Attachment Across the Life Span

Introduction ................................................................................................................. 19
Research and mission ................................................................................................. 19
Programme leader ....................................................................................................... 19
Starting date of the programme .................................................................................. 19
External affiliations ..................................................................................................... 19
2.1 Leadership ............................................................................................................. 20
2.2 Strategy and policy ............................................................................................... 20
  2.2.1 General ............................................................................................................ 20
  2.2.2 Development since 2000 ................................................................................ 21
  2.2.3 Training PhDs ................................................................................................ 24
  2.2.4 International co-operation .............................................................................. 25
2.3 Programme design and academic results ............................................................ 25
  2.3.1 Introduction ..................................................................................................... 25
  2.3.2 Genes, environment, and gene-environment interaction .................................. 26
  2.3.3 Quality of day care .......................................................................................... 28
  2.3.4 Adoption ......................................................................................................... 30
  2.3.5 Preventive interventions .................................................................................. 31
  2.3.6 Early parenting and child externalising problems ............................................. 32
  2.3.7 Attachment disorganization ......................................................................... 34
  2.3.8 Historical roots of educational thinking .......................................................... 36
2.4 External evaluation ............................................................................................... 37
2.5 Academic reputation ............................................................................................. 38
  2.5.1 General information ......................................................................................... 38
  2.5.2 Editorial responsibilities .................................................................................. 38
  2.5.3 External recognitions ....................................................................................... 39
  2.5.4 Miscellaneous .................................................................................................. 40
  2.5.5 PhD degrees .................................................................................................... 41
  2.5.6 Numerical overview PhD theses ....................................................................... 43
2.6 Researchers and other personnel .......................................................................... 44
  2.6.1 Personnel policy ............................................................................................... 44
  2.6.2 Programme members ....................................................................................... 44
  2.6.3 Numerical overview research staff ................................................................. 45
2.7 Resources, funding and facilities .......................................................................... 47
  2.7.1 General description ......................................................................................... 47
  2.7.2 Detailed information ....................................................................................... 47
  2.7.3 Summary of funding ....................................................................................... 49
2.8 Overview of results ............................................................................................... 50
  2.8.1 Key publications .............................................................................................. 50
  2.8.2 Numerical overview ....................................................................................... 51
  2.8.3 Publications 2000 .......................................................................................... 52
  2.8.4 Publications 2001 .......................................................................................... 55
  2.8.5 Publications 2002 .......................................................................................... 58
  2.8.6 Publications 2003 .......................................................................................... 63
  2.8.7 Publications 2004 .......................................................................................... 67
  2.8.8 Publications 2005 .......................................................................................... 71
2.9 Strengths, weaknesses, and prospects ................................................................... 77
Introduction

Research and mission

The present research programme *Attachment Across the Life Span* of the Centre for Child & Family Studies attempts to elucidate the pedagogically relevant antecedents as well as sequelae of attachments, with a special emphasis on the family as a primary socialisation context. In the current research programme these attachments and their cognitive representations are studied in a wide variety of settings, such as different cultures and ethnic groups, various family settings, day-care settings, and in various (clinical and non-clinical) populations. The programme is based on two complementary approaches: (1) Empirical studies of antecedents and sequelae of attachment in ‘normal’ and at risk children and their families; (2) Theoretical and historical research of the foundations and methods of child and family research, including the meta-analytic synthesis of empirical findings, with a special emphasis on attachment.

Programme leader
Prof. dr. M.H. van IJzendoorn

Starting date of the programme
1978

External affiliations

The programme is an integral part of the Interuniversity School for Education and Development (ISED) and one programme member also participates in the Interuniversity Graduate School for Psychometrics and Sociometrics. The programme is one of the constituent members of the Dutch Consortium for Research in Child Care (Nederlands Consortium Kinderopvang Onderzoek; NCKO) consisting of educational- and developmental psychologists from the universities of Amsterdam, Leiden and Nijmegen who collaborate on research aimed at improving the quality of Dutch child care for children aged 0 – 4 years (funded by the Ministry of Ministry of Social Affairs and Employment). The programme is affiliated with the Early Child Care Research Network (ECCRN) of the National Institute for Child Health and Human Development (NICHD).
2.1 Leadership

The present research programme *Attachment Across The Life Span* is located in the Centre for Child & Family Studies of the Department of Education and Child Studies of Leiden University. The senior researchers of the programme also take part in the curriculum of child and family studies which is coordinated by the Centre (head: Prof. F. Juffer). Their research programme is directed by Prof. M.H. van IJzendoorn. The programme has regular scientific meetings: Once every three weeks the faculty and graduate students of the Centre get together to listen to a presentation by one of the members or an invited colleague from abroad. Again once every three weeks, the senior researchers of the programme meet with the PhD students to discuss recent advances in the domain of attachment. Lastly, in the remaining weeks the research team gets together to watch and discuss a videotape or film about some issue of interest to parenting and attachment in order to keep track of the popular perspective on the field. In bi-weekly one-hour meetings the senior researchers directly responsible for a PhD candidate meet with this candidate to discuss the progress and problems of the study. In between there are ample opportunities to meet informally or to ask for feedback through ‘tracked changes’ of written materials.

New ideas and directions for research emerge from all these meetings, and the programme director is eager to stimulate individual members of the team to apply for grants in order to support the implementation of these ideas. In the past few years the research team was able to acquire the following highly prestigious grants: NWO-VENI (J. Mesman), NWO-VIDI (M.J. Bakermans-Kranenburg), NWO-Mozatek (A. Yaman, J. Mesman, M.H. van IJzendoorn, M.J. Bakermans-Kranenburg), NWO-SPINOZA (M.H. van IJzendoorn), and several PhD projects (Adoption, F. Juffer; Attachment Focus Cohort, M.H. van IJzendoorn, M.J. Bakermans-Kranenburg). The organization of the programme is open to fruitful initiatives with scientific merit from any member of the group: the Attachment Research Programme is a network organization.

2.2 Strategy and policy

2.2.1 General

The present research programme *Attachment Across The Life Span* of the Centre for Child & Family Studies attempts to elucidate the pedagogically relevant antecedents as well as sequelae of attachments, with a special emphasis on the family as a primary socialisation context. The study of the development of attachment relationships between children and their caregivers belongs to the major research areas of the contemporary social and behavioural sciences.

*What is attachment?* Children are attached if they tend to seek proximity to and contact with a specific caregiver in times of distress, illness, and tiredness (Bowlby, 1969). Attachment to a protective caregiver helps the child to regulate his or her negative emotions in times of stress and distress, and enables the child to explore the environment even if this environment contains somewhat frightening stimuli. Attachment is a major developmental milestone in a child’s life with immediate and long-term consequences for the child’s cognitive development, emotional well-being, and social relationships, and it will remain an important issue throughout the life span. In adolescence and adulthood, cognitive representations of past attachment experiences shape the way adolescents and adults feel about the strains and stresses of intimate relationships, including parent-child relationships, and the way in which the
self is perceived.

In the current research programme these attachments and their cognitive representations are studied in a wide variety of settings, such as in different cultures, various family settings, day-care settings, and in various (clinical and non-clinical) populations. The programme is based on two complementary approaches: (1) empirical studies of antecedents and sequelae of attachment in 'normal' and at-risk children and their families, and (2) theoretical and historical research of the foundations and methods of child and family research, including the meta-analytic synthesis of empirical findings in child and family studies, with a special emphasis on attachment.

The full scope and flavour of the programme can best be clarified by distinguishing a number of interconnected and partly overlapping research clusters. Six empirical clusters and two theoretical clusters are included in the programme.

### 2.2.2 Development since 2000

**Genes, Environment, and Gene-Environment Interaction in Attachment.** Attachment theory makes strong claims about the innate and universal bias in human infants to become attached emerging from millions of years of variation and selection of behavioural systems in the Environments of Evolutionary Adaptedness. But the environment, for the infant to a large extent the parents, provides the input for the universal mechanism. Different attachment behaviour patterns are thought to result from the infants’ experiences with different levels of parental sensitivity. Parents are assumed to differ in sensitivity because of their own childhood attachment experiences (‘intergenerational transmission’). This would imply a rather larger role for the (shared) environment rather than for the genes in determining the quality of attachment. In our programme, the idea of the ‘transmission gap’ was developed: parental and infant attachments are strongly associated but parental sensitive behaviour can only partly account for the mechanism of transmission (Van IJzendoorn, 1995). The genetic component may provide a bridge to close the gap. These hypotheses are tested in a series of behavioural and molecular genetic studies.

**Quality of day care.** What are the consequences of non-parental day-care for children's emotional development and for the relationship with their own parents? In optimally stable and continuous day-care settings, infants appear to be emotionally attached to their parents as well as to the professional caregiver. We have proposed the concept of attachment networks and we developed some criteria for attachment relationships between children and their professional caregivers. Our hypothesis is that secure child-caregiver attachments may compensate for insecure child-parent bonds. Recently, the number of children in Dutch day-care have increased rapidly, and we are currently studying the impact of this explosive growth on the quality of care, and on children's development, with special emphasis on the increasing flexibility of care. With the Dutch Consortium for Research in Child Care (Nederlands Consortium Kinderopvang Onderzoek; NCKO) investigations are being carried out into whether day-care facilities in the Netherlands still are of sufficient quality and to what extent these facilities promote the development of extended and flexible secure attachment networks. Reliable knowledge about the quality of adult-child interactions in Dutch day-care is lacking and neither is it clear how children integrate multiple attachment relationships.

