

Improving foster children's school achievements

Promising results from a Swedish intensive study

Eva Tideman, Bo Vinnerljung, Kristin Hintze and Anna Aldenius Isaksson report on the results of a Swedish project aimed at improving foster children's school achievements. Standardised psychological and pedagogical instruments were used for assessing each individual foster child's potential, her or his educational service needs, and for tailoring the individualised educational and psychological support that was provided for two years. After this period, the 25 children included in the project were re-tested with the same instruments. Post-intervention test results were compared to pre-intervention scores for assessing outcomes. Results showed significant gains in IQ (as measured by WISC-III), reading and spelling skills, but weaker, non-significant improvements in maths skills.

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Introduction

For several decades, research from most Western countries has consistently reported that children in out-of-home care tend to be low achievers in school and are at high risk of entering adulthood with a low level of education (eg Bohman and Sigvardsson, 1980a, b; Festinger, 1983; Dumaret, 1985; Runyan and Gould, 1985; Stein and Carey, 1987; Barth, 1990; Weiner and Weiner, 1990; Christoffersen, 1993; Veland, 1993; Cheung and Heath, 1994; Cook, 1994; Jackson, 1994; Cashmore and Paxman, 1996; Vinnerljung, 1996; Blome, 1997; Courtney *et al*, 2001; Social Exclusion Unit, 2003; Pecora *et al*, 2006; Egelund *et al*, 2008; Clausen and Kristofersen, 2008).

Vinnerljung and colleagues (2005) used Swedish register data for eight national birth cohorts to examine the educational attainments of over 31,000 former child welfare clients and almost 750,000 majority population peers. Compared to majority population peers with low-educated mothers (only compulsory schooling), young people who had been in long-term stable foster care

had a two-to three-fold elevated relative risk of reaching adulthood with only a compulsory education – after controlling for influence of the birth mother's education. Majority population peers with low-educated mothers were, at the age of 25, between two and four times more likely to have a post-secondary education degree when compared to former foster children who had been in long-term care. A decade earlier, the British researcher David Berridge had concluded that the compensatory long-term effects of care on education seemed, at best, to be neutral (Berridge, 1994, 1997). In a US doctoral dissertation, Deborah Matthews (1997) examined 293 children using various standardised measurements and related the results to the length of time spent in out-of-home care. She found that reading achievement, mental development and overall behaviour problems were negatively correlated with the duration of care, but found no association between time in care and intelligence scores or achievements in maths.

This large body of research is based on cross-sectional data. We know less about foster children's progress – or its absence – in school during their time in care. The UK Social Exclusion Unit (2003) found that the gap between looked after children's school achievements and that of their peers tended to widen with age. However, it measured educational outcomes for different age groups at the same point in time. Studies based on longitudinal designs show less uniform results. Fanshel and Shinn's classic *Children in Foster Care* (1978) found that foster children's school achievements actually deteriorated during the first two-and-a-half years in care, but improved during the subsequent 30 months. After Fanshel and Shinn, several US longitudinal studies

employing matched comparison designs concluded that out-of-home care does not seem to facilitate children's cognitive or academic development (Berzin, 2008; Berger *et al*, 2009; Stahmer *et al*, 2009; cp. Doyle, 2007). In the UK, Heath and associates (1994) followed 49 foster children through three years of care and reported a lack of educational progress compared with national age standardised norms, even for those who were in stable long-term placements.

Poor academic performance in primary school seems to be a robust predictor for future psychosocial problems for all children and adolescents (Jablonska *et al*, 2009; Vinnerljung *et al*, 2010). A series of recent national cohort studies by Vinnerljung *et al* (2010) showed that Swedish children who grow up in foster care had substantially lower performance in primary school than their peers with similar cognitive ability. Foster children in long-term care also displayed higher risks (RR = 6–10) for future suicide attempts, serious criminality, substance misuse, long-term dependence on public welfare and several other negative outcomes. This increase in risk was reduced by roughly half after adjustment for school failure (cp. Zingraff *et al*, 1994). Sonia Jackson in the UK has for decades argued that poor school performance and low education are the strongest risk factors for looked after children's futures (Jackson, 1994). The Swedish cohort studies strongly support her hypothesis.

The dismal educational performance of looked after children has been explored in numerous UK studies during the last two decades (see, for example, Jackson, 2001; Jackson, 2007). But, in spite of all these research efforts, there are few examples of evaluated attempts to do something about the problem, even when using a wide definition of the concept 'evaluated'. The by-and-large successful US 'emancipation programmes' include educational support, but are limited to foster children in their mid- to late teens (eg Montgomery *et al*, 2006).

We have come across only three

examples of interventions aimed at primary school age foster children that have been evaluated with regard to their effects. In Olisa and colleagues' pre-post intervention study from London (undated report), ten foster children were given extra literacy and numeracy training over a 20-week period outside of the curriculum. Five children did not receive any such interventions. All participants were tested with standardised instruments for cognitive capacity and literacy/numeracy skills at the start and at the end of the project. The results suggested that the training sessions had some effects: the children who had received extra training had made progress and were catching up with their peers in reading, spelling and maths.

