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Educational achievement among international adoptees*

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The aim of this article is to examine the fact that internationally adopted children, as compared with non adopted, are behind in educational achievement. The paper analyses learning difficulties, language development, hyperactivity behaviour (ADHD) as well as other aspects regarding the education of adopted children.

The research results presented indicate that their capacity for intellectual performance may be limited on account of genetic and adversity factors.

Key words: international adoption, educational achievement.

Logro educativo en la adopción internacional

El propósito de este artículo es estudiar los resultados del éxito educativo de los niños de adopción internacional comparado con los no adoptados. El artículo analiza las dificultades de aprendizaje, el desarrollo del lenguaje, las conductas hiperactivas, así como otros aspectos de la educación de los niños adoptados.

La investigación indica que su capacidad intelectual puede verse limitada a causa de factores genéticos y adversos.

Palabras clave: adopción internacional, éxito educativo.

Introduction

Cognitive functions in international adoptees have been highlighted in several studies during the last fifteen years (van IJzendoorn *et al.*, 2005, Van IJzendoorn & Juffer, 2006). In some studies the focus has been mainly on language

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development (Dalen, 2001, 2005; Glennen & Masters, 2002; Hene, 1988; Rygvold, 1999) while other studies have concentrated on school performance (Dalen, 2001; Dalen & Rygvold, 2006; Kvifte-Andresen, 1992) and educational attainment (Lindblad, Hjern & Vinnerljung, 2003). These studies have documented developmental disparities in the performance of international adoptees performance compared to the population in the receiving countries (Dalen, 2001; Frederici, 2003; Gindis, 2005; Gioia, 2003; Howard, Smith & Ryan, 2004; Judge, 2004; McGuinness, McGuinness & Dyer, 2000; Rutter, O'Connor *et al.*, 2000; van IJzendoorn, Juffer & Poelhuis, 2005).

Compared to research related to domestic adoption, few studies have focused on intelligence among international adoptees (Duyme, 1990, Duyme, Dumaret & Tonkiewicz, 1999, Scarr, 1992, 1993). However, there are some important studies on children adopted from Romania. The focus has been on the children's progress in intellectual development measured by intelligence test scores (Becket *et al.*, 2006; Chisholm, 1998; O'Conner *et al.*, 2000; Rutter and the ERA Study team, 2001; Rutter *et al.*, 2001). The studies documented that when the children first arrived in their new country they were lagging far behind on intelligence scores compared to the general norm. However, almost all of them made remarkable progress after moving into the adopted home.

Pre-adoption factors

There are many pre-adoption factors influencing children's cognitive development. In the literature these factors are often divided into pre- peri- and postnatal risk factors (Gunnar & Kertes, 2005). The same factors can affect children's development in general, but may be over represented in internationally adopted children. However, the information about the adopted children's pre-adoption conditions in their countries of origin is very often lacking or uncertain. To some extent, it may be possible to estimate the likelihood of risk by knowing the child's country of origin and circumstances prior to adoption. Some donor countries may have very low gross national product (GNP) with particular groups in that society suffering from social exclusion and poor medical services. However, in most cases it is difficult if not impossible to know with certainty whether a given child has been exposed to a particular risk factor.

Early physical environment

Many children adopted internationally are born premature with low birth weight. Gunnar and Kertes (2005) refer to the fact that 20 percent of infants from Russia and Eastern Europe are reported to be premature. Studies have documented that low birth weight, prenatal malnutrition, and prenatal alcohol exposure have a negative effect on children's cognitive development (Colombo, Parra & López, 1992; Grantham-McGregor, 1995; McGuinness & Pallansch, 2000; Miller, 2000; Mitchel, 2001). In recent years problems in various as-

pects of cognitive functions (i.e. working memory, attention regulation, planning, and sequencing) have also been found in children born prematurely (Baddeley, 2003; Gindis, 2005).