**Adoption.** In the Netherlands, the large majority of adopted children come from other countries and ethnicities. International adoption is an increasing, global
phenomenon involving over 30,000 children a year moving between over a hundred countries. International adoptees often experience early physical, medical and socio-emotional deficits before adoptive placement: inadequate prenatal and perinatal medical care and maternal separation, often combined with psychological deprivation, insufficient health services, neglect, abuse and malnutrition in poor families or orphanages. Animal models have shown that early maternal separation and deprivation can seriously harm infant functioning and later development. In the same vein, psychological deprivation in orphanages does result in maladjustment in children, as we have shown in our study on the Metera institution in Athens (Greece). In addition, after adoptive placement, adoptees have to cope with ‘adoption losses’: integrating the loss of their culture and birth family into their lives. In contrast to local adoptees who are adopted within the same country, international adoptees may face problems regarding their divergent identity as most international adoptees are raised by parents who do not share their racial and cultural background. These accumulated risks may result in higher incidences of mental health problems in international adoptees.

In the current research programme we study adoption from the perspective of attachment theory as adoption implies the breaking and making of emotional bonds. Central questions are: (1) What are the long-term sequelae of adoption for the children involved? and (2) How can adoptive parents be supported in their difficult task to raise their adopted children? Also, as adoptive parents and adopted children are genetically unrelated, the impact of parenting on these children’s development can be studied without the influence of shared genes.

**Preventive interventions.** Ainsworth’s crucial proposition in attachment theory is that day-to-day care provided by the mother, and particularly the sensitivity of that care, is of critical importance to the development of secure attachment. In a large meta-analysis on more than 60 studies of the relation between infant attachment and parental sensitivity, we found a reliable but modest association (DeWolff & Van IJzendoorn, 1997). The meta-analysis stimulated extensive discussions in Child Development and elsewhere, which questioned the causal nature of the association. Intervention experiments are therefore essential, because especially by experimentally changing parental sensitivity and observing subsequent changes in attachment security, we can learn about the causal mechanism. In our research programme, we hypothesize that short-term behaviourally focused interventions based on video-feedback may be most effective in enhancing not only parental sensitivity but also children’s attachment security. We are testing this approach, which is called Video-feedback to Promote Positive Parenting (VIPP), in various empirical and meta-analytic studies, and plan to apply this intervention in various target populations, including families from ethnic minorities.

**Early parenting and child externalising problems.** Bowlby’s ideas about the importance of attachment were inspired partly by his observations of early disruptions in mother-child relationships in a sample of young delinquents (Bowlby, 1944). In more recent years, several studies have indeed shown that attachment insecurity and insensitive and unresponsive parenting in early childhood are related to externalising problems (such as aggressive, antisocial behaviour) in children and adolescents. In addition, coercion theory focuses on social learning processes, such as reinforcement of child negative behaviour, as antecedents of child externalizing problems. Both theories have inspired a considerable amount of research regarding the role of parent-child interaction patterns in the development of externalizing problems. However, no
previous studies have attempted to include the main elements of both theoretical frameworks. Several studies within our research programme address this issue in order to provide a more comprehensive investigation of the role of early parenting as risk factor for the development of externalising problems. In these studies, special attention is paid to children’s differential susceptibility to these inadequate parenting practices in early childhood, preventive intervention, and immigrant families.

**Attachment disorganization.** Disorganized attachment is the most extreme type of an insecure attachment relationship. Main and Solomon (1990) used the term disorganized/ disoriented attachment (D) to describe patterns of infant behaviour during the Strange Situation which seemed odd and lacked an organized strategy with respect to the attachment figure. Disorganized attachment has been associated with the infant’s experience of prolonged or repeated separation from the caregiver, but it has also been suggested that attachment disorganization is a constitutional or even genetic disorder. Approximately 80 percent of maltreated infants show this type of attachment. Disorganized attachment is also found with high frequency in infants whose mothers are alcoholics or depressed (in a bipolar way), and in families with high marital conflict (for a meta-analytic review, see Van IJzendoorn, Schuengel, & Bakermans-Kranenburg, 1999).

Disorganized attachments have also been found in children of parents who struggle with unresolved loss or other trauma. Main and Hesse (1990) have suggested that infants develop disorganized attachment when they experience the parent as frightening or frightened, and that the essence of disorganized attachment is fright without solution. When the only possible base from which to explore the world (the parent) is at the same time the source of fear, the child is placed in an irresolvable paradoxical situation, with disorganized attachment as a result. In the current research programme, we test the various models explaining attachment disorganization in different target populations, e.g. twins and adopted children, nursery-reared chimpanzees, children with Autistic Spectrum Disorder, and grandchildren of Holocaust survivors. In 2004 we started a new line of research into child maltreatment as the prototypically frightening parenting a child may experience (with newly appointed senior researchers dr. P.J. Prinzie and dr. S. N. Brilleslijper).

**Meta-analytic and secondary studies.** In many domains of the study of education and human development the number of empirical studies is large but replicable reviews and critical analyses of this literature are almost absent. The use of empirical data for the development of theory or for practical goals and for policy purposes is therefore less than optimal. Because we strive for evidence-based implications of research for practice, it is our intention to conduct meta-analyses in every domain of empirical study that is or will be covered in the current research programme. Not only policy and practice but also research and theory may profit from this approach, as new and evidence-based hypotheses emerge from the meta-analytic synthesis of past research endeavours. Meta-analytic studies are particularly suited to detecting reliable major effects and trends and may thus serve the development of promising theoretical models and hypotheses for future research. As an example, we showed meta-analytically that for children with autism the co-morbidity of autism and mental retardation is associated with attachment insecurity. We have also started to develop a ‘meta-analytic monitor’ of advances in adoption research, and plan to use the same approach in several other educational and developmental domains.

Secondary analyses of raw datasets may provide insights and testing grounds for theories even more adequately than meta-analytic approaches. Currently, we are
conducted secondary analyses on the large NICHD Early Childcare Research Network data set. Our first analysis focused on the differences in attachment security between African-American children \((n = 142)\) and white children \((n = 1002)\) (Bakermans-Kranenburg, Van IJzendoorn, & Kroonenberg, 2004). African-American children’s mean score on the Attachment Q-sort (Van IJzendoorn, Vereijken, Bakermans-Kranenburg, & Riksen-Walraven, 2004, for a meta-analytic validation of the AQS) was substantially lower (.21) than that of white children’s (.30). The pattern of covariation between attachment security and predictor variables was similar in the African-American and white subgroups. In both groups, maternal sensitivity was the strongest predictor of attachment security. A mediational model explaining the difference in attachment security included income and sensitivity: African-American ethnicity was related to low income which through (in-)sensitivity affected the quality of the infant-mother attachment relationship (family stress model). Our findings on African-American mother-infant dyads support one of the basic tenets of attachment theory: the association between maternal sensitivity and attachment security. Children of African-American and white families in the USA may be exposed to culturally specific experiences, but these do not alter the relation between attachment security and pertinent predictor variables. Poverty may, however, seriously hamper maternal sensitivity.

**Historical roots of educational thinking.** Attachment theory is an integrative theoretical framework that originated more than half a century ago with the work of the British child psychiatrist John Bowlby. Until recently, little was known about the intellectual origins of attachment concepts and their synthesis into attachment theory. A number of historical and conceptual investigations have been conducted to fill this gap. These studies explored Bowlby’s first intellectual contributions and his active role in the British Psychoanalytical Society. Presently, later periods in Bowlby’s intellectual life form the object of investigation, notably his incorporation of the findings of ethology into attachment theory.

Several studies have been devoted to the broader theoretical context of Bowlby’s writings. These resulted in publications about, among other topics, Gestalt psychology (Van der Veer, 2000; 2002), cultural-historical theory, and the developmental theory of Heinz Werner.

### 2.2.3 Training PhDs

The formal training of the PhD students is coordinated in the graduate school ISED. Each PhD student follows a fixed set of courses as well as some specific courses attuned to the needs of the specific PhD project. This amounts to about 1100 hours across the four years of their appointment as a PhD staff member. Part of this curriculum is also training in systematic observation through observational systems for parenting and child characteristics (temperament, attachment, sensitivity, etc.). These are intensive workshops resulting in reliable coding of videotaped data collected in the PhD project. Part of the formal curriculum is the attendance of at least two scientific meetings abroad, and four national meetings, and at all of the international occasions and two of the national occasions the PhD students are urged to present posters or give oral presentations. The informal training consists of obligatory attendance to the regular scientific meetings mentioned above: once per three weeks the faculty and graduate students of the Centre get together. Once in the three weeks, the senior researchers of the programme meet with the PhD students to discuss a recent advancement in the domain of attachment. Lastly, also once every three weeks this research team gets together to watch and discuss a videotape or film.
In bi-weekly one-hour meetings the senior researchers directly responsible for a PhD candidate meet with this candidate to discuss the progress and problems of the study. In-between there are ample opportunities to meet informally or to ask for feedback through ‘tracked changes’ of written materials (individual mentoring).

2.2.4 International co-operation

Collaboration with Peter Fonagy and Pascoe Fearon (University College London) on twin studies of attachment; with Avi Sagi (University of Haifa, Israel) on the intergenerational transmission of attachment and trauma; with Alan Stein (Oxford University), Jim Elicker (Purdue University, USA) and Rosalinda Cassiba (University of Bari, Italy) on early childhood intervention; with Robert Bradley (University of Arkansas at Little Rock, USA) on the assessment of the home environment; with Karine Verschueren (Catholic University of Leuven, Belgium) on compliance, parental sensitivity and discipline; with Harold Grotevant (University of Minnesota, USA) on openness in adoption; with Victor Groza (Case Western University, USA) on the adjustment of Indian adoptees; with Shalini Bharat (Tata Institute, Mumbai, India) on children’s experiences in orphanages; with Yiota Vorria (Athens, Greece), Judy Dunn (University College London), and Howard Steele (University College London) on the Metera orphanage and adoption study; with Kim Bard (University of Portsmouth, England) on attachment in chimpanzees; with Avi Sagi (University of Haifa) on the kibbutz and day-care studies; with David Pederson and Greg Moran (University of Ontario, Canada) on attachment in siblings; and with James Snyder (Wichita State University, USA) on coercion theory and externalising problems.