A literacy-focused intervention in Kent, UK, was evaluated by Wolfendale and Bryans (2004). In this project, 58 foster children were provided with books, a hand-held computer and other tools to stimulate their interest in reading. A comparison of pre- and post-scores on a standardised literacy test showed significant gains in reading accuracy, spelling and comprehension. The intervention seemed most beneficial for children with low pre-test scores. In an ongoing Canadian randomised field trial, foster carers were trained to be adult tutors to their 77 foster children. Recently reported results from the first year follow-up are promising. Children who had received foster carer tutoring had significantly better results on several measures of academic performance (eg numeracy skills) than peers in the control group (Flynn *et al*, 2010).

In this article, we report on the results of a Swedish intensive project aimed at improving foster children's school achievements. By employing standardised instruments for baseline and follow-up measurements, it shares some common ground with Olisa *et al* and the Kent studies. However, in this project baseline test results were also used for assessing individual potential and educational service needs, and for tailoring interventions to meet the needs of individual children. After a two-year

period, the same tests were used for assessing post-intervention outcomes.

Method

Sample

The project was staged in Helsingborg, a town in southern Sweden with about 125,000 inhabitants. We included all 30 children aged 7–11 in foster family care whose placements were perceived by case workers as likely to last another two years. From this sample, we excluded five children who either had been diagnosed with a neuropsychiatric disorder or were placed in special education schools due to very disruptive behaviour. This left us with 25 children. Their median time in care since birth was 3.5 years with a median of more than two years in their present foster family. Subsequently, the large majority of the children can be characterised as placed in long-term foster care. At the start of the project, the children's median age was ten years. The majority were already in care when they started primary school (age 7). Compared to all children in Swedish out-of-home care, the children in the project were younger, as two out of three children entering foster- or residential care are teenagers (Vinnerljung *et al*, 2007).

Most children (13 of 23; data were unavailable for two children) had experienced more than one placement in out-of-home care since birth and ten out of 23 had been in three placements or more. But most had experienced reasonably stable schooling. About two-thirds had not changed school at all since they started primary education or had changed school only once; a third had changed two or three times.

Design

At the start of the project (baseline/T1), a psychologist assessed each child's cognitive ability. The results of the cognitive tests were compared to results on standardised tests for reading, spelling and numeracy, administered by a special education teacher, and also to achievements in school, as perceived and

reported by the teachers. Standardised tests were also used to assess baseline psychological well-being and behaviour, as well as child–teacher relations.

The psychologist and the special education teacher were employed in the project and henceforth became external resource people for the schools. Both had long experience in their fields and were well suited to pursue the intentions of the project. The psychologist worked part time in the project but had a flexible schedule and could adapt her working hours to the needs of the children at their respective schools.

The results of the tests were communicated to the children, their foster carers and teachers, and to the case workers by the psychologist and the special education teacher at meetings with all parties present. This approach was chosen in order to create a good working relationship among all those concerned, but also to demonstrate that the child was not a person with problems but rather a member of the team. Potential for school achievement, strengths and obstacles were identified in co-operation with children, teachers and carers, resulting in a written individualised plan (limited to one sheet of paper) for each child, indicating his or her needs for educational support and other kinds of interventions (as described below). During the 24 months' intervention, the psychologist and the special education teacher were key players, as one fundamental principle of the project was that they should constantly motivate and tutor the teachers in how to assist each child to attain the goals set. They did less work on a one-to-one basis with the children and worked mostly with and through the teachers. Also, they closely monitored the individual progress and difficulties of each child, as perceived by children and teachers. This information was used in planned meetings every three months, with all parties present. This model made it possible to evaluate continuously the interventions and support provided. The head of each school was also informed on a regular basis about the progress of individual

children in order to enable her or him to support the teachers.

Two years after the initial intervention, all children were re-tested by the psychologist and the special education teacher with the same instruments as at T1. Post-intervention test results (T2) were compared to pre-intervention test scores to assess the outcomes.

Psychological instruments

The psychological assessment was performed using standardised psychological tests with adequate psychometric properties. The WISC-III (Wechsler Intelligence Scale for Children – third edition, Wechsler, 1999) is an individually administered clinical instrument for assessing intelligence among children aged six to 16. It provides standardised measures of a variety of abilities that reflect different aspects of intelligence. The WISC-III consists of one verbal and one performance scale, of which each one comprises five regular subtests as well as three optional subtests. Four factor-based index scores can also be calculated (verbal comprehension, perceptual reasoning, freedom from being easily distracted and processing speed). As children's abilities develop along many dimensions during growth, the age norms are divided into six-month intervals.

The VMI (Beery and Beery, 2004) is a paper-and-pencil test that screens for visual-motor deficits and helps to assess the extent to which the child can integrate visual and motor abilities.

The Beck Young people Inventories (Beck *et al*, 2004) consist of five self-report scales assessing anxiety, depression, anger, disruptive behaviour and self-concept among children and adolescents aged between seven and 18. Each scale contains 20 statements about thoughts, feelings and behaviours associated with emotional and social impairment. The respondent marks how often each statement is true for him or her (never/sometimes/often/ always).

