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VIII. POST-ADOPTION ENVIRONMENTAL FEATURES

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<H1> Background and Rationale

There is an abundance of evidence showing relatively strong associations between family characteristics and a child's psychological functioning – both within the normal range and, also, with reference to psychopathology (Jenkins, 2008; Lahey, Moffitt & Caspi, 2003; Rutter & Madge, 1976; Rutter, 1989; Rutter, Giller & Hagell, 1998; Sandberg & Rutter, 2008). That has sometimes led to the assumption that equally strong associations should be found within adoptive families. Nevertheless, the available evidence indicates that, to the contrary, the associations tend to be much weaker than those in biological families (Neiss & Rowe, 2000; van IJjzendoorn, Juffer & Poelhuis, 2005). Conceptually, there are three main reasons why that should be so. First, and most importantly, a substantial part of the association in biological families reflects genetic, as well as environmental, mediation (see Rutter, 2007) - parents pass on genes to their children as well as creating a rearing environment for them. Obviously, the situation is different in adoptive families because there is no genetic mediation. Second, parents are approved for adoption on the basis of an assessment that seeks to rule out major environmental risks for the adopted children. Such screening is necessarily imperfect, but, nevertheless, the consequence is that the range of environmental risks within adoptive families tends to be much narrower than within biological families (Stoolmiller, 1999). Third, it cannot be assumed that the parental qualities that are most crucial ordinarily apply in quite the same way when raising children with 'special needs'. That is certainly relevant in the case of families

adopting children who have experienced severe institutional deprivation in their early years.

When seeking to examine possible environmental influences on children, there are, in addition, methodological hazards to be dealt with (Academy of Medical Sciences, 2007). Probably the most important of these with respect to our own study concerned the possibility of 'reverse causation' – namely, the possibility that any family risk factors present were a consequence, rather than a cause, of the adopted child's problems. This issue was first raised systematically by Bell (1968) many years ago, and since that time, there has been a growing body of evidence demonstrating the reality of child effects on the family (Bell & Harper, 1977; Bell & Chapman, 1986). In our own study, we found some evidence that this occurred when the children were quite young (Croft et al., 2001). Accordingly, this was an issue that required attention in the analyses reported here in relation to the findings when the young people were aged 15.

In our analyses, we focus first on family factors that might differentiate children with, and without, postulated deprivation-specific patterns (DSPs) within the sample who experienced institutional care beyond the age of 6 months. The rationale here is that, by definition, according to the criteria we used (see chapter 3; Kumsta, Kreppner, Rutter, et al.) DSPs must have been present by the age of 6 years, whereas the family influences measured in the ERA study mainly applied to features as they operated after that age. This means that any associations found are likely to reflect the influences of children on their families, rather than the effects of families on the children. Of course, that does not necessarily mean that family influences could not affect the course of DSP. In order to investigate that possibility, we had planned to examine the association between family measures and the course of DSP between the

ages of 11 and 15 years, but there was too little change for that to be possible (see chapter 4; Kreppner, Kumsta, Rutter, et al.).

Next, we turned our attention to the possible influence of the post-adoption environment on variations in non-DSP psychopathology. This was undertaken both within the pooled comparison group and, separately, within the non-DSP group whose institutional deprivation extended beyond the age of 6 months. For this purpose, our outcome measure was the CAPA interview at age 15 years (see chapter 2 for all measures). The CAPA includes an assessment of the age of onset, and in order to avoid the complication of reverse causation, we focused only on psychopathology with an onset after 6 years. The initial analyses pooled all psychopathology, ignoring diagnostic distinction, and concerned the categorical distinction between the presence or absence of some sort of psychopathology. Further to this, associations were also examined dimensionally in terms of the overall symptom count. Because the influences on emotional disturbances and behavioral disorders might be different, these analyses were repeated to include these two broad diagnostic groups separately.

The child interview was selected as being the prime measure of psychopathology in order to avoid the possible criterion contamination that would arise when using the same informant for both the family circumstances and the psychopathological outcome. However, this approach carried with it two disadvantages: First, there were more missing data on the child interviews at age 15 than on the parental interviews; second, reliance on a single informant is likely to be less satisfactory than a combination of two or more informants. Accordingly, the analyses were repeated combining subject and informant reports and using them on an either/or basis. That is to say, a positive response from one was regarded as sufficient evidence of a positive – using the usual epidemiological convention (see Angold,

Erkanli, Costello & Rutter, 1996). Finally, we examine the post adoption environment in relation to the educational outcomes of the children.