2.3 Programme design and academic results

2.3.1 Introduction

The design and results of the research programme will be presented per cluster (see above). Each description of a subprogramme or cluster will be closed with a perspective on research plans for the future. Primarily the clusters with empirical studies are presented, but a brief description of the historical clusters is included as well. For descriptions of the meta-analytic and secondary studies, see Section 2.2.2 above.

In most clusters similar research designs and approaches are implemented. Commonalities can be found in three areas. First, longitudinal and experimental designs with observational assessments of attachment behaviour, its antecedents and sequelae are preferred as strategies to gain new insights. Furthermore, in all clusters we focus on the cross-cultural or ethnic dimension of the issues involved, and the generalizability of findings in autochthonic samples are never taken for granted but considered as testable hypotheses. The cultural or ethnic dimension is important for theoretical reasons (attachment theory has universalistic implications), but also from an applied perspective. Lastly, in various projects we also started to use psychophysiological measures that address the regulation of stress in children and their parents (Leiden Longitudinal Study; Leiden Longitudinal Adoption Study; Attachment and young children's coping with media-induced fear). We consider attachment relationships to be the scaffold for the child to learn how to cope with negative emotions in stressful settings. Stress regulation is indexed by the Galvanic Skin Response (GSR), Heart Rate Variability, and through cortisol excretion that originates from the HPA axis.
2.3.2 Genes, environment, and gene-environment interaction

The transmission of attachment from parents to their infants may at least partly be mediated by a genetic pathway (Main, 1999). Although several studies provide support for the basic model of causal relations between parental attachment representations, parental sensitivity, and infant attachment strategy (Main et al., 1985), a large and quantifiable ‘transmission gap’ of about 75% of the intergenerational transmission still remains to be closed (Van IJzendoorn, 1995b). If parents’ attachment representations are found to be strongly associated with infant attachment strategies (Hesse, 1999; Main, 1999), even when parental attachment representations are assessed before the birth of the infant, and at the same time equally strong associations between parenting behaviour and infant attachment cannot be found (DeWolff & Van IJzendoorn, 1997), the gap between parent and infant attachment should be closed in other ways. Several attempts to close the gap have been made by assessing attachment security and parental sensitivity during long observational sessions in the natural setting (Atkinson et al., 2005, Tarabulsy et al. 2005) or by measuring other mediating factors such as mind-mindedness (Meins, 1999), but these attempts have failed to reach their goal.

Of course, genetics seems a plausible candidate for closing the transmission gap because parents and infants share 50% of their genes, and intergenerational transmission of attachment may (partly) be based on transmission of genes from one generation to the next. In a study on similarity of attachment in siblings (Van IJzendoorn, et al., 2000), we did find some evidence for the idea that mothers stimulate similar attachment relationships with siblings. Attachment theory would suggest that brothers and sisters growing up in the same family are likely to relate in similar ways to their parents, at least when parental attachment representations and interactive styles remain stable across time. Attachment security was assessed for each sibling using the Strange Situation procedure between 12-14 months after birth. Sibling relationships were found to be significantly concordant when classified as secure/nonsecure. Maternal insensitivity to both siblings (shared environment) was associated with concordance of sibling nonsecurity, which may be consistent with a substantial role for the shared environment, that is for similarity in parenting style to both siblings. Siblings of the same gender were more likely to form concordant relationships with their mother than those of opposite gender. In the design of this study, however, the role of (shared and nonshared) environment was still confounded with the role of genetics because contrast groups with varying degrees of genetic relatedness were lacking. It was therefore impossible to definitively address the question of heritability of attachment. Twin studies are needed to settle the issue.

For example, genetic differences in temperament may provoke different environmental reactions, and may lead to diverging attachment behaviour patterns. The genetic transmission of temperament may thus partly be responsible for the link between parent and infant attachment, and it may account for part of the transmission gap. In the current cluster, the heritability of temperament is investigated, and it is tested whether similarities in temperamental reactivity between twins are associated with concordance in attachment relationships to the same caregiver. In a sample of 157 mono- and dizygotic twins we quantified genetic and environmental influences on infant attachment and temperament. Only unique environmental or error components could explain the variance in disorganized versus organized attachment as assessed in the Ainsworth Strange Situation Procedure. For secure versus non-secure attachment, 52% percent of the variance in attachment security was explained by shared environment, and 48% of the variance was explained by unique environmental factors and measurement error. The role of genetic factors in attachment disorganization and
attachment security was negligible. Genetic factors explained 77% of the variance in temperamental reactivity, and unique environmental factors and measurement error 23%. Differences in temperamental reactivity were not associated with attachment concordance.

In our first behaviour genetic study on infant-father attachment, we also estimated genetic and environmental influences on infant-father attachment behaviours and on temperamental dependency, both assessed with the Attachment Q-Sort. Mothers of mono- and dizygotic twins ($N = 56$ pairs) sorted the AQS with a focus on the infant’s behaviours in the presence of the father. Genetic modelling showed that attachment was largely explained by shared environmental (59%) in combination with unique environmental (41%) factors (CE model). For dependency, genetic factors explained 66% of the variance, and unique environmental factors including measurement error 34% (AE model). Attachment to father appears to be, to a significant degree, a function of the environment that twins share. These findings not only represent confirmation of one of the basic assumptions of attachment theory, but they also seem to fit well with research that has documented a robust association between parental cognitive representations of attachment and infant attachment security.

In an age when shared environmental theories of development have been rejected by some behaviour geneticists, the finding of a substantial shared environment influence is noteworthy. For example, in their authoritative textbook on behavioural genetics, Plomin and his colleagues (Plomin et al., 2001) clearly stated that for most domains of psychology environment is important and explains about half of the variance in traits, attitudes and behaviour patterns, but it “is generally not shared family environment that causes family members to resemble each other” (p. 298). The unique or non-shared component is supplemented with genetic influences, leaving little or no room for the shared environment. Bouchard and Loehlin (2001) described moderate shared environment effects in altruism, sociability, and autonomy in adolescence, and in attitudes toward love or love styles in adulthood. The authors commented on this latter outcome (see Waller and Shaver, 1994) that the combination of small heritability and modest shared environment of love styles belongs to “a very rare class of phenotype, one with little or no genetic variance” (p. 263).

In contrast with the behaviour genetic studies, Lakatos and colleagues (Lakatos et al., 2000) found in a first molecular genetic study an association between the dopamine D4 receptor (DRD4) gene polymorphism and attachment disorganization. In previous studies the Dopamine D4 receptor gene polymorphism has shown associations with pathological impulsive behaviour and substance abuse in adults and Attention Deficit Hyperactivity Disorder (ADHD) in children. The dopaminergic system is engaged in attentional, motivational, and reward mechanisms. Moreover, a second study with the same group of infants showed that the association between disorganized attachment and the 7-repeat DRD4 allele was enhanced in the presence of a specific allele in the promoter region of the DRD4 gene. In the presence of both the exon III 48-bp 7-repeat allele and the -521 C/T or T/T allele in the upstream regulatory region of the DRD4 gene the odds ratio for disorganized attachment was suggested to increase tenfold (Lakatos et al., 2002). These studies point to a genetic explanation for the development of attachment disorganization in normal, low-risk populations.

Replicating their study in a sample of 132 infants we did not confirm the role of the DRD4 7'-allele and the -521C/T promoter gene in disorganized attachment. Although our sample was larger, and contained more children with CT or TT alleles, which enhanced the probability of finding the DRD4 and C/T interaction, the
association was not found. Even when we combined our sample with the Lakatos et al. (2002) sample, the interaction effect of the DRD4 and -521 C/T polymorphisms on disorganized attachment was absent.

**Future developments**

*Children of Twins.* Patterns of hereditary and environmental influences on attachment and sensitivity in adulthood are the focus of one of our future studies, in the context of the NWO VIDI grant to Marian Bakermans-Kranenburg. The Adult Attachment Interview will be used to assess mental representations of childhood attachment experiences in mono- and dizygotic adult twins. Moreover, the attachment quality of the children of these adult MZ and DZ twins may elucidate causal relations between parent characteristics and child attachment. The Children of Twins (COT) design may highlight the role of specific environments and gene-environment interactions. Higher similarity of the offspring of discordant MZ twins in comparison with the offspring of discordant DZ twins suggests that genetic factors account for some of the intergenerational transmission, whereas similar rates of security in discordant MZ and DZ families point to shared environmental factors as of most import. The design controls for the genetic correlation between parents and children and takes into account any effects of gene-environment correlation, because the MZ aunt of a child is genetically a parent, but socially not a parent (see Rutter et al., 2001).

**2.3.3 Quality of day care**

*Attunement.* In attachment networks children may be confronted with diverging and even contradictory child-rearing styles and attitudes. In a survey of a national sample (*N* = 568 children) parents and non-parental caregivers from four types of child care were included - day care, after-school care, family day care, and babysitter care. The attunement of child-rearing attitudes between parents and non-parental caregivers and perceptions of their relationships to one another and to the child was studied from an ecological systems perspective. Parents within the same family were rather consistent in their child-rearing attitudes and beliefs, but we found some discontinuities between parents and professional caregivers in their child-rearing attitudes and perceptions of the quality of the child-caregiver relationship. Lack of attunement in authoritarian control and support was associated with a lower degree of child well-being. Better communication between parents and caregivers was associated with greater attunement and with a higher degree of child well-being.

*Quality of care.* In order to establish the quality of Dutch centre day-care in a period of rapid expansion of centre care, the quality of interactions in 43 centre day-care groups was observed and compared with similar quality ratings in other European and North American countries. It was hypothesized that formal characteristics of care settings and caregivers as well as attunement between caregivers and parents would be associated with quality of care. Quality of centre care was assessed with the Early Childhood Environment Rating Scale (Harms & Clifford, 1980), the Infant/Toddler Environment Rating Scale (Harms, Cryer, & Clifford, 1990), and the Caregiver Interaction Scale (Arnett, 1989). Children’s interactions with both their mothers and their fathers at home were rated with several sensitivity scales. Caregivers and parents also completed questionnaires about child-rearing attitudes and attunement. The results showed that the quality of centre care in the Netherlands is rather good compared with that of other European and North American countries. This conclusion has been supported recently by the results of a study on quality of centre care using the ORCE, the quality assessment measure of the NICHD ECRS...
research team. Compared with the American average scores on the ORCE the Dutch centres are doing rather well (De Schipper, 2003). In order to be able to describe trends over time, we are currently involved in a third wave of data collection into the quality of centre day care in the Netherlands using the same assessment procedures, (see below).