The SDQ (Strengths and Difficulties Questionnaire) (Goodman, 1997; Smedje *et al*, 1999) is a short behav-

oural questionnaire completed by parents and teachers. It consists of 25 items divided into five scales: emotional symptoms, conduct problems, hyperactivity/inattention, peer relationship problems and pro-social behaviour. Each scale receives a score, each of which then contributes to a total difficulties score. There is also an impact supplement which asks the respondent whether the young person displays problems, and if so, further enquires about their duration, distress, social impairment and burden to others.

On a VAS-scale (Visual Analogue Scale) (Badia *et al*, 1999), each child and teacher separately rate their perception of the emotional quality of their relationship on a scale of one to ten (distance–closeness).

Pedagogical instruments

Standardised tests, frequently used in Swedish schools, were selected for this part of the project. In order to assess potential reading skills, the test Letter-Word Chains (Jacobson, 2004) was used, as this test taps the child's visual and motor speed regarding recognition/identification of letters and words. The task is to separate as quickly as possible letters or words that are written without interspaces.

In order to assess reading speed, the DLS Reading Speed Test (Jarpsten and Taube, 1997) was used. The child is asked to read silently a text in which three words at certain intervals appear in brackets. The task is to mark the word which relates to the context. Spelling skills were assessed by administering the DLS Spelling Test (Jarpsten, 1999), whereby the child is asked to spell correctly a total of 36 words of increasing complexity.

To assess different aspects of numeracy skills and mathematical reasoning, the Magne Maths Diagnostic Test (Engstrom and Magne, 2003) was used, in which a series of different calculation problems of increasing difficulty have to be solved.

In addition to these tests, classroom observations of the relationship between

the child and his or her main teacher, as well as with peers, were carried out by the special education teacher. She also interviewed the main teacher regarding the child's 'school competences', such as the ability to change topics, receive guidance and control anger.

Outline of working model in the project

The intervention started when the results of the mapping of each child's prerequisites were communicated to the children, teachers and foster carers. In order to adapt interventions to each individual's needs, potential for school achievement, strengths and obstacles were identified by all the parties, resulting in a written individualised plan. This consisted of specified educational goals to be reached within a certain time period, such as being able independently to solve mathematical problems using all four methods of calculation. Also incorporated were the support needs of each individual, the pedagogical methods to be used and what specific responsibility each party had in the process. Children with the greatest needs, detected in the initial assessments, were initially offered separate sessions with their teacher (who was tutored by the special education teacher) for one-and-a-half hours a day for eight weeks. This procedure was chosen in order not to stigmatise the children, which would have been a risk had they been transferred to a special education class. Parallel to this process, the special education teacher sought to motivate the in-school teachers into thinking, 'I have not yet found the right way to help this child, but I am working on it' in order to encourage them to find the best way of supporting each child to reach the desired goals. Furthermore, the foster carers were instructed in how to assist the child with homework. The special education teacher also inspired the teachers to use new, validated teaching methods (eg Chance, 2008).

The psychologist used the Caplan consultee-centred consultation method, emanating from the International Child

Development Programme (Caplan and Caplan, 1993), to give the teachers and foster carers new tools to tackle the children's psychological problems. Every three months or so, the psychologist and the special education teacher visited the school in order to meet the head, the respective teacher, the foster carers and the child. The current situation was analysed, new goals were set and a plan of how to reach them was designed. In some cases, special computer programmes for improving reading or maths skills were introduced to the child. Each meeting ended with a mutual decision regarding a date for the next.

Attrition

One child returned to the birth parents during the two years of the project and was unavailable for re-tests. The analyses comparing pre- and post-intervention measures are therefore based on 24 children, but for two of them some data were missing (see Table 3).

Statistical analysis

Differences in means between pre- and post-intervention were examined with T-tests. The sample was too small to allow for multivariate analyses that could explore the influence of background and mediating factors. All statistical analyses were performed in SPSS 16.0.

Results

In accordance with the project design, the results are presented in the following order (see Tables 1, 2 and 3): first, the results from psychological instruments (ie cognitive test results); second, results regarding psychological well-being; and third, the child-teacher relationship. After that, the results from the reading, spelling and numeracy tests are summarised. Under each heading, results from the baseline assessment (T1) are compared with those post-intervention (T2).

Psychological instruments

At baseline (T1), all children scored within the normal range on the WISC-III

Total IQ scales (range 73–115, mean 94.4, median 95.0), except for two who scored below this (see Table 1). Results were similar for the Verbal IQ-scale (range 79–116, mean 96.6, median 95.0) and for the Performance IQ-scale (range 67–121, mean 93.2, median 91.5). All in all, the foster children scores were moderately, but significantly, below average compared to age standardised norms. Two years later, when all children were re-tested with the same instruments (T2), the total IQ scales ranged from 80 to 124 (mean 100.1 and median 101.0). These changes were highly significant ($p < 0.001$). More than half of the children showed a marked improvement in their cognitive functions, including the five children with the lowest scores at T1. At T2 all these children performed within the normal IQ range. In addition, several of the best performers at T1 showed improvements at T2. No tendency of regression towards the mean was found.

The improved test scores on the WISC-III total scale were equally distributed between the Verbal and the Performance scales, but the improvement on the Performance scale was stronger ($p < 0.01$) than on the Verbal scale ($p < 0.05$). On the Verbal scale, five out of the six pupils with lowest performance at T1 had improved their results at T2. As perceptual speed is an important ability in the learning process, it was satisfying to note that the results

on this scale had improved significantly at T2 (Table 1).