<H1> Results

<H2> Frequency distribution of items

One of the major constraints that applies to all studies of possible effects of the adoptive family environment is that the proportion of families exhibiting high risk environmental features is low. That arises, of course, because it is a standard part of the approval process for parents applying to adopt, and that approval will be withheld if it is considered that the home will present a major environmental risk for an adopted child. Although the screening process is imperfect, numerous studies have shown that, compared with the general population, adoptive parents are far less likely to have seriously adverse features – represented by, for example, antisocial behavior or substance misuse problems (Rutter, 2006). For related reasons, it is not just that the rate of high risk environments tends to be unusually low in adoptive families, but also that the range of environments is restricted as compared with the general population (Stoolmiller, 1999). Accordingly, we need to start by presenting the frequencies of what might be construed as risk features.

Table 8.1 gives the frequencies of the 6 items in the FARIS (family risk) scale (see chapter 2). The first column presents the frequencies in the group of children adopted within the UK by the age of 6 months. There were no missing data for the first three items (i.e., the *n* was 52), but the frequencies for the second three items contained a substantial amount of missing data, resulting in valid data only being available for 35, 31, and 36 cases, respectively, in the second trio of items. Although clearly unfortunate, such issues arise in a study of the psychological development of adopted children, due to the reluctance of some parents to complete questionnaires

about themselves. In the pooled comparison group, the same pattern applied – with no missing data for the first three items (i.e., an *n* of 115), but more missing data for the second group of three items – with valid data available for 94, 80, and 92 cases respectively. In the total group of 107 families whose children had experienced institutional deprivation up to at least the age of 6 months, there were no missing data for the first three items but the numbers with valid data for the second group of three items were somewhat lower (94, 76, and 90 respectively).

TABLE 8.1 about here

Table 8.1a shows that the frequencies of FARIS items were sufficiently high to provide meaningful comparisons. By design, the focus of the FARIS was on environmental circumstances that applied to features that are quite common in the general population and which were unlikely to have led to a social services decision that the home would present a major environmental risk for an adopted child. Thus, the first two items concerned mental health services usage at any time post-adoption. This applied to just over half of the mothers and about one in six of their partners – reflecting the usual sex differences found for emotional disturbances. Also, about one in six of the mothers had experienced a relationship breakdown and made a new partnership at some point post-adoption. The proportions of mothers with limited active engagement in joint activities with the child, or with a negative score on either question 6 or 14 on the GRIMS, or a malaise score of 7 or more, were all in the same general range. It is also evident from table 8.1 that the proportion of frequencies were roughly the same in the three groups included in the table (namely the families with children adopted within the UK before the age of 6 months, the pooled comparison group, and the total group of adoptees from Romania who experienced institutional deprivation up to at least 6 months of age).

Table 8.1b presents frequencies in the same way for maternal IQ as indexed by the NART scores, parental education and parental occupational class. The pattern differs from that for the FARIS because of the usual tendency for adoptive parents to be better educated than the general population. This means that the restricted range will constrain the study of possible adoptive home features (Stoolmiller, 1999).

The third set of adoptive home features concerns the measures of negative expressed emotion obtained at the time of the first parental research interviews when the children had been in the adoptive home for about 2 years (i.e., at 4 or 6 years of age depending on the individual child's age at joining the adoptive family). As described in chapter 2, the concept of expressed emotion is based on how a parent talks about their child when given only nondirective prompts (i.e., not in answer to probes about symptomatology). Obviously, assessments at 4 or 6 years are of negligible value in relation to the children's functioning at 15 years of age (because the time gap is far too great). On the other hand, the assessments could be informative with respect to outcomes postulated to show a DSP, because one requirement for a DSP was that they had to be manifest by age 6 years (see chapter 3, Kumsta, Kreppner et al.). Accordingly, the distribution of expressed emotion across groups is presented in table 8.1c. It is apparent that although high expressed emotion, either in terms of the number of negative comments or the general level of negativity, applies to only a minority of families, it was sufficiently common to make it a worthwhile target to examine its possible effects.

<H2> Associations between adoptive family environment and DSP

We start first with DSPs, because their early occurrence makes it unlikely that there could have been a true causal effect from the adoptive home environment and environmental features at age 11 years, and definitely could not have caused DSP at

age 6 years. Accordingly, findings should provide a guide to the possibility of reverse causation in other groups. The associations between overall FARIS scores and DSP within the group of children adopted from Romanian institutions for whom the institutional care persisted until 6 months of age or later can be examined either dimensionally or categorically. The mean total FARIS score (summing the cut-offs for each of the six constituent items, giving a range from 0-6) did not differentiate the DSP and non-DSP subgroups. The mean in the DSP group (*n*=50) was 1.57, with a *SD* of 1.27 as compared with a mean of 1.36 and an *SD* of 1.21 in the non-DSP group (*n*=42). A *t*-test (90 *df*) gave a value of -.83, with a *p* level of .410 , η^2 = .01– far below statistical significance. When the FARIS was considered as a categorical variable, as shown in table 8.5 (using a 17% cut-off for high risk), 12 out of 42 in the DSP subgroups (29%) were associated with high risk compared with 10 out of 50 in the non-DSP subgroup (20%); Fisher's exact test, (*p*= .462); again this falls far below statistical significance. We conclude that the FARIS provided no evidence of an association between post-adoption environmental risk and DSP. Equally, however, it provided no evidence of reverse causation in which the occurrence of a DSP increased probability of environmental risk in the adoptive home.

