'Vi må fortsatt være tolmødige', CP-foreningens jubileumsbok 1950-2000. ('We still have to be patient', the 1950-2000 celebration of the Norwegian association for cerebral palsy.) Mysen: Grefslis trykkeri AS.

Hoover-Dempsey, K. V. & Sandler, Howard M. (1997) 'Why do parents become involved in their children's education?', *Review of Educational Research*, 67 (1), pp. 3-42.

Humphrey, N., Wigelsworth, M., Barlow, A. & Squires, G. (2013) 'The role of school and individual differences in the academic attainment of learners with special educational needs and disabilities: a multi-level analysis', *International Journal of Inclusive Education*, 17 (9), pp. 909-31.

Ju, S. Z., Zhang, D. & Katsiyannis A. (2013) 'The Causal Relationship Between Academic Self-Concept and Academic Achievement for Students With Disabilities An Analysis of SEELS Data', *Journal of Disability Policy Studies*, 24 (1), pp. 4-14.

Kennes, J., Rosenbaum, P., Hanna, S.E., Walter, S., Russel, D., Raina, P. Bartlett, D. & Galuppi, B. (2002) 'Health status of school-aged children with cerebral palsy: information from a population-based sample', *Developmental Medicine & Child Neurology*, 44 (4), pp. 240-47.

Kirk, C. M., Lewis-Moss, R.K., Nislen, C. & Colvin, D.Q. (2011) 'The role of parent expectations on adolescent educational aspirations', *Educational Studies*, 37 (1), pp. 89-99.

Kunnskapsdepartementet, Ministry of Education and Research (2009), NOU 2009:19, *Rett til læring* (The right to learn).

Lareau, A. (1987) 'Social class differences in family-school relationships: The importance of cultural capital', *Sociology of education*, pp. 73-85.

Lareau, A. & Horvat, E. M. (1999) 'Moments of social inclusion and exclusion race, class, and cultural capital in family-school relationships', *Sociology of education*, pp. 37-53.

Marjoribanks, K. (2003) 'Family background, individual and environmental influences, aspirations and young adults' educational attainment: A follow-up study', *Educational Studies*, 29 (2-3), pp. 233-42.

Masino, L. & Hodapp, R. M. (1996) 'Parental educational expectations for adolescents with disabilities', *Exceptional Children*, 62, pp. 515-24.

Odding, E., Roebroeck, M.E. & Stam H.J. (2006) 'The epidemiology of cerebral palsy: incidence, impairments and risk factors', *Disability & Rehabilitation*, 28 (4), pp. 183-91.

Reisel, L. (2011) 'Two Paths to Inequality in Educational Outcomes: Family Background and Educational Selection in the United States and Norway', *Sociology of education*, 84 (4), pp. 261-80.

Rimkute, L. Hirvonen, L., Tolvanen, A. Aunola, K & Nurmi, J.E. (2012) 'Parents' Role in Adolescents' Educational Expectations', *Scandinavian Journal of Educational Research*, 56 (6), pp. 571-90.

Rix, J., Sheehy, K., Fletcher-Campbell, F., Crisp, M. & Harper, A. (2013) 'Continuum of Education Provision for Children with Special Educational Needs: Review of International Policies And Practices'. National council for educational research Report no. 13. Open University.

Scott-Jones, D. (1995) 'Parent-child interactions and school achievement', in B. A. Ryan, G.R. Adams, T.P Gullotta, R.P.Weissberg, & R.L. Hampton (eds.), *The family-school connection: Theory, research, and practice*, pp 75-107. Thousand Oaks, CA: SAGE Publications, Inc.

Shifrer, D., Muller, C. & Callahan, R. (2010) 'Disproportionality: A sociological perspective of the identification by schools of students with learning disabilities', *Research in Social Science and Disability*, 5, pp. 279-308.

Szumski, G. & Karwowski, M. (2012) 'School achievement of children with intellectual disability: The role of socioeconomic status, placement, and parents' engagement', *Research in developmental disabilities*, 33 (5), pp. 1615-25.

Wendelborg, C. & Tøssebro, J. (2008) 'School placement and classroom participation among children with disabilities in primary school in Norway: a longitudinal study', *European journal of special needs education*, 23 (4), pp. 305-19.

Wendelborg, C. & Tøssebro, J. (2011) 'Educational arrangements and social participation with peers amongst children with disabilities in regular schools', *International Journal of Inclusive Education*, 15 (5), pp. 497-512.

Wendelborg, C. & Tøssebro, J. (2010) 'Marginalisation processes in inclusive education in Norway: a longitudinal study of classroom participation', *Disability & Society*, 25 (6), pp. 701-14.

Wood, D., Kurtz-Costes, B., Rowley, S.J. & Okeke-Adeyanju (2010) 'Mothers' academic gender stereotypes and education-related beliefs about sons and daughters in African American families', *Journal of educational psychology*, 102 (2), pp. 521 -529.

Zhang, D., Hsu, H., Kwok, O., Benz, M. & Bowman-Perrott, L. (2011) 'The impact of basic-level parent engagements on student achievement: Patterns associated with race/ethnicity and socioeconomic status (SES)', *Journal of Disability Policy Studies*, 22 (1), pp. 28-39.