Results from the VMI-test were at T1, all within the normal range (not shown in tables), and yielded no signs of specific visual-perceptual disabilities. This test was therefore not used at follow-up (T2).

At T1, scores from the Beck Youth Inventories scales showed, somewhat surprisingly, that most of the children scored within the normal range, only four being above a clinical cut-off on every sub-scale. At T2, a small but not significant portion of the children showed increased ratings, indicating some degree of emotional and/or social impairment (not shown in tables). In a normal group, the expected incidence of this type of impairment would be 25 per cent of the group (Beck *et al*, 2004), roughly the same as in the study sample.

At T1, both the foster carers and the teachers rated the children low on the four problem scales of the SDQ (see Table 2). In fact, the ratings were similar to the total mean scores of the scores found in the general populations in Sweden and the UK (Smedje *et al*, 1999; Meltzer *et al*, 2000). On the fifth scale, measuring pro-social behaviour, ratings from both foster carers and teachers were remarkably high, indicating that most children's behaviour was good. At T2, the ratings of the foster carers and teachers on the four problem scales of the SDQ remained the same (Table 2),

Table 1

WISC-III at pre-intervention (T1) and post-intervention (T2) 24 months later, and comparisons of T1/T2, n = 24

	T1		T2		T-test (T1/T2)
	Mean	S.D.	Mean	S.D.	p
WISC III IQ/index scales (Mean = 100, S.D. = 15)					
Verbal	96.6	10.1	100.8	12.3	*
Performance	93.2	14.2	99.0	13.1	**
Total	94.4	11.9	100.1	12.6	***
Verbal comprehension	97.3	8.9	103.3	13.7	**
Perceptual reasoning	93.2	13.0	97.9	13.0	*
Freedom from distractability	96.1	12.0	95.8	12.4	n.s.
Perceptual speed	92.3	14.8	101.0	15.3	**

* $p < 0.05$ ** $p < 0.01$ *** $p < 0.001$ n.s. = non-significant result

Table 2

SDQ parent and teacher ratings at pre-intervention (T1) and post-intervention (T2) 24 months later, and comparisons of T1/T2, n = 24

SDQ	T1		T2		T-test (T1/T2)
	Mean	S.D.	Mean	S.D.	p
<i>Parent ratings</i>					
Total difficulties score	8.33	6.43	8.71	6.42	n.s.
Emotional symptoms	1.40	1.58	1.67	2.26	n.s.
Conduct problems	1.44	1.61	1.54	1.61	n.s.
Hyperactivity/inattention	3.88	3.06	4.33	2.94	n.s.
Peer relationship problems	1.56	1.71	1.17	1.95	n.s.
Pro-social behaviour	7.33	2.26	7.67	2.46	n.s.
<i>Teacher ratings</i>					
Total difficulties score	7.52	6.52	6.52	4.23	n.s.
Emotional symptoms	0.96	1.30	1.17	1.56	n.s.
Conduct problems	1.35	2.29	1.30	1.64	n.s.
Hyperactivity/inattention	3.87	3.43	3.52	2.73	n.s.
Peer relationship problems	1.52	1.56	0.52	0.85	**
Pro-social behaviour	6.83	3.00	7.52	2.15	n.s.

**p<0.01; n.s. = non-significant result

Table 3

Age standardised pedagogical tests at pre-intervention (T1) and post-intervention (T2) 24 months later, and comparisons of T1/T2

Test	n	T1		T2		T-test (T1/T2)
		Mean	S.D.	Mean	S.D.	p
<i>Stanine scale, Mean = 5, S.D. = 2</i>						
Reading skills Letter-Word Chains	22 ¹	3.9	2.2	4.8	1.6	*
DLS reading speed	11 ²	4.1	1.4	5.2	1.9	*
DLS spelling skills	24	5.1	1.6	5.8	1.8	*
Magne Maths Diagnostic Test	24	4.1	2.1	4.2	2.1	n.s.

¹ 22 children had reached the lowest age at which this test is applicable, according to the manual.

² 11 children had reached the lowest age at which this test is applicable, according to the manual.

³ 2 children were not available for testing at T1, consequently their results at T2 were excluded.

*p<0.05; n.s. = non-significant result

with the exception of peer relationship problems where significant improvement was found (see Table 2).

Assessments of the interpersonal relation on a VAS-scale (1–10 distance–closeness) between the child and his or her main teacher at T1 showed that the children scored highly (mean 8.4, range 3–10; not shown in tables), with the teachers' assessments of their relationship to the pupils only slightly lower (mean 6.9, range 2–8).

At T2, the positive ratings continued.

The pupils still scored highly (mean 8.3, range 3–10), as did their teachers (mean 7.3, range 1–10), in spite of the fact that for ten pupils a new teacher had taken over their class (not shown in tables).

Pedagogical instruments

When comparing individual results on the cognitive tests with those of the reading skills tests and the maths test at T1, the majority (around 75%) were clearly below what could be expected from their cognitive competence, as

assessed with WISC-III. This discrepancy was reduced at T2. As shown in Table 3, both the results for reading skills (Letter-Word Chains) and the speed of reading (DLS) significantly improved ($p < 0.05$), including for the 11 pupils who had the lowest result at T1.