TABLES 8.2 and 8.3 about here

Similar comparisons were made with respect to the cognitive and educational levels of the adoptive mother and father and the occupational class of the family. The mean cognitive score of mothers in the non-DSP group was not significantly different from the DSP group, nor the educational level as shown in table 8.2. Likewise there were no differences in the occupational class in the DSP group and in the non-DSP group. Viewed categorically as shown in table 8.3 (a cut-off of no higher qualifications for the education category; class III, IV or V for occupational status;

and an 8% cut-off for the adoptive mother's cognitive score ≤106) there was a significant association with parents' educational qualifications with significantly more of the adoptive parents whose children were in the DSP category having lower educational qualifications (9/42 [21%]) in comparison with the non-DSP group (3/50 [6%]. There was no significant difference in the father's occupational status and DSP with 14/50 (28%) in the non-DSP in occupational class III, IV or V and 11/42 ([26% in the DSP group] . For the mother's cognitive score, 2/48 (4%) in the non-DSP group had a score of 106 or less, with 1/38 (3%) in the DSP group. The situation with respect to this trio of variables differs from the FARIS in that the measures apply to family characteristics as they were likely to be operating before adoption and, hence, reverse causation can be excluded as implausible.

Overall, the findings are generally negative with respect to associations with DSP. The finding that the educational level of the parents was lower in the DSP group was unlikely to be meaningful. The fact that there was no association with either occupational class or the mother's cognitive score (both of which might be expected to be associated with educational level) emphasizes the inconsistency of the evidence.

Finally, the expressed emotion scores were used to compare young people with and without DSP in the group experiencing institutional deprivation until 6 months of age or older. Because expressed emotion was assessed some 2 years post-adoption, reverse causation was possible, and indeed quite likely. As already noted, the lengthy time gap makes it inappropriate to relate expressed emotion to the outcome at age 15 years, but, at least for some measures of the adoptive home environment, reverse causation might possibly be operating. The expressed emotion negative scores did not differentiate the DSP and non-DSP groups; mean scores for

overall negativity were 1.26 for the DSP group (*SD* .94, *n*=39) and 1.17 (*SD* 1.08, *n*=46) for the non-DSP group (*t* (83) = -.37,*p*= .711, η^2 = .00). The mean score for the number of negative comments was 1.67 for the DSP group (*SD* 1.40, *n*=39) and 1.72 (*SD* 1.77, *n*= 47) for the non-DSP group (*t* (84) = .16, *p*= .871, η^2 = .00). Viewed categorically, as shown in table 8.4, with negative comments classified as 3 or more and general negativity as some or a lot of negativity expressed, the results showed that 12/47 (26%) non-DSP adoptive mothers expressed 3 or more negative comments and 9/39 (23%) of the DSP group (Fisher's exact test = 1.00). For the global scale of negativity 15/46 (33%) of the non-DSP group's mothers expressed some or more negativity and 14/39 (36%) of the DSP group (Fisher's exact test=.82.). In summary, the expressed emotion findings provide no evidence of reverse causation.

<H2> Associations with non-DSP psychopathology in the pooled comparison group

As discussed in chapter 2, for most purposes we combined the three groups who had either not experienced institutional deprivation (i.e. the 52 within-UK adoptees and the 21 children from Romania who were not raised in institutions) or who had experienced it for a period that did not extend beyond the age of 6 months (42 children). When FARIS was treated as a dimensional variable and related to the sum of the five CAPA scores on anxiety, depression, conduct disorder, oppositional/defiant disorder and ADHD (excluding those who met the criteria that we had set for a DSP) no association was found. With an *n* of 92, *r* was .05, giving a *p* value of .641. When the group was subdivided into those with a psychopathological CAPA score on any of the five CAPA variables, of the 75 children with no CAPA score, 8 (11%) were in the environmental high risk group as defined by the FARIS score compared with 1 out of 17 (6%) of the young people with a CAPA score on any of the five diagnostic groups (Fisher's exact test = 1.00) as shown in table 8.7.

TABLES 8.4 and 8.5 about here

Similar comparisons were made with respect to the cognitive level of the mother, the educational level of the parents, and the occupational class of the family. No significant associations were found in the pooled comparison group with the combined CAPA scores and the cognitive level of the mothers, (r= .00, n=86); educational level of the parents (r=.19, n=92); and the occupational class of the fathers, (r=.09, n=92).