**Flexibility of care.** Recently the number of children in Dutch day-care has increased rapidly, and we are currently studying the impact of this explosive growth on the quality of care, and on children's development, with special emphasis on flexibility of care. Because of economic developments towards a 24-hrs economy, flexibility of day-care has become a major policy issue. In a project studying flexibility of centre day-care, the effects of these changes on children’s well-being and attachment relationships are investigated. In two studies in day-care centres, we investigated a newly developed index for flexible child care together with stability in care, mother’s stress and the child’s temperament to understand a child’s adjustment to day care and the quality of caregivers’ behaviour. In study I, mothers and caregivers of 186 children (aged 6-30 months) participated. In study II, 18 months later, 52 children from study I were observed in their day-care setting. In addition to non-standard hours care, two domains of stability in care were studied. The first domain was continuity in care over time. When staff turnover rate was higher, quality of care was lower. The second domain was daily stability and regularity in the day-care setting. Children who experienced more daily stability in caregivers and peers showed more well-being in day care.

**Future developments**

_The Dutch Consortium for Research in Child Care._ The Dutch Consortium for Research in Child Care (Nederlands Consortium Kinderopvang Onderzoek; NCKO) consists of educational- and developmental psychologists from the universities of Amsterdam, Leiden and Nijmegen who collaborate in research aimed at improving the quality of Dutch child care for children aged 0 – 4 years. The Ministry of Social Affairs and Employment finances this large-scale investigation with grants to L.W.C. Tavecchio, M.H. van IJzendoorn and J. M. A. Riksen-Walraven. The reason behind the study is the recent public discussion in the Netherlands about the possible negative effects of child care on the development of young children. This discussion arose out of the results from the large-scale American NICHD study: An investigation of excellent scientific quality into the effects of child rearing in various settings on the development of children, instigated and financed by the U.S. Federal government. This study confirmed what had been revealed in previous less extensive studies, namely that the effects of child care on the development of children are highly dependent on the quality of that care. High-quality care has positive effects on the cognitive and language development of children – especially of children from disadvantaged socio-economic backgrounds – whereas long-term, low-quality care can lead to the occurrence of behavioural and emotional problems, especially in combination with poorer family child-rearing.

In the light of the current explosive growth in the use of child-care facilities for young children in the Netherlands, it is of the utmost importance to know whether the results of the American NICHD study also apply in the Netherlands. Given the crucial role of the quality of care – a matter that is no longer disputed by any child-care researcher – the quality of Dutch child care will necessarily occupy a central place in that research. All the more, because our recent study of Dutch child care centres suggested that the quality of care has deteriorated in recent years and in a number of places is even deficient. We intend to contribute to the improvement of the
quality of child care study by conducting experiments in child-care centres and in family day care that enhance caregivers’ abilities to manage their groups more sensitively and in a more structured way. The effects of child care on the well-being and development of children will also be determined, not only through behavioural observations but also through physiological assessments (stress levels as indexed by cortisol excretion).

2.3.4 Adoption

The centrepiece of this cluster is the Leiden Longitudinal Adoption Study, which started as the PhD project of F. Juffer. In a prospective longitudinal study, starting at 6 months of age, early infant-mother attachment and infant competence was studied in 160 children, adopted from Sri Lanka, South-Korea and Colombia. All of the children were placed before the age of 6 months in adoptive families without birth children (n = 90) or in adoptive families with birth children (n = 70). In a pretest-posttest control group design, two intervention programs were tested in early childhood: (a) a personal book with suggestions and advice on how to parent a child in a sensitive way, and (b) the same personal book, combined with three home-based sessions offering video feedback. At age 7, a follow-up study of the 160 children, plus 30 adopted children recruited at this age, was completed. At this assessment, all of the families agreed to be contacted again in the future. In a second follow-up study the adoptive families and their adopted adolescent, aged 14/15 years, were visited for the third time.

In early childhood we found that in the control group sensitive responsiveness and security of attachment were comparable to outcomes from normative samples. The least intensive program, the personal book, did not bring about any change in mothers or infants. In contrast, intervention effects were established upon maternal sensitive responsiveness, infant competence, and infant-mother attachment in the group that received both the book and video feedback. The results in the control group contradict the idea that insecure infant-mother attachment relationships may be over-represented in adoptive families. In our study the adoptive mother’s sensitivity seemed comparable to the sensitivity of non-adoptive mothers, a finding that concurs with the attachment results. It is suggested that the outcomes in this study may be partly explained by the fact that these infants were placed for adoption at a rather young age, with relatively favourable circumstances prior to the placement. This may well indicate that adoption placement per se, without the cumulative effects of understimulation and lack of personal affection that older placed children often experience in institutions, does not inevitably lead to a disturbed parent-infant relationship.

Middle Childhood. A follow up at age 7 (n = 159) showed that despite their timely placement and normal development in early childhood relatively many adoptive parents reported behaviour problems at age 7, especially in boys. Notably, 30% of the adopted children had serious internalizing and/or externalizing behaviour problems, which is a much larger percentage than the 10% found in normative groups. It was suggested that these results could be explained by the operation of multiple risk factors before and after adoption placement, e.g., the child’s genetic disposition, prenatal and pre-adoption care, or the child’s cognitive understanding of adoption in middle childhood. Also, results suggested that maternal sensitive responsiveness in adoptive families declines in the transition from early to middle childhood. In contrast to the home setting, the adopted children showed favourable behavioural and socio-emotional adjustment at school, while their academic achievement and intelligence were in the normal range or above-average. In particular, Korean children had high
IQs: 31% of these children obtained an intelligence score above 120. Adoptive parents offer their children sufficient or even more than average cognitive stimulation.

We also examined the longitudinal effects of the early attachment-based intervention on children’s social development, personality development, and incidence of behaviour problems at age 7. In the small sample of mixed families \(n=35\), we found delayed positive intervention effects at age 7 on ego-resiliency and optimal ego-control in girls, and on internalizing behaviour problems in both boys and girls. In all-adoptive families \(n=112\), we did not find enduring intervention effects. In descriptive terms, we found that higher quality of child-mother relationships uniquely predicted better social and cognitive development. The combination of attachment disorganization and difficult temperament predicted less optimal ego-control and lower levels of cognitive development. It is concluded that even in adopted children who are not biologically related to their adoptive parents, early mother-infant interactions and attachment relationships predict later socio-emotional and cognitive development, beyond infant temperament and gender.

**Future developments**

*Adolescence*. In an ongoing follow-up study at age 14/15 years, the adopted adolescents’ socio-emotional competence and problem behaviour are being assessed, and their current representation of attachment and family relationships examined. Psychophysiological assessments of Heart Rate and Galvanic Skin Response in the context of the Adult Attachment Interview, as well as other stressful settings will shed light on the stress regulation capacities of these adoptees from deprived backgrounds. A longitudinal model is tested to assess the relative influence of early and contemporaneous factors on the incidence and course of the adopted children’s problem behaviour and competence. Also, risk and protective factors identified at age 14/15 years will be compared with those found at age 7. The influences of previous and current attachment, and current family relationships on problem behaviour will be explored for children with different rates of behaviour problems. This may shed light on the incidence and course of adopted children’s problem behaviour, and on mechanisms underlying the behaviour problems.

**2.3.5 Preventive interventions.**

*Less Is More.* Several experimental intervention studies examined the effects of intervention programs designed to enhance sensitive responsiveness among mothers when their children were in their first year of life. A meta-analytic synthesis of the effectiveness of more than 80 preventive or therapeutic interventions \(N=7,636\) aiming at enhancing parental sensitivity and children’s attachment security showed that interventions are more effective in changing parental insensitivity than in changing children’s attachment insecurity. Longer, more intensive, and therapeutic interventions appeared to be less effective than short-term preventive interventions (“Less Is More”, Bakermans-Kranenburg, Van IJzendoorn, & Juffer, 2003).

However, interventions which are effective at the behavioural level may not necessarily lead to changes in insecure mental representations of the parents involved, and behavioural changes may therefore not persist in the long run. In order to test the long-term effects of a brief, behaviourally oriented preventive intervention, more than 100 adoptive families involved in a preventive intervention during the first year of the child’s life were studied again after six years. As we saw above, earlier intervention effects had almost completely faded away at age seven (Stams, Juffer, Van IJzendoorn, & Hoksbergen, 2001). Booster intervention sessions after the first year of
life seem necessary to sustain the changes. Furthermore, preventive intervention should take parental attachment representations into account.

Insecure mothers. Mothers with insecure representations of their own childhood attachment experiences may show less sensitive care giving, and may run the risk of developing an insecure attachment relationship with their children. In one of our intervention studies we aimed at breaking this potential intergenerational cycle of insecurity. We randomly assigned 81 mothers with a first-born child to one of two intervention groups or the control group. The first intervention provided the mothers with video feedback and written information to enhance sensitive parenting. In the second intervention mothers additionally took part in discussions on their childhood attachment experiences in relation to their current care giving. The two interventions involved four home visits when the infants were between 7 and 10 months old. As a result, mothers in the intervention groups displayed more sensitive care giving behaviour than mothers in the control group but no difference in effectiveness was observed between interventions. Inspired by Belsky’s hypothesis on differential susceptibility we discovered significant intervention effects on infant attachment security only for a certain subgroup of highly reactive children. To uncover the process of differential susceptibility is one of our major goals in the next future (see ‘Future developments’).