This positive trend was also found in relation to spelling skills. Nine pupils had clearly improved their results on the

DSL Spelling Test at T2 compared to T1 (Table 3 and Figure 1).

The pupils' results on the Magnets Maths diagnostic test also improved over time. At T1, ten pupils scored very low, ten pupils were in the average range and two scored high. The mean for the whole group tended to rise from T1 to T2. However, the difference did not reach a significant level (see Table 3), although seven out of the ten pupils scoring very low results at T1 had improved their results markedly, as shown in Figure 2.

Figure 1
Reading skills at T1/T2 for the 11 index-children with the lowest results at T1

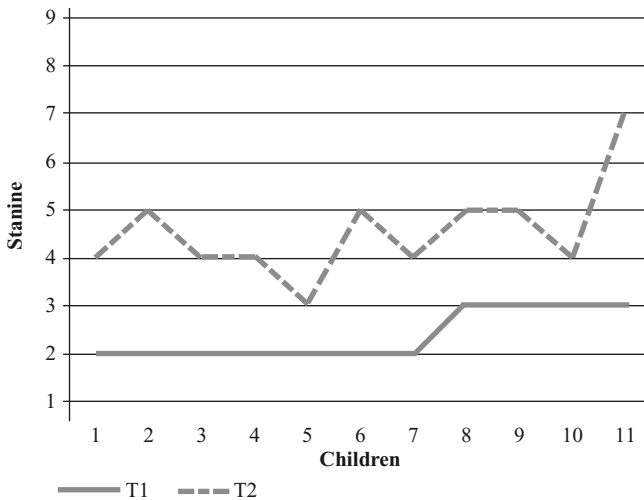
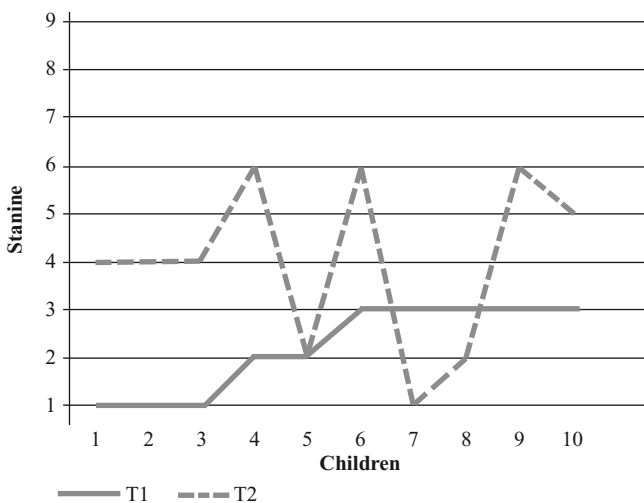


Figure 2
Maths skills at T1/T2 for the 10 index-children with the lowest results at T1



Special interventions

In addition to all this testing and support, some children received specialised interventions. The special education teacher identified five children as showing signs of having visual defects. Consequently, these children were tested and all provided with spectacles. Four children were given individual help to improve their homework, eight were counselled by the school psychologist in order to improve their social interaction skills and, in five cases, both foster carers and teachers were given counselling by the project psychologist, aimed at strengthening their ability to handle the child's difficult behaviour.

Discussion

In this project, a battery of standardised tests was used to map each child's potential, strengths and difficulties at school. The assessment tools provided a base for the clinical work of the psychologist and the special education teacher. The test results enabled them to work with each child's teacher, foster carers and the child him or herself when tailoring individual support and when accessing special education support – in theory, available to all children but never systematically used for those in foster care.

After two years, the young participants had significantly improved their average scores on the IQ-tests on reading and on spelling tests, while improvements in their numeracy skills were weaker. During the early school years children are mostly taught how to

read. Later, they are supposed to transfer from 'learning to read' towards 'reading to learn'. Therefore, the significantly improved reading speed at T2 in the group is an important part of the results, being a favourable prognostic indicator for future school performance. All in all, the results of the project are hopeful, even though the study design does not allow any conclusions about causality.

Yet a fundamental question remains: Why did so many of the foster children perform below their potential at the start of the project when the results on the SDQ clearly indicate that they did not have excessive behavioural or psychological problems? The conclusion from the project is simple: the reason was *gaps in knowledge*, often accumulated over several years. For the project, this was good news. Lack of basic cognitive abilities are very difficult to repair, as are psychological traumas or learning difficulties caused by early childhood neglect or abuse (Lansford *et al*, 2002; Boden *et al*, 2007; Stone, 2007). But gaps in knowledge can be filled through educational support and targeting the children and their carers (Durlak, 1997; Ferrer-Wreder *et al*, 2004). Interestingly, the interventions also seem to have enhanced the foster children's capacity to engage socially, as their peer relations in school had significantly improved by the time of follow-up.

The story of mathematics is different. Weak improvements for the foster children indicate that stronger interventions than those available in this project are necessary. Given the strong predictive power of early numeracy skills for future school achievements (Duncan *et al*, 2008), our results point in the same direction as the conclusions from several US early developmental programmes: namely that numeracy and literacy training for vulnerable children should be promoted at an early age (Currie, 2000; Duncan *et al*, 2008; Manning *et al*, 2010).