Institutionalization

Approximately 80 percent of all internationally adopted children are placed in different kinds of institutions in their first year of life (Johnson, 2002). Institutionalisation has been documented to have dramatic consequences for children's development across a variety of domains (Becket *et al.*, 2006; Dennis, 1973; Zeanah *et al.*, 2003, Gunnar, Bruce & Grotevant, 2000; Gunnar & Kertes, 2005). It is difficult in institutional settings to provide adequate experiences necessary to support optimal brain development (Rutter, 2005). Orphanages and institutions offer fewer opportunities for children to acquire or practice skills other than those acquired in the home environment. Lack of personal contact and physical stimulation, insufficient space to move around, and lack of toys to play with are all factors contributing to delays in children's overall development (Dennis, 1973; Fries & Pollak, 2004; Gunnar, Bruce & Grotevant, 2000). Studies of adopted children from Romania showed significantly reduced activation in a number of brain areas believed to be involved in higher cognition, emotions, and emotion regulation (Becket *et al.*, 2006; Chugani *et al.*, 2001; Gunnar & Kertes, 2005; Rutter, 2005).

Furthermore, children placed in institutions also often lack the experience of continuity in caregivers that may be needed to form attachment relationships with specific people. The lack of consistent adult-infant relationships has been shown to increase the possibility of developing emotional and social problems (O'Connor *et al.*, 2000; Verhulst, Althaus & Verluis-den Bierman, 1990, 1992; Zeanah *et al.*, 2003). These problems will naturally also affect the children's cognitive functions and make them vulnerable to developing language and learning problems (Becket *et al.*, 2006; Brodzinsky, Schechter & Henig, 1992; Castle *et al.*, 1999; Gunnar & Kertes, 2005; Juffer *et al.*, 2005; Rutter, 2005; Van IJzendoorn & Juffer, 2006; van IJzendoorn *et al.*, 2005).

However, institutional care is not necessarily detrimental for later cognitive delays in children. Studies carried out by Hodges and Tizard (1989) and Roy, Rutter & Pickles (2000) did not show cognitive impairment among the children reared in residential institutions in Britain. On the other hand, studies of adoptees from Romania showed quite marked cognitive impairment. Rutter (2005) suggests that substantial cognitive impairment is largely a consequence of deprived conditions in the institutions rather than institutional upbringing as such.

Adoption as an intervention

Adoption means a positive change for most children. They move from deprived institutional or unfavourable biological family settings to mostly (mainly) more positive environmental condition in the adoptive family. The

effect of adoption on children's overall development has been discussed in several studies (Bohman & Sigvardsson, 1990; Dennis, 1973; Hodges & Tizard, 1989; Rutter *et al.*, 2001; van IJzendoorn, Juffer & Poelhuis, 2005). Strong effects on cognitive development have been found when the adoption has brought about radical changes of environment (e.g., Rutter & the ERA Study Team, 1998; Rutter *et al.*, 2001).

The variety of pre-adoption factors presented above constitutes a general problem of heterogeneity for adoption research. One way to approach this issue would be to focus on two factors explicitly: age at adoption and country of origin. They may both serve as aggregations to factors influencing cognitive development. For instance, children adopted at a later age are often exposed to a variety of negative pre-adoption factors for a longer period of time than those adopted in infancy (Dennis, 1973; Howe, 1997).

Age of adoption

Age of adoption has not been documented to be a strong indicator for adopted children's overall development (Cederblad, Höök, Irhammer & Merke, 1999; Dalen, 2001; Juffer & van IJzendoorn, 2005; Kvifte-Andresen, 1992; van IJzendoorn *et al.*, 2005). However, studies on children adopted from Romania have indicated that age of adoption does have some effect on the children's further cognitive development (Becket *et al.*, 2006; Rutter & ERA Study Team, 1998; O'Connor *et al.*, 2000). Becket *et al.*, (2006) found that children with an adoption age under 6 months had no delay in their cognitive development and their IQ scores were similar to those of domestically adopted children in UK. However, the same study did show that children adopted over 6 months had delays in their cognitive development, and these children did not catch up with the comparison group. Other studies have also documented that adopted children with long term pre-adoption adversity are susceptible to delays in their cognitive and psychological development (Juffer & van IJzendoorn, 2005; Gunnar & Kartes, 2005; Marcowitch *et al.*, 1997; O'Connor *et al.*, 2000; Rutter, 2005; Verhulst *et al.*, 1990, 1992; van IJzendoorn & Juffer, 2006; van IJzendoorn *et al.*, 2005).

Country of origin

Children adopted internationally are from countries with a great variety in the quality of pre-adoption conditions, adoption procedures and selection of children for adoption. Although international adoptions mainly continue to represent a move from poor to rich countries, the major sources are not always the poorest countries or those with the highest birth rate (Selman, 2000). The demand for children in the receiving countries is often a key factor.