Associations between FARIS and psychopathology were examined in more detail by comparing possible effects for separate emotional (i.e., the pooled anxiety and depressive disorders), and behavioral CAPA categories (i.e., pooling conduct and oppositional/defiant disorders). Findings were consistently negative in both of these pooled groups. When FARIS was treated dimensionally, r was .01 with emotional disorders, with a p value of .935. When it was treated categorically, the associations were equally negative (Fisher's exact test =.58). With behavioral disorders, r was .15, with a p value of .154. Again, treated as a category, the associations were equally negative (Fisher's exact test = .64).

The comparable associations with the separate combined emotional and behavioral CAPA scores were examined using the cognitive level of the mother, the educational level of the parents, and the occupational class of the family. No significant associations were found for the separate CAPA scores and the cognitive level of mothers (anxiety and depression r= -.09, n=91; oppositional/conduct problems r= -.04, n=89); educational level of parents (anxiety and depression r= .19, n=97; oppositional conduct problems r= .18, n=95). Only for the occupational class was there a significant association between lower occupational class and increased levels of anxiety and depression (anxiety and depression r= .21, p<.05, n=97).

However, there was no association with conduct problems (r= .11, n=95). When the separate child reports of anxiety and depression were examined, the association with occupational class fell short of significance whether dealt with categorically (Fisher's test = .124), or dimensionally (r=.19, n=95). Once more, the overall pattern is one of no association between the adoptive family environment and non-DSP in the pooled comparison group. The very few statistically significant findings on the combined parent and child reports are unlikely to be meaningful in that they were not significant when child reports alone were examined.

<H2> Associations with non-DSP psychopathology in the subgroup of children whose institutional care extended to at least the age of 6 months

TABLES 8.6 and 8.7 about here

The associations in this subgroup differ conceptually in that all of the young people experienced institutional deprivation for at least 6 months, although not including members of the DSP subgroup. As discussed in chapter 1 (Rutter, Sonuga-Barke & Castle), the main associations were with DSP but, as also noted, our rigorous approach clearly meant that we excluded from DSP some patterns that, in reality, probably were DSP. Accordingly, it is likely that, to some extent, the associations may partially reflect liabilities based on institutional deprivation.

In the >6 month non-DSP group (see tables 8.6 and 8.7), treating FARIS as a dimensional variable did not show a significant correlation (r=.29, p=1.000) with the mean total CAPA score. In addition, when FARIS was used as a categorical variable, the mean total CAPA scores for the five diagnoses showed no difference in CAPA score between the low environmental risk group (mean=.43, *SD*. 69) and the high risk group (mean=.83, *SD*.=1.17; t (32) =1.15, p=.260, η^2 = .04). Similarly, there was no

difference when comparison was made between those who scored on any one of the five CAPA diagnoses and environmental high risk.

The findings were generally similar for the two broad diagnostic groups considered separately. Using FARIS as a dimensional variable, the correlation with emotional disorders was r=.36 (p=.029), and the correlation with behavioral disorders was r=.30 (p=.079). When the separate child and parent reports of the sum of CAPA scores and the emotional and behavioral disorders were examined, the association between the parent report of the sum of CAPA scores and the FARIS score did not reach significance (r= .26, p=.099) nor did it for the behavior score (r= .11, p=.488), but for the emotional disorder score there was a significant association (r= .40, p<.01). For the child reports, the association with the sum of CAPA scores and separate scores was statistically significant (r= .45, p<.01; emotional disorder, r= .33, p=.05; behavior disorder score r= .42, p<.05). However, when viewed categorically, there were no significant associations between high and low levels of risk for non-DSP psychopathology. Again, what stand out are the largely negative findings and the inconsistency of the few positive ones. The significant findings using child reports suggest that there was not criterion contamination (because the correlation applied across informants). It is, therefore, possible that the dimensional findings might be meaningful. Doubt is raised, however, by the entirely negative findings on categorical analyses. The point is that the categorical analyses apply specifically to scores in the psychopathological range, whereas the statistically stronger dimensional analyses mainly concern variations within the normal range. It is possible that the latter (statistically significant) associations may be meaningful, but there is some doubt about their relevance for clinical disorders.

Comparable analyses were undertaken for the adoptive parents' social economic status. Within the non-DSP, 6 month group, there was no association between the mother's cognitive scores and the combined CAPA scores (r =.16, n=27); the same applied to parental education level (r =-.26, n=30) and social class (r =.15, n=30). When the CAPA was looked at in the two categories of combined depression and anxiety, and combined oppositional/conduct, there was also no significant correlation between the CAPA scores and the mother's cognitive scores (r =-.11, n=35), parental education level (r =-.01, n=36) and occupational class (r =.30, p=.070, n=36).

<H2> Do associations between FARIS and CAPA diagnoses reflect causation?