The process by which the psychologist and the special education teacher told the foster carers and teachers that the child had normal cognitive ability and

had the potential to profit from the education in school became an unexpected salutogenic element of the intervention (Antonovsky, 1988). Many foster carers and teachers had low – or even pessimistic – expectations of the foster child's school performance at the start of the project. Before the assessments were done, no less than six of the 25 project children were assumed by their foster carers and teachers to have a very low cognitive capacity or even a learning disability. When the assessments proved that these children performed cognitively within the normal span, the expectations of both foster carers and teachers radically changed, making them more optimistic about the child's capability to do reasonably well in school (Rosenthal and Jacobson, 1992; Caplan and Caplan, 1993).

The acquisition of basic knowledge in reading, spelling and maths is a prerequisite for further learning (eg Barber and Mourshed, 2007) and therefore a strong predictor of reasonable success in school. As demonstrated in this study, filling knowledge gaps through educational support for foster children helps them to achieve scholastic goals, thereby improving their future prospects.

School performance is of course influenced by many factors – individual (eg cognitive capacity), familial (eg support at home) and school related (eg the competence of the teachers; see Hattie, 2009). A report from a Swedish longitudinal research project sends an alarming signal with regard to the education of looked after children. Children's peer status in primary school was found to be strongly related to future educational outcomes, more or less independently of socio-economic background (Almqvist *et al*, 2010). In addition, a Danish national cohort study reported that children in care had three-fold augmented risks for being victims of bullying (a strong indicator of poor peer status), even when possible confounding variables, including experience of different types of maltreatment, were taken into account (Christoffersen, 2010). Like Jackson (2007), we disagree

with those who claim that we can expect little from these children, considering their damaging early childhood experiences (eg Berridge, 2007).

Methodological issues

There are three obvious limitations of this study. The first is the small (and geographically selected) sample. Successful replications in other locations are needed before we can generalise the results. The small sample size also prevented us from analysing confounding and mediating factors. At present (spring 2011), the project is being replicated in Norrköping, a town of similar size to Helsingborg. Several other local authorities in Sweden are planning to follow and the project will also be carried out in Norway.

The second is that the pre-post intervention design does not enable us to infer any causal conclusions about effects of the intervention. However, since most other studies have failed to detect positive development of cognitive and academic performance in looked after children, the results suggest that the project has made a difference. At the start, we concluded that there were considerable ethical problems linked to a traditional randomised controlled trial (RCT). It seems – in our opinion – hardly defensible to stage a clinical situation where assessment results would not be communicated to case workers and teachers, and not used for improving the children's school situation *with regular services*. This project was not based on new untested methods; it was founded mainly on a model for systematic assessment to help children access services which are already available but not used systematically for foster children. These are services which the children, by law, have a right to receive. Some children in the project also seem to have benefited from simply having the test results communicated to them:

What? Is my intelligence normal? Even better than normal? God, they have always told me that I am stupid . . .

(Quotation from a child in the project, who shortly afterwards started for the first time to get good grades in maths tests)

Before the project, another child was believed by the foster carers, the case worker and the teacher to have learning disabilities but scored high average in the WISC-III pre-intervention test. This was a shocking revelation for the foster carers, who radically changed their attitude to the child's future prospects.

Finally, the relatively short follow-up time is also a limitation. We do not know whether these results are sustained over the teenage years, a troubled time in school for many children. The project is now a part of the regular child welfare services in Helsingborg, and has been extended to older children. It is hoped that new follow-ups and replications can shed light on this question.

Conclusions

Standardised tests of foster children's cognitive ability, reading, spelling and numeracy skills seem to provide a sound base for tailoring individualised support for foster children in school, probably far more than unstructured assessments by teachers and social workers. The results further suggest that the poor educational performances of foster children can be improved through systematic work by foster care agencies and schools. This is a hopeful message.

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References

Allquist Y, Modin B and Österberg V, 'Childhood status in society and school: implications