Future developments

Differential susceptibility. Belsky’s (1997) hypothesis that children vary in their susceptibility to rearing influences has inspired researchers to investigate the influence of child characteristics on the association between parenting and child outcomes. More specifically, Belsky suggests that highly reactive children compared to less reactive children are more susceptible to rearing influences, and that differences in susceptibility are evolutionary based. Several studies have found preliminary support for the notion of differential susceptibility (e.g., Blair, 2002; Crockenberg & Leerkes, 2005). This issue is particular relevant to our intervention studies. If children vary in their susceptibility to parenting, the effectiveness of an attachment-based intervention may very well (partly) depend on child characteristics such as temperamental reactivity. In our intervention study with insecure mothers, we recently found that the interventions were indeed most effective for highly reactive children and their mothers, who showed most improvement on, in order, attachment and sensitivity. Thus, we provide experimental support for Belsky’s (1997) hypothesis of differential susceptibility to rearing influences and, at the same time, document the implications of differential susceptibility for attachment-based intervention studies. The clinical relevance of these results are underscored by our study on the effects of media-induced fear on children, demonstrating independent support for the differential susceptibility hypothesis: temperamentally more fearful children showed most electrodermal reactivity to fear-inducing film clips when their relationship with the parent was less harmonious. Based on the findings of these two studies, the issue of differential susceptibility will be investigated in several of our new projects.

2.3.6 Early parenting and child externalising problems.

From a prevention perspective, early parent-child interactions are especially salient in relation to the development of child externalising problems. It is now widely accepted that externalizing problems such as oppositional behaviour and aggression emerge in the first three years of life. Although in most children these behaviours decline in frequency after school entry, inadequate parenting in early childhood can set the child on a life-course-persistent pathway of antisocial behaviour (Moffitt,
Therefore, it is crucial to prevention efforts to further our understanding of the role of early parent-child interactions as antecedents of persistent child externalising problems. Two theoretical frameworks that have contributed considerably to this understanding are attachment theory (emphasizing the role of sensitive and responsive parenting), and coercion theory (focusing on reinforcement of child aversive behaviour and inconsistent discipline practices). The central premises of these two theories provide the fabric for the studies in this subprogramme.

A tale of two theories. A comprehensive account of the mechanisms involved in the relation between early parenting and child antisocial behaviour should include insights from both attachment theory and coercion theory and aim to provide empirical evidence for their respective viewpoints. However, the two theories have never been combined in an empirical study to allow for direct comparisons of their empirical value in predicting externalising problems in the first years of life. In particular, there is very little research on the early development of coercive family process and its relation with attachment. In a study financed by the NWO VENI grant to J. Mesman, the following questions will be addressed: (a) When do the negative reinforcement processes described by coercion theory first emerge? (b) How is the process of negative reinforcement related to parental insensitivity in infancy and toddlerhood? (c) What is the relative contribution of these two early interaction patterns to the development of externalising problems? (d) Are children with negative temperaments more susceptible to inadequate parenting than other children? This study employs a longitudinal design with frequent points of assessment starting two months before birth and continuing until the child’s second birthday.

Early intervention: sensitive discipline. Besides the descriptive-longitudinal VENI study the field also needs a randomized control trial with intervention modalities based on attachment and coercion theories. The focus of most attachment-related interventions on sensitivity may be too restricted for those families in which parents meet with severe problem behaviours of their children. In a new project we combine insights from attachment theory and Patterson’s theory of coercive cycles in order to prevent families from losing control of their children with emerging externalising problem behaviour. The SCRIPT project (Screening and Intervention of Problem Behaviour in Toddlerhood) is an experimental cross-sequential study with 3 age groups (1-, 2-, and 3-year old children) and addresses four research questions. First, we test the effectiveness of a parenting intervention (VIPP-Sensitive Discipline) on parental sensitivity and discipline. Second, we test whether the enhancement of parents’ positive interactions with children showing behaviour problems, leads to less problematic behaviour and more empathic concern in the child. Third, we investigate whether earlier preventive interventions are more effective than interventions at preschool-age. Lastly, the accelerated longitudinal design allows for a growth-curve description of early problem behaviour from age 12 to 60 months. The SCRIPT project is conducted in cooperation with the Department of Developmental Psychology from the Free University of Amsterdam (H. Koot), and it is subsidized by Zorgonderzoek Nederland (ZON).

Future developments

Immigrant families. There is considerable evidence that, on average, children from immigrant families show more behavioural problems than Dutch children. However, very little is known about problem behaviours in very young children from immigrant families, or about the role of early parenting practices in this population. This knowledge is essential to the design of suitable prevention efforts for these
families. Since Turkish immigrants represent the largest immigrant population in the Netherlands, this population is particularly relevant for the investigation of these issues. In a study financed by a NWO Mozaiek grant, the incidence and development of toddler externalising behaviour problems in Turkish immigrant families will be investigated, as well as their association with parenting practices. The differential susceptibility hypothesis will also be tested. The study design is analogous to parts of the SCRIPT study, which will allow for direct comparisons between findings in the Turkish and the Dutch families. We are also working on collaborations with colleagues abroad to set up a broader comparison study including Turkish families living in Germany and Turkey.

2.3.7 Attachment disorganization.

Several studies have shown that disorganized attachment in infancy is predictive of problematic stress management as indicated by increased cortisol excretion and heart rate variability in stressful settings (Willemsen-Swinkels, Bakermans-Kranenburg, Buitelaar, Van IJzendoorn, & Van Engeland, 2000). A comprehensive meta-analysis examining 80 studies on disorganized attachment (Van IJzendoorn et al., 1999) documented significant effects on infants’ physical stress reactions in three studies. Although disorganized attachment has been found to be associated with hyperreactive neurophysiological responses to stressors in descriptive, non-experimental studies, attachment theory suggests that this dysregulation is one of the consequences of disorganized attachment, and does not constitute a causal determinant. Corollary of organized attachment relationships as regulators of negative emotions is the idea of disorganized attachments leading to dysregulation of negative emotions, evidenced by a dysregulated HPA-axis and deviating heart-rate variability in response to major stresses (Van IJzendoorn & Bakermans-Kranenburg, 2002).

Preventing disorganized attachments? Our meta-analysis documented significant effects of disorganized attachment on externalizing problems in school-age children and dissociation in adolescence (Van IJzendoorn et al., 1999). The association between disorganized attachment and later child psychopathology highlights the need to search for precursors and determinants of attachment disorganization as a basis for preventive interventions. Can the emergence of attachment disorganization be prevented? Through a quantitative meta-analysis we analyzed 15 preventive interventions (N = 842) that included infant disorganized attachment as an outcome measure, in all cases as a side-line to the real goals of the intervention, namely enhancing attachment security. One of the interventions was our preventive intervention in a large sample of adoptive parents (see above). This short-term, behaviourally focused intervention based on video-feedback appeared to decrease the risk for attachment disorganization significantly (Juffer, Bakermans-Kranenburg, & Van IJzendoorn, 2005).

The effectiveness of the 15 interventions ranged from negative to positive, with an overall zero effect size. Effective interventions started after 6 months of the infant’s age. Interventions that focused on sensitivity only were significantly more effective in reducing attachment disorganization than interventions that (also) focused on support and parent’s mental representations. Most sample characteristics were not associated with differences in effect sizes, but studies with children at risk were more successful than studies with at-risk parents, and studies on samples with higher percentages of disorganized attachment in the control groups were more effective than studies with lower percentages of disorganized children in the control group. The meta-analysis shows that disorganized attachments may change as a side effect of sensitivity-focused interventions, but it also illustrates the need for interventions
specifically focusing on the prevention of disorganization. (Bakermans-Kranenburg, Van Ijzendoorn, & Juffer, 2005; Juffer, Bakermans-Kranenburg, & Van Ijzendoorn, 2005) Compared to the organized patterns of attachment (avoidant, secure, and ambivalent), less is known about the underlying mechanisms and causal factors resulting in disorganized attachment.

**Determinants of disorganized attachment.** Main and Hesse (1990) proposed their hypothesis of disorganized attachment as being fright without solution. They suggested that parental unresolved loss or other trauma would lead to involuntary expressions of fright and other unexpected and threatening behaviours in the presence of their children who would experience their most important source of security to be at the same time a source of fright. This would cause a momentary breakdown of the children’s otherwise organized attachment pattern. One of the implications of the Main and Hesse (1990) hypothesis is the prediction of a link between frightening or frightened parental behaviour and disorganized attachment that has been tested and demonstrated in four recent studies, the first being conducted in the current research programme (see Van Ijzendoorn & Bakermans-Kranenburg, 2002, for a review).

Lyons-Ruth and colleagues (Lyons-Ruth, Bronfman, & Atwood, 1999) described two relational patterns as predictive of disorganization: When the parent coercively opposes and counters the initiatives of the child by negative and intrusive behaviour, and when the parent withdraws from the interaction by being (extremely) unresponsive to the needs of the child (AMBIANCE, see below). A profound lack of response, or ‘a failure to terminate’ the child’s attachment system, may lead to infant disorganization (Solomon & George, 1999). In a meta-analysis of studies using assessments of frightening or extremely insensitive (neglectful or intrusive) parental behaviours we conclude that both types of parenting may lead to attachment disorganization (Madigan et al., in prep.). Therefore, we will test the associations disorganized attachment with both frightening and extremely insensitive parenting (in relation to potential genetic moderators, see below).