As outlined in chapter 2, the FARIS measure included assessments at age 15 years. The rationale was that family features between 11 and 15 years might play a causal role in mental disorders in the young people at age 15. The price, however, is that this necessarily raises doubts about the causal inference. We sought to deal with this ambiguity by repeating the analyses after eliminating the FARIS measures at age 15, and by requiring that the CAPA categories should be restricted to those with an onset at age 12 years or later (see tables 8.8 and 8.9). This analysis was conducted in the combined pooled comparison and the non-DSP >6 months group, excluding the cases where there had already been an onset of non-DSP psychopathology by age 11 (n= 109). The either/or approach using both child and parent measures was employed. This analysis indicated that the level of environmental risk in the group who had an onset of problems measured on the CAPA over the age of 11 was no higher than that of the children who had never experienced any problems, whether viewed dimensionally or categorically. The mean level of environmental risk in the late onset group (n =12) was 1.58 (SD=1.06) and 1.21 (SD 1.08) for those who did not

experience problems at any time (t (107) = -1.16 p=.249, η^2 = .01). When this was looked at categorically, there was a modest association between those adoptive parents who were of lower occupational level and the risk of later onset non-DSP psychopathology (Fisher's exact test =.034, p<.05), but not with the cognitive or educational levels of the adoptive parents, as shown in tables 8.8 and 8.9. When the significant lower occupation association with a late onset CAPA diagnosis was re-examined using only child reports, the association was non-significant (Fisher's exact test = .069). Inevitably, the numbers are smaller in these analyses but the extreme paucity of statistically significant findings suggests that a causal effect of the adoptive home environment on non-DSP psychopathology was unlikely.

TABLES 8.8 and 8.9 about here

<H1> Association Between FARIS, Family Factors and Educational Outcomes

The association between the FARIS scores and the English and Math GCSE results as reported in chapter 6 (Beckett, Castle, Rutter & Sonuga-Barke) was examined, first in the pooled comparison group, and then in the >6 month non DSP group. The main predictor of the GCSE results was the children's IQ and their previous levels of attainment: All associations were, therefore, controlled for IQ at age 11.

<H2> Pooled comparison group

There was a significant correlation between the children's GCSE scores in English (r=-.26, p<.05, n=92) and Math (r= -.23, p<.05, n=92) and the FARIS score of environmental risk, with the children in the higher environmental risk group having lower scores after controlling for IQ at age 11 (see table 8.10). There were no significant correlations between the adoptive parents' educational level and either English or Math results (English r=-.08; Math r= .02) or occupational class (English

r= -.11; Math *r*= .06, *n*= 99). Mother's predicted IQ scores were significantly associated with the children's English language GCSE results (*r*= .22, *p*<.05), but not with their Math results (*r*= .07), again controlling for IQ at age 11.

TABLES 8.10 and 8.11 about here

<H2> >6 months non-DSP

There was no association between the total FARIS score and either English GCSE (*r*= -.19, n.s, *n*=32) or Math GCSE (*r*= -.29, *p*=.090, *n*=32), although this showed a slight tendency toward those who had higher environmental risk not doing as well (see table 8.11). There was also no association between mother's predicted IQ and GCSE results (English, *r*= .10, n.s; Math *r*= -.12) nor with parental education (English *r*= -.19; Math *r*= -.08), but there was an association between social class and the results in English language (*r*= -.45, *p*<.01) with the children in the higher social class brackets doing better in English, but not Math (*r* =.10). The mean score in English language of the children whose parents were in social classes I-II (*n*=28) was 6.89 (*SD* 1.07) which was equivalent to a C grade. The mean score for those children whose parents were in social class III or below (*n*=12) was 4.92 (*SD*, 3.02), equivalent to a mean grade of E.

<H1> Discussion and Conclusions

Our initial focus was on factors within the family that might differentiate children with, or without, deprivation-specific patterns who had spent at least 6 months in an institution. No major difference in level of familial risk was found between the two groups. Thus, there was neither evidence of association between familial factors and DSP, nor grounds for 'reverse causation' in which DSP might increase the likelihood of environmental risk in the adoptive home. Likewise, the level of environmental risk did not vary according to the adoptive mother's IQ, or to

the family's occupational class. The educational attainment of the parents who had adopted children in the DSP group was slightly lower than that of the parents who had adopted non-DSP children, but this was unlikely to be relevant given its inconsistency with the findings for occupational class and maternal IQ. Examination of mothers' expressed emotion toward their child showed no difference in levels of negativity according to the existence of DSP, so there was no evidence of reverse causation, such that the child's behavior could have influenced the adoptive family environment.

Next, the possible influence of the post-adoption environment on non-DSP psychopathology as rated by the CAPA was examined. This was looked at first in the pooled comparison group and second in the children who had spent 6 months or more in an institution, without showing a DSP. In the pooled comparison group no association was found between CAPA-rated psychopathology and environmental risk. This was also the case for the children in the >6 months non-DSP group. A modest association between environmental risk and CAPA-rated psychopathology was evident for the >6 months non-DSP group, but when this difference was examined categorically, according to high and low levels of environmental risk, it was found to be non-significant. Thus, we concluded that the post-adoption environment had a very limited effect on CAPA-rated psychopathology.