- for the transition to higher levels of education', *British Journal of Sociology* 31, pp 31–45, 2010
- Antonovsky A, *Unravelling the Mystery of Health*, London: Jossey-Bass Publishers, 1988
- Badia X, Montserrat S, Roset M and Herdman M, 'Feasibility, validity and test-retest reliability of scaling methods for health status: the visual analogue scale and the time trade-off', *Quality Life Research* 8, pp 303–10, 1999
- Barber M and Mourshed M, *How the World's Best Performing School Systems Come out on Top*, London: McKinsey & Co, 2007
- Barth R, 'On their own: the experiences of young people after foster care', *Child and Adolescent Social Work* 7, pp 419–40, 1990
- Beck JS, Beck AT and Jolly JB, *Beck Young People Inventories*, Manual, Swedish version, Stockholm: Psykologiförlaget, 2004
- Beery KE, and Beery NA, *The Beery-Buctenica Developmental Test of Visual-motor Integration*, Manual, Minneapolis: NCS Pearson Inc, 2004
- Berger L, Bruch S, Johnson E, James S and Rubin D, 'Estimating the "impact" of out-of-home placement on child well-being: approaching the problem of selection bias', *Child Development* 80, pp 1856–76, 2009
- Berridge D, 'Foster and residential care reassessed: a research perspective', *Children & Society* 8, pp 132–50, 1994
- Berridge D, *Foster Care: A research review*, London: The Stationery Office, 1997
- Berridge D, 'Theory and explanation in child welfare: education and looked after children', *Child & Family Social Work* 12, pp 1–10, 2007
- Berzin SC, 'Difficulties in the transition to adulthood: using propensity scoring to understand what makes foster young people vulnerable', *Social Service Review* 82, pp 171–96, 2008
- Blome WW, 'What happens to foster kids: educational experiences of a random sample of foster care young people, and a matched group of non-foster care young people', *Child and Adolescent Social Work Journal* 14, pp 41–53, 1997
- Boden J, Horwood J and Ferguson D, 'Exposure to childhood sexual and physical abuse and subsequent educational achievement outcomes', *Child Abuse and Neglect* 31, pp 1104–14, 2007
- Bohman M and Sigvardsson S, 'A prospective, longitudinal study of children registered for adoption: a 15-year follow-up', *Acta Psychiatrica Scandinavica* 61, pp 339–55, 1980a
- Bohman M and Sigvardsson S, 'Negative social heritage', *Adoption & Fostering* 3, pp 25–31, 1980b
- Caplan G and Caplan R, *Mental Health Consultation and Collaboration*, San Francisco, CA: Jossey-Bass Publishers, 1993
- Chance P, *The Teacher's Craft: The ten essentials skills of effective teaching*, Longgrove, IL: Waveland Press Inc, 2008
- Cashmore J and Paxman M, *Wards Leaving Care: A longitudinal study*, Sydney, NSW: Department of Community Services, 1996
- Cheung SY and Heath A, 'After care: education and occupation of adults who have been in care', *Oxford Review of Education* 20, pp 361–74, 1994
- Christoffersen MN, *Anbragte børns livsforløp* [The life course of children in care], Copenhagen: SFI, *Rapport* 93:11, 1993
- Christoffersen MN, *Child Maltreatment, Bullying in School and Social Support*, Copenhagen: SFI, Working Paper 02:2010, 2010
- Clausen S-E and Kristofersen L, *Barnevernssklienter I Norge 1990–2005: En longitudinell studie* [Child welfare clients in Norway 1990–2005: a longitudinal study], Oslo: NOVA, *Rapport* 3/08, 2008
- Cook R, 'Are we helping foster care young people prepare for their future?', *Children and Youth Services Review* 16, pp 213–29, 1994
- Courtney M, Piliavin I, Grogan-Kaylor A and Nesmith A (2001) 'Foster young people transitions to adulthood: a longitudinal view of young people leaving care', *Child Welfare* 80, pp 685–717, 2001
- Currie J, *Early Childhood Intervention Programs: What do we know?*, Chicago, IL: JCPR Working Paper No 169, 2000
- Doyle J, 'Child protection and child outcomes: measuring the effects of foster care', *The American Economic Review* 97, pp 1583–610, 2007
- Dumaret A, 'IQ, scholastic performance and behavior in sibs raised in contrasting environments', *Journal of Child Psychology and Psychiatry* 26, pp 553–80, 1985
- Duncan G, Dowsett C, Claessens A, Magnuson K, Huston A, Klebanov P, Pagani L, Feinstein L, Egelund T, Andersen D, Hestbaek A-D, Lausten M, Knudsen L, Olsen R F and Gerstoft F, *Anbragted børns udvikling og vilkår* [Develop-