Pre-adoptive factors—in combination with different adoption practices—are likely to influence the cognitive prerequisites of children available for adoption in a given country. As mentioned above, these factors vary greatly

between donor countries. However, developmental outcome related to country of origin has been less extensively studied than impact of age at adoption. This includes recent meta-analyses, that have contributed significantly to our understanding of the messages from a large of international number adoption research (e.g., Van IJzendoorn *et al.*, 2005). Several studies looking at outcomes other than cognitive performance, suggest that there may be considerable disparity between children from different donor countries (e.g., Hjern, Lindblad & Vinnerljung, 2002; Lindblad, Hjern & Vinnerljung, 2003).

Selman (2000) points to the fact that South Korea has a special position among countries delivering children for international adoption. When this kind of adoptions started, South Korea was destroyed by war and had a very low GNP per capita combined with a high birth rate. Today it is a wealthy country with a high level of education and a high fertility rate. However, there is still stigmatization of unmarried parenthood because of the absence of a comprehensive welfare system. So, even today, this makes it almost impossible for a single mother to keep her child.

Interestingly, South Korea is also in a special position from another perspective. Korean adoptees seem to display better language skills and school performances than adoptees from other donor countries (Dalen, 2001; Frydman & Lynn, 1989; Kim, 1995; Kim & Staat, 2004; Kim, Shin & Carey, 1999; Kvifte-Andresen, 1992; Lindblad *et al.*, 2003; Verhulst *et al.*, 1990, 1992). However, these results may reflect the conditions concerning international adoptions in South Korea more than ethnic differences in cognitive performance. The effects of pre- and perinatal deprivation are far more severe in countries with low GNP, which makes the children born in these countries more vulnerable to cognitive developmental delays.

Educational achievement

Some studies have shown that as a group, internationally adopted children are lagging behind in educational achievement compared to non-adopted children (Dalen, 1995, 2001; Hoksbergen, Juffer & Waardenburg, 1987; van IJzendoorn & Juffer, 2006; van IJzendoorn *et al.*, 2005; Verhulst *et al.*, 1990, 1992).

Learning difficulties and special needs education

Furthermore, studies have also documented that compared to non-adopted peers internally adopted children have increased risk of developing learning problems (Dalen, 2001; van IJzendoorn *et al.*, 2005; van IJzendoorn & Juffer, 2006). These problems are often related to language disorders and some kind of hyperactive behavior (Dalen, 2001; Kvifte-Andresen, 1992; Verhulst *et al.*, 1990, 1992). Several studies have also documented that a higher percentage of international adoptees had been given special needs education compared to non-adoptees (Dalen, 2005; Gioia, 2003; McGuinness *et al.*, 2000; Van IJzendoorn *et al.*, 2005; Van IJzendoorn & Juffer, 2006).

The literature on adopted children's cognitive functions also document a discrepancy between adoptees' intelligence scores and their school achievements, suggesting that some adoptees may perform below their cognitive capacity at school. Van IJendoorn *et al.* (2005) name this an adoption "decalage". This gap seems to be largest for children from very deprived pre-adoptive backgrounds. Adverse pre-adoptive environment conditions may have contributed towards making these children more vulnerable, possibly also due to emotional problems related to their adoptive status. Brodzinsky, Schechter and Henig (1992) used the term "adaptive grieving" to explain the situation of children who struggled with the loss of their birthparents. Unresolved losses and identity issues may have a negative effect on children's school performance, e.g. through a reduced capacity of concentration on classroom- and homework-related tasks.

Language development

A potential risk factor for cognitive development is the change of language inherent in most international adoptions. Few adoptees become bilingual although some have a first language at adoption (Dalen, 2001; Hene, 1988).