As noted earlier, there was some indication of a relationship between environmental factors and the children's GCSE performance. However, this finding was inconsistent and confined to families in which the children did not exhibit DSP features. Of course, the absence of association between post-adoption environment and children's outcomes does not imply that the post-adoption environment is unimportant. As discussed in chapters 1 (Rutter, Sonuga-Barke & Castle), 6 (Beckett et al.) and 9 (Kumsta, Rutter et al.), there was evidence of substantial developmental

catch-up for children removed from depriving institutional care to mostly well-functioning adoptive homes. It is, of course, conceivable that this catch-up was due only to the cessation of institutional deprivation rather than the quality of the adoptive homes. Perhaps 'good enough' parenting was all that was necessary for the children to flourish, so they might have progressed equally in less well-functioning homes. However, it is more likely that it was the combination of removal from poor care, and the above average quality of the adoptive family, that has made an impact. We know that many of the adoptive families had to deal with extremely impaired children, and there is much evidence to suggest that they coped extremely well with the challenges presented. The remarkable catch-up in the children's physical development, IQ and academic achievement, attest to the benefits of their home environment. The variation in outcome, however, was not systematically association with variations in the quality of rearing in the adoptive families. It seems highly probable that this reflects the paucity of high risk environments in the adopted groups, as well as the limited variations within the normal environmental range.

We found no grounds to conclude that the adoptive family environment could be responsible for the development of DSP behaviors. The early onset of DSP features (established by age 6 years) would, in any case, make this unlikely, and there is no evidence of any pre- or post-adoption familial factors being associated with DSP behaviors. The marked, overriding, effect of early institutional deprivation on outcomes for the children within the DSP group was so strong that it leaves little opportunity for post-adoption environmental factors to make a discernible impact on variations in outcome. For the children who did not exhibit DSP features (both in the pooled comparison group and the >6 months group), there were a few weak and specific links between environmental risk and outcome. However, these findings

were both modest and inconsistent, so the overall conclusion is that variations in familial environmental risk had no marked effect on children's outcomes. Why might this be? Two possibilities need to be considered. First, there is the restriction in range and paucity of high risk factors in the adoptive homes. Second, it may be that other factors, such as genetic predisposition and the effects of early deprivation, may be more powerful than the later environmental effects.

<H2> Conclusion

The main conclusion is that, within the set of measures that we had available to us, there was a lack of convincing and consistent evidence that the heterogeneity of psychological outcomes in children adopted after profound early institutional deprivation was a function of variations in the post-adoption environment. The common expectation that strong effects should be found fails to take into account both the fact that the stronger associations found in biological families reflects genetic, as well as environmental, transmission, and that the major benefits of rearing in a high quality adoptive family may well bring big advantages for the young people without having more than minor effects on variations in outcome if the environmental range is severely restricted, especially at the high risk end.

In the British Columbia study (MacLean, 2003) there was said to be a significant effect of the adoptive home environment on IQ (Morison, Ames & Chisholm, 1995; Morrison & Ellwood, 2000). However, it should be noted that the home environment was assessed at follow-up, leaving the strong possibility that the association reflected the effect of the child on the home rather than the other way around. Accordingly, insofar as we can tell, there are no findings in the literature that contradict our evidence that, for children who have experienced profound institutional deprivation, variations in the adoptive home environment do not have a significant

effect on the children's functioning. In the ERA sample, there is the additional consideration of the very strong and highly enduring effect of the early institutional deprivation (see chapter 4; Kreppner et al.). Given the importance of that effect, it may be that in the future research should place a greater attention on protective environmental features and positive coping responses.

<H1> References

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TABLE 8.1: Group comparisons*

a) Frequency of FARIS items

	Within-UK adoptees (%) *n*=52	Pooled comparison group (including UK adoptees) (%) *n*=115	All Romanian > 6 months (%) *n*=107
Mother's mental health seeking when young person aged 4,6,11 or 15	55.8	52.2.	59.8
Partner's mental health seeking when young person aged 4,6,11 or 15	15.4	17.4	17.8
Mother: change of partner when young person aged 4,6,11 or 15	17.3	15.7	12.1
Low active involvement with child when young person aged 11	14.3	14.9	23.4
Negative score on question 6 or 14 of GRIMS when young person aged 11	12.9	30.0	30.3
Malaise score of 7 or more when young person aged 11	13.9	14.1	10.0

b) Frequency of parental IQ, education and social class grouping

Adoptive family characteristics	Within-UK adoptees	Pooled comparison group including UK adoptees	All Romanian >6 months
Neither parent has a degree or professional qualification	7.7	9.6	13.0
Social class III, IV or V	21.2	18.3	27.2
NART score in bottom 8% of standardization sample distribution	11.5	13.1	3.5

c) Frequency distribution of negative expressed emotion across groups

Expressed emotion	Within-UK adoptees	Pooled comparison group including UK adoptees	All Romanian >6 months
3 or more negative comments	18.4	19.2	24.4
Some or much negativity expressed	32.6	26.5	34.1