- ment and living conditions of looked after children], Copenhagen: SFI, Rapport 08:23, 2008
- Durlak JA, *Successful Prevention Programs for Children and Adolescents*, New York: Plenum, 1997
- Engel M, Brooks-Gunn J, Sexton H and Duckworth K, 'School readiness and later achievement', *Developmental Psychology* 43, pp 1428–446
- Engström A and Magne O, *Medelsta, Math Diagnostic Test*, Örebro: Örebro Universitet, 2003
- Fanshel D and Shinn E, *Children in Foster Care: A longitudinal investigation*, New York: Columbia University Press, 1978
- Ferrer-Wreder L, Stattin H, Lorente CC, Tubman J and Adamson L, *Successful Prevention and Young People Development Programs: Across borders*, New York: Kluwer Academic, 2004
- Festinger T, *No One Asked us . . . A postscript to foster care*, New York: Columbia University Press, 1983
- Flynn R, Paquet M-P and Marquis R, 'Can tutoring by foster parents improve foster children's basic academic skills?', in Fernandez E and Barth R (eds), *How Does Foster Care Work? International evidence on outcomes*, London: Jessica Kingsley Publishers, 2010
- Goodman R, 'The Strengths and Difficulties Questionnaire: a research note', *Journal of Child Psychology and Psychiatry* 38, pp 581–86, 1997
- Hattie J, *Visible Learning: A synthesis of over 800 meta-analyses relating to achievement*, London: Routledge, 2009
- Heath AF, Colton M and Aldgate J, 'Failure to escape: a longitudinal study of foster children's educational attainment', *British Journal of Social Work* 24, pp 241–60, 1994
- Jablonska B, Lindberg L, Lindblad F, Rasmussen F, Östberg V and Hjern A, 'School performance and hospital admissions due to self-inflicted injury: a Swedish national cohort study', *International Journal of Epidemiology* 38:5, pp 1334–41, 2009
- Jackson S, 'Educating children in residential and foster care', *Oxford Review of Education* 20, pp 267–79, 1994
- Jackson S (ed) *Nobody Told us School Mattered*, London: BAAF, 2001
- Jackson S (ed), 'Progress at last?', *Adoption & Fostering* 31:1, Special issue: Education, pp 3–5, 2007
- Jacobson C, *Letter-Word Chains*, Manual, Stockholm: Psykologiförlaget, 2004
- Jarpsten B, *DLS Spelling Ability*, Manual, Stockholm: Psykologiförlaget, 1999
- Jarpsten B and Taube K, *DLS Reading Speed and Spelling Ability*, Manual, Stockholm: Psykologiförlaget, 1997
- Lansford J, Dodge K, Pettit G, Crozier J and Kaplow PA, 'A 12-year prospective study of the long-term effects of early child physical maltreatment on psychological, behavioural and academic problems in adolescence', *Archives of Pediatric and Adolescent Medicine* 13, pp 824–30, 2002
- Manning M, Homel R and Smith C, 'A meta-analysis of the effects of early developmental prevention programs in at-risk populations on non-health outcomes in adolescence', *Children and Youth Services Review* 32, pp 506–19, 2010
- Matthews D, *Time in Foster Care and Children's Developmental Status*, PhD thesis, New York: Fordham University, UMI # 9730102, 1997
- Meltzer H, Gatward R, Goodman R and Ford F, *The Mental Health of Children and Adolescents in Great Britain*, London: The Stationery Office, 2000
- Montgomery P, Donkoh C and Underhill K, 'Independent living programs for young people leaving the care system: the state of the evidence', *Children and Youth Services Review* 28, pp 1435–48, 2006
- Olisa J, Stuart M, Hill V, Male D and Radford J, *Intervention to Promote Good Literacy in Looked After Children*, London: Institute of Education, Project 2001-02S30, Undated report
- Pecora P, Kessler R, O'Brien K, White CR, Williams J, Hiripi, E, English D, White J and Herrick MA, 'Educational and employment outcomes of adults formerly placed in foster care: results from the Northwest Foster Care Alumni Study', *Children and Youth Services Review* 28, pp 1459–81, 2006
- Rosenthal, R and Jacobson, L, *Pygmalion in the Classroom: Teacher expectation and pupils' intellectual development*, New York: Irvington, 1992
- Runyan D and Gould C, 'Foster care for child maltreatment II: impact on school performance', *Pediatrics* 76, pp 841–47, 1985

- Smedje H, Broman JE, Hetta J and von Knorring AL, 'Psychometric properties of a Swedish version of the Strengths and Difficulties Questionnaire', *Journal of European Children and Adolescent Psychiatry* 8, pp 63-70, 1999
- Social Exclusion Unit, *A Better Education for Children in Care*, London: Social Exclusion Unit, 2003
- Stahmer A, Jurlburt M, Horwitz SM, Landsverk J, Zhang J and Leslie L, 'Associations between intensity of child welfare involvement and child development among young children in child welfare', *Child Abuse & Neglect* 33, pp 598-611, 2009
- Stein M and Carey K, *Leaving Care*, Oxford: Basil Blackwell, 1987
- Stone S, 'Child maltreatment, out-of-home placement and academic vulnerability: a fifteen-year review of evidence and future directions', *Children and Youth Services Review* 29, pp 139-61, 2007
- Veland J, *Hvordan gikk det med barnevernets barn? Resultater fra barnevernsarbeid i 5 kommuner i Rogaland* [How did the child welfare children fare? Results from child welfare work in 5 local authorities in Rogaland], Stavanger: Fylkeshelsechefen i Rogaland, 1993
- Vinnerljung B, *Fosterbarn som vuxna* [Foster children as adults], Lund: Arkiv Förlag, 1996
- Vinnerljung B, Berlin M and Hjern A *Skolbetyg, utbildning och risker för ogynnsam utveckling hos barn* [School performance, education, and risks for unfavourable development among children], in *Social Rapport*, pp 228-66, Stockholm: Socialstyrelsen, 2010
- Vinnerljung B, Hjern A, Ringbäck Weitoft G, Franzén E and Estrada F, 'Children and young people at risk', *International Journal of Social Welfare* 16, Supplement 1 (Social Report 2006), pp S163-S202, 2007
- Vinnerljung B, Öman M and Gunnarson T, 'Educational attainments of former child welfare clients – a Swedish national cohort study', *International Journal of Social Welfare* 14, pp 265-76, 2005
- Wechsler D, *The Wechsler Intelligence Scale for Children* (third edition), Manual, Swedish version, Stockholm: Psykologiförlaget, 1999
- Weiner A and Weiner E, *Expanding the Options in Child Placement: Israel's dependent children in care from infancy to adulthood*, Lamham, MD: University Press of America, 1990
- Wolfendale S and Bryans T, *Evaluation of the Looking After Literacy Project in Kent for Children in Public Care*, London: University of East London, 2004
- Zingraff M, Leiter J, Johnsen M and Myers K, 'The mediating effect of good school performance on the maltreatment-delinquency relationship', *Journal of Research in Crime and Delinquency* 31, pp 62-91, 1994

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