**Future developments**

**Interplay between neurobiological and environmental risks.** So far, no study has been conducted that combined molecular genetics with measurement of the environmental influences on the quality of attachment. The Focus Cohort Attachment Project, financed by the Netherlands Organization for Scientific Research (NWO) to M.H. van Ijzendoorn, F. Verhulst (EUR), and M.J. Bakermans-Kranenburg is meant to bridge this gap in our knowledge of disorganized attachment as one of the major risk factors in the development of psychopathology. The goal of the Focus Cohort Attachment Project in Generation R is to elucidate the role of these genetic and parental factors, and their interplay in determining attachment disorganization in a uniquely large sub-sample of 1000 infants of the Generation R Study for which thorough assessments of neurobiological and parental factors already have become available. Combining molecular genetic methods with careful, observational measurement of frightening and extreme insensitive parental behaviours may unravel the interplay between genes and environment in the development of disorganized attachment. Assessing the cortisol response to a standard stressor we examine the mediating role of disorganized attachment. We propose here to test the interplay between specific candidate genes (DRD4; -521C/T) and a specific type of parenting behaviours (frightening and extremely insensitive behaviours) in order to explain the emergence of attachment disorganization in a sufficiently large sample. The integration of potentially relevant genetic, biological and parental factors in a comprehensive and large-scale study is unique.
2.3.8 Historical roots of educational thinking

The development of educational theory and advice does not take place in a cultural-historical vacuum. In the introduction, it was explained that special care is given to the cultural or ethnic dimension. Likewise, we find it important to analyse the historical embeddedness of both theoretical innovations and practical advice. Educational ideas (e.g., the idea that intervention in infancy has long-lasting effects on development) often have a long history in European educational thinking. It is important to trace the origin of these ideas for both historical and theoretical reasons.

European educational thinking. Many of the now fashionable educational ideas originated in the first half of the previous century. In an ongoing series, the work of key thinkers of that period is being analysed. These included Bowlby, Galperin, Janet, Piaget, Vygotsky, Werner, and Wallon. Recently, special attention was paid to the work of Galperin (Van der Veer, 2000; Arievitch & Van der Veer, 2004) and Werner (Van der Veer, 2004), while a longer study traced the origin of the idea of the social mind (Valsiner & Van der Veer, 2000).

Attachment theory. Attachment theory originated in the late 1930s and received its quasi-definitive formulation in the 1960s with Bowlby’s trilogy. In its present form, it is an interesting amalgam of various theoretical contributions made by psychoanalysis, ethology, Piagetian theory, and so on. It is of great historical interest to trace the historical roots of attachment theory and its evolution. Van Dijken provided a detailed analysis of the roots of Bowlby’s thinking in psychoanalytic theory and showed how Bowlby broke away from orthodox psychoanalysis (Van Dijken, 1998; Van Dijken, Van der Veer, Van IJzendoorn, & Kuijpers, 1998; Van der Veer, 2003).

Future developments

In a recently started project, the historical and theoretical relations between attachment theory and ethology will be explored. In formulating his theory, Bowlby heavily relied upon the theoretical notions and empirical findings of crucial figures in that field, such as Harlow and Hinde. In their turn, these researchers made ample use of Bowlby’s crucial insights. It is expected that the project will yield new information about the cross-fertilization of these different approaches to the problems of education and development as well as about Bowlby’s intellectual life.
2.4 External evaluation

The social impact of the programme is strong. The results of the adoption, intervention and day-care studies have been disseminated on a large scale, influenced public policy, and led to numerous publications intended for professional caregivers, and for newspapers and weeklies reaching the general public. The researchers in this programme are frequently asked to present their findings to professional caregivers and policy makers, and have acted as consultants in the preparation of local and national family and day-care policies. Important parts of the programme are financed by foundations that focus exclusively on policy-oriented or applied research (Ministry of Justice, Ministry of Social Affairs and Employment; governmental foundations; ZON; Stichting VSBfonds, Stichting Fonds 1818, Nationaal Fonds Geestelijke Volksgezondheid, Stichting Kinderpostzegels).
2.5 Academic reputation

2.5.1 General information

The members of the programme have been quite ‘visible’ over the past five years. They have presented their work at the major international conferences and have published in international scientific journals of the highest quality and impact (e.g., *Child Development, Developmental Psychology, Journal of Child Psychology and Psychiatry, Psychological Bulletin*). They have received recognition from the international scientific community in the form of invitations for key-note lectures, awards, prestigious fellowships, invitations to participate in editorial boards, and so on. The work of the group has been widely cited and the members of the group have been able to raise a considerable sum of money for their research projects. The following is a non-exhaustive list of the regular indicators of scientific quality and reputation.

2.5.2 Editorial responsibilities

**Membership editorial boards and editorial referees**

<table>
<thead>
<tr>
<th>Adoption Quarterly</th>
<th>Disorders</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>American Journal of Orthopsychiatry</em></td>
<td><em>Journal of Child Psychology and Psychiatry</em></td>
</tr>
<tr>
<td><em>American Journal of Psychiatry</em></td>
<td><em>Journal of Consulting and Clinical Psychology</em></td>
</tr>
<tr>
<td><em>Archives of General Psychiatry</em></td>
<td><em>Journal of Family Psychology</em></td>
</tr>
<tr>
<td><em>Attachment and Human Development</em></td>
<td><em>Journal of Marriage and Family</em></td>
</tr>
<tr>
<td><em>British Journal of Developmental Psychology</em></td>
<td><em>Journal of Reproductive and Perinatal Psychology</em></td>
</tr>
<tr>
<td><em>Child and Adolescent Mental Health</em></td>
<td><em>Journal for Research on Adolescence</em></td>
</tr>
<tr>
<td><em>Child Development</em></td>
<td><em>Journal of Russian and East European Psychology</em></td>
</tr>
<tr>
<td><em>Child Maltreatment</em></td>
<td><em>Journal of Social and Personal Relationships</em></td>
</tr>
<tr>
<td><em>Culture and Psychology</em></td>
<td><em>Journal of the Society of Psychological Anthropology</em></td>
</tr>
<tr>
<td><em>Current Index to Statistics</em></td>
<td><em>New Ideas in Psychology</em></td>
</tr>
<tr>
<td><em>Developmental Psychology</em></td>
<td><em>Parenting</em></td>
</tr>
<tr>
<td><em>Developmental Science</em></td>
<td><em>Personal Relationships</em></td>
</tr>
<tr>
<td><em>Early Childhood Research Quarterly</em></td>
<td><em>Politics and the Individual</em></td>
</tr>
<tr>
<td><em>Ethos</em></td>
<td><em>Science and Practice</em></td>
</tr>
<tr>
<td><em>European Child and Adolescent Psychiatry</em></td>
<td><em>Social Development</em></td>
</tr>
<tr>
<td><em>Infant Behavior and Development</em></td>
<td></td>
</tr>
<tr>
<td><em>Infant Mental Health Journal</em></td>
<td></td>
</tr>
<tr>
<td><em>Journal of Autism and Developmental</em></td>
<td></td>
</tr>
</tbody>
</table>

**External examination of dissertations**

Members of the programme have acted as external examiners of dissertations defended at the following foreign universities:

- C.A. Andersson (University of Copenhagen, 2000)
- M. Gini (University of Haifa, 2001)
- I. Moll (Université de Genève, Switzerland, 2004);
- M. Tomlinson (The University of Reading, UK, September 2004)
- A. Toomela (Tartu University, Estonia, 2000);
External examination of research proposals

Members of the programme served as examiners of research proposals for the following organisations:

- Academy of Finland, Centre of Excellence Programme
- Belgian National Fund for Scientific Research (NFWO)
- Blackwell Publishers
- Conseil de Recherches en Sciences Humaines du Canada (Social Sciences and Humanities Research Council of Canada)
- Conseil Quebecois de la Recherche Sociale (CQRS, Canada)
- Deutsche ForschungsGemeinschaft (DFG, Germany)
- Fonds pour la Formation de Chercheurs et l’Aide à la recherche (FCAR, Canada)
- Fund for Scientific Research -Flanders (Belgium)
- Italian Ministry for University and Research
- Netherlands Institute for Advanced Study in the Humanities and Social Sciences (NIAS)
- PPP Healthcare Medical Trust (UK)
- Swiss National Science Foundation
- The Israeli Science Foundation of the Israel Academy of Sciences and Humanities
- The National Science Foundation (USA)
- The Netherlands Organization for Scientific Research (NWO)
- The Ontario Mental Health Foundation (Canada)
- The Royal Netherlands Academy of Arts and Sciences (KNAW)
- The Wellcome Trust (UK)

2.5.3 External recognitions

Honours and awards

- Bowlby-Ainsworth Award (2005) for contributions to attachment research to M.J. Bakermans-Kranenburg
- Fellowship of the Netherlands Institute for Advanced Study in the Humanities and Social Sciences (NIAS) 2003, to P.M. Kroonenberg
- Membership of the Royal Netherlands Academy of Arts and Sciences (KNAW) - M.H. van IJzendoorn
- Membership of the Social and Economic Council (SER) - M.H. van IJzendoorn
- NWO: VENI 2004, to J. Mesman
- NWO: VIDI 2004, to M.J. Bakermans-Kranenburg
- NWO: SPINOZA 2004, to M.H. van IJzendoorn
- Piet Vroon Award for popularisation of scientific research (2004) to F. Juffer

Citations

Over the five-year period at least 1000 citations (excluding self-citations) to the work of the program participants were registered in the international journals (source: Web of Science). The growing impact of the program can be illustrated by the increased number of papers citing one or more of the publications of program members during the past five years: in 2000:157, in 2001: 146, in 2002: 161, in 2003: 179, in 2004: 198. General impact is visible in references to the participants’
publications in major textbooks and introductory books in the areas of developmental and clinical psychology, human development, educational psychology (reading), and child and adolescent psychiatry.

**External funding**
(See Section 2.7.2)

**Visiting professorships**
Kroonenberg, P.M., Visiting researcher, Department of Agriculture, University of Queensland, Brisbane, Australia (May-July 2002).
Kroonenberg, P.M., Visiting researcher, Department of Psychology, University of Melbourne, Australia (August 2002).
Kroonenberg, P.M., Visiting researcher, Department of Education and Human Development, Nagoya University, Japan (January-February 2004).