**N.B* - These data provide descriptive data only on overlapping groups and hence no statistics are given

Table 8.2: Adoptive family environment and DSP (dimensional - >6 months only)

Adoptive family environment	DSP group Mean (*SD*)	Non-DSP group Mean (*SD*)	*t*	*p*	η^2
a) FARIS	1.57 (1.23)	1.36 (1.21)	(90) = -.83	.410	.01
b) Cognitive					
Cognitive scores (mother)	116.47 (5.71)	115. 42 (5.17)	(84) = .90	.371	.01
Parental education	1.74 (.80)	1.54 (.61)	(90) = -1.35	.182	.02
Occupational class	2.21 (1.16)	2.26 (.99)	(90) = .20	.838	.00
c) Negative expressed emotion					
Overall negativity	1.26 (.94)	1.17 (1.08)	(83) = -.37	.711	.00
Number of critical remarks	1.67 (1.40)	1.72 (1.77)	(84) = .16	.871	.00

TABLE 8.3: Adoptive family environment and DSP (categorical > 6 months only)

Adoptive family environment	DSP group	Non-DSP group	Fisher's exact test (*p*)
	% in high risk	% in high risk	.46
a) FARIS	28.6	20	
b) Cognitive	% in lowest level	% in lowest level	
Cognitive scores bottom 8% (mother)	3.0	4.0	1.00
Education no degree or professional qualification	21.0	6.0	.034*
Social class (manual)	26.2	28.0	1.00
c) Negative expressed emotion			
Overall negativity; some/a lot of negativity	35.9	32.6	.82
3 or more negative remarks	23.1	25.5	1.00

*$p<.05$

TABLE 8.4: Correlations between adoptive family environment and score on non-DSP psychopathology in the pooled comparison group

Adoptive family environment	Correlation	*p*
a) FARIS		
Sum of CAPA scores	.05 (*n*= 92)	.641
Emotional disorder score	.01 (*n*=97)	.935
Behavioral disorder score	.15 (*n*=95)	.154
b) Cognitive scores & Sum of 5 CAPAs		
Cognitive scores (mother)	.10 (*n*=86)	.354
Educational level of parents	.10 (*n*=92)	.354
Occupational level	.06 (*n*=92)	.554
c) Cognitive score of mother		
Emotional disorder score	-.09 (*n*=91)	.406
Behavioral disorder score	-.04 (*n*=89)	.741
d) Parental education		
Emotional disorder score	.19 (*n*=97)	.067
Behavioral disorder score	.18 (*n*=95)	.080
e) Occupational level		
Emotional disorder score	.21 (*n*=97)	.041*
Behavioral disorder score	.11 (*n*=95)	.307

*$p<.05$

TABLE 8.5: Association between adoptive family environment and non-DSP psychopathology categories in the pooled comparison group

Adoptive family environment	No score (%)	Abnormal score (%)	Fisher's Exact test (*p*)
a) FARIS high risk and scores on any of the 5 CAPA variables	10.7	5.9	1.00
Emotional disorder score	11.0	14.3	.58
Behavioral disorder score	11.0	15.4	.64
b) Cognitive level and scores on any of the 5 CAPA variables			
Cognitive scores bottom 8% (mother)	10.0	0	.34
Education no degree or professional qualification	9.3	11.8	.67
Occupational class (III - V)	12.0	29.4	.13
c) Emotional disorder score			
Cognitive scores bottom 8%	8.3	12.5	.49
Education no degree or professional qualification	8.9	28.6	.15
Occupational class (III-V)	14.4	57.1	.02*
d) Behavioral disorder score			
Cognitive scores bottom 8% (mother)	9.1.	0	.59
Education no degree or professional Qualification	8.5	15.4	.61
Occupational class (III-V)	12.2	38.5	.03*

*$p<.05$

TABLE 8.6: Correlations between adoptive family environment and score on non-DSP psychopathology in the >6 months non-DSP group

Adoptive family environment	correlation	*p*
a) FARIS		
Sum of CAPA scores	.29 (*n*=34)	.101
Emotional disorder score	.36 (*n*=36)	.029*
Behavioral disorder score	.30 (*n*=36)	.079
b) Cognitive scores & sum of 5 CAPAs		
Cognitive scores (mother)	.21 (*n*=33)	.248
Educational level of parents	.20 (*n*=34)	.259
Occupational level	.11 (*n*=34)	.543
c) Cognitive score of mother		
Emotional disorder score	-.11 (*n*=35)	.112
Behavioral disorder score	-.15 (*n*=35)	.381
d) Parental education		
Emotional disorder score	-.01 (*n*=36)	.973
Behavioral disorder score	.13 (*n*=36)	.449
e) Occupational level		
Emotional disorder score	.30 (*n*=36)	.072
Behavioral disorder score	.17 (*n*=36)	.365