Internationally adopted children have an atypical language development. The language development is interrupted due to an abrupt change of mother tongue, and the children develop a second first language with little or no exposure to their birth language. Most of the children make rapid progress in acquiring their adopted language (Glennen & Masters, 2002; Roberts *et al.*, 2005). However, one third of them develop some form of language problems (Dalen, 2001; Judge, 2004; Rygvold, 1999; van IJendoorn *et al.*, 2005). Researchers in this field have paid particular attention to a discrepancy between the children's mastery of day-to-day language or the Basic Communication Skills (BISC, Cummins, 1981) and academic language or the Cognitive Academic Language Proficiency (CALP, Cummins, 1981). The day-to-day language represents the contextualized language in which meaning and understanding are anchored in the here-and-now situation while the academic language represents a more abstract and decontextualized language (Dalen, 2001; Rygvold, 1999). There are currently few data on language development in school-age children. However, studies from Norway show no significant differences between adopted children and their Norwegian-born counterparts in day-to-day language (Dalen, 1995, 2001; Dalen & Rygvold, 2006). However, the adopted children scored lower than the Norwegian controls on academic language, which theoretically puts them at risk for later literacy disorders.

U.S. researchers have employed a more neuropsychological approach, looking at language in a broader sense (Frederici, 2003; Gindis, 2005; Gioia, 2003). The term executive function has been used as an "umbrella"-term encompassing those interrelated skills necessary for purposeful, goal-directed activities, including mastery of language.

Hyperactive behavior (ADHD)

Hyperactive behavior affects the child's learning and social functioning in a school situation. Hyperactive children are easily distracted and have relatively short attention span. As a result, they may be subjected to an increased risk of developing learning difficulties. It is well documented that hyperactivity is a common symptom among internationally adopted children (Dalen, 2001; Hoksbergen, ter Laak, van Dijkum, Rijk & Stoutjesdijk, 2003; Kvifte-Andresen, 1992; Roy, Rutter & Pickles, 2000; Verhulst *et al.*, 1990, 1992). This kind of behaviour is often associated with neuropsychological disturbances like Attention Deficit Hyperactivity Disorders (ADHD) a diagnosis that is more often used among adoptees than their non-adopted peers (McGuinness & Pallansch, 2000; McGuinness, McGuinness & Dyer, 2000). ADHD is related to maternal health issues such as congenital infections and exposure to drugs, alcohol, and tobacco, which may lead to prenatal neurophysiologic/neurological damage or dysfunction resulting in long term medical and developmental issues for the child (Miller, 2000; McGuinness & Pallansch, 2000; Mitchell, 2001).

The Adoptive family

Many studies have documented that adoptive parents as a group are more competent in some respects compared to other parental groups (Hjern, Lindblad & Vinnerljung, 2002; Juffer & van IJzendoorn, 2005; Lindblad, Hjern & Vinnerljung, 2002; Verhulst, Althaus & Versluis-den Bieman, 1992). The adoptive parents are often better educated and they belong to higher socio-economical layers compared to families with biological children. However, we do not know how these factors are related to quality, atmosphere, and personal climate in adoptive homes.

Studies among international adoptees clearly document that the correlation between adoptive parents educational and socio-economic level is much lower compared to that which one finds in biological families (Becket *et al.*, 2006; Lindblad, Hjern & Vinnerljung, 2003; van IJzendoorn, Juffer & Poelhuis, 2005). Furthermore, previous research has shown that parental education exerts only a modest environmental influence on individual differences in IQ (Neiss & Rowe, 2000; van IJzendoorn & Juffer, 2005).

Parental expectations

Scandinavian studies show that adoptive parents are far more supportive of the child's school situation than the parents of native born children (Dalen, 1995, 2001, 2005). They more frequently help their children with homework and are more involved in the day-to-day life at school. This can easily lead to a positive effect on a child's academic performance. However, one should also

be aware that adoptive parents sometimes set unreasonably high standards for their child's school performance. This in turn may have a negative effect on the child's self-esteem and learning process especially in families with high academic standards. Studies have actually shown that there is a higher risk for social maladjustment in adoptive white-collar families than in blue-collar families. Furthermore, the disruption rate is higher in families from higher socio economic classes (Berry & Barth, 1990; Rosenwald, 1995). Although adoptive parents may encourage cognitive development, the adoptees' capacity for intellectual performance may be limited because of genetic and pre-adoption factors.

Conclusion

The research results presented in this article indicate that negative pre-adoption condition may have persistent influence on educational achievement. However, the differences in cognitive functioning among adoptees may reflect the conditions in the country of origin more than ethnic differences. Adoption means a positive change for most children and the adoptive families provide a stimulating and supporting environment for childrens' cognitive development. However, the adoptees' capacity for intellectual performance may be limited because of genetic and adoption adversity factors.

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