2.5.4 Miscellaneous
Four members of staff were appointed to Personal Professorships (bijzonder hoogleraar): Dr. F. Juffer was appointed as Professor of Adoption Studies, Dr. L.W.C. Tavecchio was appointed as Professor of Day Care Studies at the University of Amsterdam, Dr. R. van der Veer was appointed as Casimir Professor in the History of Education, and Dr. P.M. Kroonenberg was appointed as Professor in Multivariate Analysis in particular of three-way data. Prof. Van IJzendoorn was the promotor for the honorary doctorate of Prof. A. Sroufe, University of Minnesota (7 June 2005).

F. Juffer and M.H. van IJzendoorn published a paper on foreign and national adoption (Juffer & Van IJzendoorn, 2005) in JAMA the Journal of the American Medical Association which received wide publicity in the press, especially in The Netherlands and the USA, and also led to a series of interviews which were published in several prominent daily newspapers, such as the Wall Street Journal, Boston Globe, Chicago Tribune, The Washington Times, as well as an interview on the BBC World Radio.
### 2.5.5 PhD degrees

**2000**

<table>
<thead>
<tr>
<th>Name and Date</th>
<th>Title</th>
<th>Supervisors</th>
</tr>
</thead>
</table>

**2001**

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Supervisors</th>
</tr>
</thead>
</table>

**2002**

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Supervisors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Van London-Barentsen, W.M. (University of Utrecht; 08-03-2002)</td>
<td>Gehechtheid in adoptiegezinnen. Intergenerationele overdracht en gedesorganiseerde gehechtheid.</td>
<td>Prof. dr. J. Rispens, (UU) Prof. dr. M.H. van IJzendoorn, Prof. dr. F. Juffer</td>
</tr>
</tbody>
</table>
### 2003

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Supervisors</th>
</tr>
</thead>
</table>

### 2004

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Supervisors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storsbergen, H.</td>
<td>Psychische gezondheid en welbevinden van volwassen Grieks geadopteerden in Nederland: De invloed van het geadopteerd zijn. [Psychological health and well-being in adult Greek adoptees, adopted in the Netherlands: The influence of being adopted]</td>
<td>Prof. dr. M.J.M van Son (UU), Prof. dr. H. ’t Hart (UU), Prof. dr. F. Juffer</td>
</tr>
</tbody>
</table>

### 2005

<table>
<thead>
<tr>
<th>Name and Date</th>
<th>Title</th>
<th>Supervisors</th>
</tr>
</thead>
</table>

Prof. dr. M.H. Van IJzendoorn
Prof. dr. F. Juffer
dr. M.J. Bakermans-Kranenburg

Brilleslijper-Kater, S.N. (Free University of Amsterdam, 18-01-2005) *Beyond words: Between-group differences in the ways sexually abused and nonabused preschool children reveal sexual knowledge*. Enschede: Febodruk BV, 173 pp

Prof. dr. H.E.M. Baartman (FUA)
Prof. dr. B. Spiecker (FUA)


Prof. dr. H. Van Engeland (UU)
Prof. dr. J.K. Buitelaar (UU)
dr. S. Willemsen-Swinkels (UU)

Van Leest-Borst, A.M. (Free University of Amsterdam, 24-02-2005) *Fundamentalistische opvoeding vanuit liberaal-democratisch perspectief. Grenzen van de onderwijsvrijheid*. Enschede: PrintPartners Ipskamp B.V, 162 pp

Prof. dr. B. Spiecker (FUA)
dr. J. W. Steutel (FUA)

---

**2.5.6 Numerical overview PhD theses**

<table>
<thead>
<tr>
<th>Type PhD</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>PhD Leiden</td>
<td>Supervisor Leiden</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>Yes</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>No</td>
<td>Yes</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>No</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>14</td>
</tr>
</tbody>
</table>
2.6 Researchers and other personnel

2.6.1 Personnel policy
Following the departmental allocation, 40% of the appointment of each professor in the programme is dedicated to research. For PhDs this is 70%, and for researchers and post-docs 80%.

2.6.2 Programme members
(Tenured senior faculty as of 31-12-2005)
Dr. M.J. Bakermans-Kranenburg
Dr. S. N. Brilleslijper-Kater
Prof. dr. F. Juffer
Prof. dr. P.M. Kroonenberg
Dr. J. Mesman
Dr. P.J. Prinzie
Prof. dr. L.W.C. Tavecchio
Prof. dr. R. van der Veer
Prof. dr. M.H. van IJzendoorn
### 2.6.3 Numerical overview research staff

#### Research staff (in full)

<table>
<thead>
<tr>
<th></th>
<th>In</th>
<th>Out</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>Total</th>
<th>Research Input</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Full professor</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prof. Dr. M.H. van IJzendoorn</td>
<td>1/09/2000</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>6.00</td>
<td>0.13</td>
<td>0.13</td>
</tr>
<tr>
<td>Prof. Dr. F. Juffer</td>
<td>01/02/2003</td>
<td>0.27</td>
<td>0.80</td>
<td>0.80</td>
<td>0.80</td>
<td>0.80</td>
<td>0.80</td>
<td>4.27</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prof. Dr. T.H.A. van der Voort</td>
<td>01/02/2003</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>0.08</td>
<td></td>
<td></td>
<td>3.08</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prof. Dr. L.W.C. Tavecchio</td>
<td>01/08/2001</td>
<td>0.42</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>4.42</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prof. Dr. R. v. d. Veer</td>
<td>01/09/2002</td>
<td>0.33</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>0.50</td>
<td>3.33</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prof. Dr. P.M. Kroonenberg</td>
<td>01/11/2004</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.58</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td></td>
<td></td>
<td>2.27</td>
<td>3.22</td>
<td>4.13</td>
<td>3.88</td>
<td>3.88</td>
<td>4.30</td>
<td>21.68</td>
<td></td>
</tr>
<tr>
<td><strong>Associate professor (UHD)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8.67</td>
<td></td>
</tr>
<tr>
<td>Dr. M.J. Bakermans-Kranenburg</td>
<td>01/11/2005</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.13</td>
</tr>
<tr>
<td>Dr. P.M. Kroonenberg</td>
<td>01/11/2004</td>
<td>0.50</td>
<td>0.50</td>
<td>0.50</td>
<td>0.50</td>
<td>0.42</td>
<td></td>
<td>2.42</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dr. R. v.d. Veer</td>
<td>01/09/2002</td>
<td>1.00</td>
<td>1.00</td>
<td>0.67</td>
<td></td>
<td></td>
<td></td>
<td>2.67</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dr. L.W.C. Tavecchio</td>
<td>01/08/2001</td>
<td>1.00</td>
<td>0.58</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.58</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td></td>
<td></td>
<td>2.50</td>
<td>2.08</td>
<td>1.17</td>
<td>0.50</td>
<td>0.42</td>
<td>0.13</td>
<td>6.80</td>
<td>2.72</td>
</tr>
<tr>
<td><strong>Assistant professor (UD)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dr. M.J. Bakermans-Kranenburg</td>
<td>01/11/2005</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dr. J.J.G.B. de Frankrijker</td>
<td>01/04/2003</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>0.26</td>
<td></td>
<td></td>
<td>3.26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dr. C.M. Koolstra</td>
<td>01/10/2003</td>
<td>1.00</td>
<td>0.97</td>
<td>0.93</td>
<td>0.71</td>
<td></td>
<td></td>
<td>3.61</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dr. F. Juffer</td>
<td>01/09/2000</td>
<td>0.53</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.53</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dr. G.J.J.M. Stams</td>
<td>01/04/2001</td>
<td>0.67</td>
<td>0.66</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.33</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dr. J. Mesman</td>
<td>01/09/2002</td>
<td>0.20</td>
<td>0.67</td>
<td>0.67</td>
<td>0.80</td>
<td></td>
<td></td>
<td>2.34</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dr. P.J. Prinzie</td>
<td>01/12/2003</td>
<td></td>
<td>0.07</td>
<td>0.84</td>
<td>0.84</td>
<td></td>
<td></td>
<td>1.75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dr. S.N. Brilleslijper-Kater</td>
<td>01/01/2004</td>
<td></td>
<td></td>
<td>0.58</td>
<td>0.63</td>
<td>1.21</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drs. F.B.A. Naber</td>
<td>01/02/2004</td>
<td></td>
<td>0.77</td>
<td>0.84</td>
<td>1.61</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drs. H.J. Vermeer</td>
<td>01/07/2005</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.30</td>
<td>0.30</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td></td>
<td></td>
<td>3.23</td>
<td>3.34</td>
<td>3.52</td>
<td>2.41</td>
<td>3.66</td>
<td>4.08</td>
<td>20.24</td>
<td></td>
</tr>
<tr>
<td><strong>Phd student</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dr. J.C. de Schipper</td>
<td>01/07/2002</td>
<td>1.00</td>
<td>1.00</td>
<td>0.44</td>
<td></td>
<td></td>
<td></td>
<td>2.44</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dr. M.M. Pool</td>
<td>01/10/2001</td>
<td>1.00</td>
<td>0.75</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.75</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drs. P.G.M. Breddels.- v. B.</td>
<td>01/10/2001</td>
<td>1.00</td>
<td>0.71</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.71</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dr. I.L. van der Mark</td>
<td>01/05/2001</td>
<td>0.80</td>
<td>0.27</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drs. J.R. van Os</td>
<td>01/12/2000</td>
<td>0.77</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.77</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drs. S.T. Slotboom</td>
<td>01/05/2000</td>
<td>0.27</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.27</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drs. J. van Zeijl</td>
<td>01/03/2001</td>
<td>0.80</td>
<td>0.80</td>
<td>0.80</td>
<td>0.80</td>
<td>0.80</td>
<td>4.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drs. M.N. Stolk</td>
<td>01/03/2001</td>
<td>0.64</td>
<td>0.80</td>
<td>0.80</td>
<td>0.80</td>
<td>0.80</td>
<td>3.84</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dr. C.L. Bokhorst</td>
<td>01/09/2001</td>
<td>0.33</td>
<td>1.00</td>
<td>0.67</td>
<td></td>
<td></td>
<td></td>
<td>2.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drs. W. van Beek</td>
<td>01/03/2001</td>
<td>0.64</td>
<td>0.80</td>
<td>0.20</td>
<td></td>
<td></td>
<td></td>
<td>1.64</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drs. A.H. Rutgers</td>
<td>01/04/2001</td>
<td>0.60</td>
<td>0.80</td>
<td>0.80</td>
<td>0.80</td>
<td>0.80</td>
<td>3.80</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drs. N. Jaffari-Bimmel</td>
<td>01/03/2001</td>
<td>0.80</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>4.80</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drs. F.D. Pannebakker</td>
<td>01/11/2002</td>
<td>0.13</td>
<td>0.80</td>
<td>0.80</td>
<td>0.80</td>
<td>2.53</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drs. M. Klein Velderman</td>
<td>01/10/2002</td>
<td>0.17</td>
<td>0.80</td>
<td>0.73</td>
<td>0.70</td>
<td>0.70</td>
<td>2.40</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drs. M.D. Beijersbergen</td>
<td>01/11/2002</td>
<td>0.17</td>
<td>1.00</td>
<td>0.92</td>
<td>0.80</td>
<td>2.89</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drs. R. Gilissen</td>
<td>01/09/2002</td>
<td>0.29</td>
<td>0.92</td>
<td>0.80</td>
<td>0.80</td>
<td>2.81</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drs. L.R.A. Alink</td>
<td>01/07/2003</td>
<td>0.42</td>
<td>0.80</td>
<td>0.80</td>
<td></td>
<td>2.02</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drs. F.C.P. v.d. Horst</td>
<td>01/05/2004</td>
<td>0.53</td>
<td>0.80</td>
<td></td>
<td></td>
<td>1.33</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drs. A. Yaman</td>
<td>01/10/2004</td>
<td>0.15</td>
<td>0.80</td>
<td></td>
<td></td>
<td>0.95</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drs. L. v.d. Dries</td>
<td>01-02-2005</td>
<td></td>
<td></td>
<td>0.73</td>
<td>0.73</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drs. O.J.G. Schiepers</td>
<td>15-07-2005</td>
<td>0.37</td>
<td>0.37</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drs. D. Out</td>
<td>01-10-2005</td>
<td>0.23</td>
<td>0.23</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td></td>
<td></td>
<td>4.84</td>
<td>6.54</td>
<td>6.40</td>
<td>8.21</td>
<td>8.13</td>
<td>10.23</td>
<td>44.35</td>
<td></td>
</tr>
</tbody>
</table>
### Non-tenured researcher