*p<.05

TABLE 8.7: Association between adoptive family environment and non-DSP psychopathology categories in the >6 month non-DSP group

Adoptive family environment	No score (%)	Abnormal score (%)	Fisher's Exact test (*p*)
a) FARIS high risk and scores on any of the 5 CAPA variables	2.6	10.0	.38
Emotional disorder score	12.0	50.0	.12
Behavioral disorder score	12.9	40.0	.19
b) Cognitive level and scores on any of the 5 CAPA variables			
Cognitive scores bottom 8% (mother)	4.5	0.0	1.00
Education no degree or professional qualification	0.0	16.7	.12
Occupational class (III-V)	22.7	41.7	.27
c) Emotional disorder score			
Cognitive scores bottom 8%	3.0	0.0	1.00
Education no degree or professional qualification	6.3	25.0	.31
Occupational class (III-V)	28.1	50.0	.57
d) Behavioral disorder score			
Cognitive scores bottom 8% (mother)	6.5	20.0	.37
Education no degree or professional qualification	8.5	15.4	.61
Occupational class (III-V)	32.3	20.0	1.00

TABLE 8.8: Level of environmental risk factors in the young people in pooled comparison and non-DSP >6 months where onset of difficulties had occurred after 11 years - viewed dimensionally.

Adoptive family environment	Late onset CAPA diagnosis (*n*= 12)	No CAPA diagnosis (*n*= 97)	*t*-test	η^2
FARIS score	1.58 (1.08)	1.21 (1.06)	-1.16 (107) *p*=.249	.01
Cognitive score (mother)	116.27 (4.32)	115.37 (5.48)	-0.88 (107) *p*=.380	.01
Educational qualifications	1.75 (.75)	1.58 (.63)	-0.53 (101) *p*=.599	.00
Occupational level (III-V)	2.25 (1.14)	2.02 (.91)	-0.80 (017) *p*=.426	.01

TABLE 8.9: Level of environmental risk factors in the young people in pooled comparison and non-DSP >6 months where onset of difficulties had occurred after 11 years - viewed categorically.

Adoptive family environment	Late onset CAPA diagnosis (%) (*n*= 12)	No CAPA diagnosis (%) (*n*= 97)	Fisher's exact test (*p*)
FARIS high risk	15.4	10.4	.630
Cognitive scores bottom 8% (mother)	22.2	10.0	.260
Education no degree or professional qualification	0.0	11.6	.600
Occupational class (III-V)	26.3	7.8	.034*

*p <.05

TABLE 8.10: Adoptive family environment and educational outcomes in the pooled comparison group

Adopted family environment	Pooled comparison group (*n*= 92)	
	r	*p*
a) FARIS		
GCSE English	-.26	.013*
GCSE Math	-.23	.024*
GCSE number of grades A*-C	-.30	.003**
GCSE total taken	-.16	.124
b) Cognitive score of mother		
GCSE English	.22	.030*
GCSE Math	.07	.496
GCSE number of grades A*-C	.13	.230
GCSE total taken	.10	.325
c) Parental education		
GCSE English	-.10	.327
GCSE Math	.01	.961
GCSE number of grades A*-C	-.10	.352
GCSE total taken	.12	.266
d) Occupational level		
GCSE English	-.11	.286
GCSE Math	-.06	.589
GCSE number of grades A*-C	-.13	.228
GCSE total taken	.03	.758

* $p<.05$, ** $p<.01$

TABLE 8.11: Adoptive family environment and educational outcomes in the >6 months groups according to DSP or non-DSP: Controlled for IQ at age 11

Adoptive family environment	non-DSP (*n*= 32)		DSP (*n*= 31)	
	r	*p*	*r*	*p*
a) FARIS				
GCSE English	-.19	.273	.21	.246
GCSE Math	-.29	.091	-.29	.104
GCSE number of grades A*-C	-.19	.282	-.24	.171
GCSE total taken	-.19	.271	-.15	.422
b) Cognitive score of mother				
GCSE English	.10	.592	-.05	.800
GCSE Math	-.10	.561	.05	.791
GCSE number of grades A*-C	-.17	.333	.06	.735
GCSE total taken	.01	.944	.07	.693
c) Parental education				
GCSE English	-.19	.279	.16	.383
GCSE Math	-.08	.643	.13	.474
GCSE number of grades A*-C	-.11	.545	.17	.355
GCSE total taken	.15	.399	.22	.213
d) Occupational level				
GCSE English	-.45	.008**	.08	.652
GCSE Math	-.12	.564	.02	.932
GCSE number of grades A*-C	-.05	.792	-.15	.419
GCSE total taken	-.14	.428	.11	.537

*p <.05, **p <.01