<table>
<thead>
<tr>
<th>Name</th>
<th>In</th>
<th>Out</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>Total</th>
<th>Research Input</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr. M. de Wolff</td>
<td>01/11/2000</td>
<td></td>
<td>0.41</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.41</td>
<td></td>
</tr>
<tr>
<td>Dr. T.M. de Jong</td>
<td>01/11/2001</td>
<td>01/04/2003</td>
<td>0.10</td>
<td>0.73</td>
<td>0.13</td>
<td></td>
<td></td>
<td></td>
<td>0.96</td>
<td></td>
</tr>
<tr>
<td>Dr. J Mesman</td>
<td>01/04/2001</td>
<td>01/09/2002</td>
<td>0.38</td>
<td>0.33</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.71</td>
<td></td>
</tr>
<tr>
<td>Dr. J.C. de Schipper</td>
<td>01/06/2002</td>
<td>01/12/2003</td>
<td></td>
<td>0.54</td>
<td>0.26</td>
<td></td>
<td></td>
<td></td>
<td>0.80</td>
<td></td>
</tr>
<tr>
<td>Dr. H.J. Vermeer</td>
<td>01/06/2003</td>
<td>01/07/2005</td>
<td></td>
<td>0.35</td>
<td>0.67</td>
<td>0.20</td>
<td></td>
<td></td>
<td>1.22</td>
<td></td>
</tr>
<tr>
<td>Dr. F.T.A. Pijlman</td>
<td>01/09/2005</td>
<td></td>
<td></td>
<td>0.35</td>
<td>0.67</td>
<td>0.70</td>
<td></td>
<td></td>
<td>1.72</td>
<td></td>
</tr>
<tr>
<td>A.M.T. v.d. Linden</td>
<td>01/09/2005</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.27</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td></td>
<td></td>
<td>0.41</td>
<td>0.48</td>
<td>1.60</td>
<td>0.74</td>
<td>0.67</td>
<td>0.70</td>
<td>4.60</td>
<td>3.68</td>
</tr>
</tbody>
</table>

### Total Research Input

|                  |       |        |      |      |      |      |      |      |      | 54.22 |

Notes: Research as proportion of appointment: Professors: .4; PhDs: .7; Post-doc & Research staff = .8. Personal chair [Bijzonder hoogleraar].
2.7 Resources, funding and facilities

2.7.1 General description

In the past few years, the research team was able to acquire the following highly prestigious grants: NWO - VENI (J. Mesman), NWO - VIDI (M.J. Bakermans-Kranenburg), NWO - Mozaïek (A. Yaman, J. Mesman, M.H. van IJzendoorn, M.J. Bakermans-Kranenburg), NWO - SPINOZA (M.H. van IJzendoorn), and several PhD projects (Adoption, F. Juffer; Attachment Focus Cohort, M.H. van IJzendoorn, M.J. Bakermans-Kranenburg). Important parts of the programme are financed by foundations that focus exclusively on policy-oriented or applied research, in particular Ministry of Justice, Ministry of Social Affairs and Employment; governmental foundations; ZON; Stichting VSBfonds, Stichting Fonds 1818, Nationaal Fonds Geestelijke Volksgezondheid, Stichting Kinderpostzegels.

We accept grants only when they contribute to our research programme, never only because they help to address purely practical issues. We expect that in the future the number of research personnel financed by extra-mural grants will grow considerably.

2.7.2 Detailed information

<table>
<thead>
<tr>
<th>Year</th>
<th>Source Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>Ministry of Justice. Grant for financing the Adoptie Driehoek OnderzoeksCentrum (ADOC; Adoption Triangle Research Centre). Awarded to Prof. F. Juffer &amp; Prof. M.H. van IJzendoorn in collaboration with ADOC.</td>
<td>€ 22,700</td>
</tr>
<tr>
<td>2000</td>
<td>Stichting Pleegzorg Rotterdam. Pilot study into Video Interactie Begeleiding(VIB), video training of mother child-interaction in adoptive families. Awarded to Prof. F. Juffer and Prof. M.H. van IJzendoorn.</td>
<td>€ 34,000</td>
</tr>
<tr>
<td>2001*</td>
<td>Japanese Society for the Promotion of Science. Awarded to Dr. P.M. Kroonenberg</td>
<td>€ 10,000</td>
</tr>
<tr>
<td>2001</td>
<td>Zorg Onderzoek Nederland (ZON): Grant for the research programme: “Preventive intervention of behaviour problems in early childhood”. Awarded to Prof. M.H. van IJzendoorn, Prof. F. Juffer, and Prof. H. Koot)</td>
<td>€ 650,000</td>
</tr>
<tr>
<td>2002*</td>
<td>Ethel Raybould Fellowship, Department of Mathematics, University of Queensland. Awarded to Dr. P.M. Kroonenberg</td>
<td>€ 1,500</td>
</tr>
<tr>
<td>2002</td>
<td>Fonds 1818. Awarded to Prof. M.H. van IJzendoorn, Prof. F. Juffer and Drs. C. Klein Poelhuis.</td>
<td>€ 25,000</td>
</tr>
<tr>
<td>2002*</td>
<td>NWO Travel grant Australia. Awarded to Dr. P.M. Kroonenberg</td>
<td>€ 4,200</td>
</tr>
<tr>
<td>2002</td>
<td>Vereniging Wereldkinderen en Stichting Kind en Toekomst: Grant for longitudinal adoption research, follow up till 14 year of age. Awarded to Prof. F.Juffer</td>
<td>€ 9,100</td>
</tr>
<tr>
<td>2002</td>
<td>VSB fonds. Awarded to Prof. M.H. van IJzendoorn, Prof. F. Juffer and Drs. C. Klein Poelhuis)</td>
<td>€ 80,000</td>
</tr>
<tr>
<td>2002</td>
<td>Ministry of Social Affairs and Employment. Grant for the National Day Care Study (NCKS). Awarded to Prof. M.H. van IJzendoorn, with Prof. Tavecchio (University of Amsterdam), and Prof. Riksen-Walraven (University of Nijmegen) – 1 million euro, shared equally by the three universities.</td>
<td>€ 333,000</td>
</tr>
</tbody>
</table>
2003  VSB-fonds, Fonds 1818, Stichting Kinderpostzegels, en het
Nederlands Fonds Geestelijke Volksgezondheid. Grant for the
three-year project “Brug tussen praktijk en wetenschap”
(Bridge between practice and science – a meta-analytic study
into adoption) Awarded to: Prof. F. Juffer & Prof. M.H. van
IJzendoorn, in collaboration with ADOC.

2003*  The Netherlands Institute for Advanced Study in the
Humanities and Social Sciences awarded to Dr. P.M.
Kroonenberg

2004*  Japanese Society for the Promotion of Science. Awarded to
Dr. P.M. Kroonenberg

2004  NWO. Spinoza prize. Awarded to Prof. M.H. van IJzendoorn

2004  NWO. “Prerequisites for the development of attachment and
reversibility of disorganized and atypical patterns of
attachment: An adoption study.” Awarded to Prof.: F. Juffer,
Prof. M.H van IJzendoorn, & Dr. M.J. Bakermans-
Kranenburg. for a PhD student.

2004  NWO – Mozaïek. Prof. M.H van IJzendoorn, Dr. M.J.
Bakermans-Kranenburg, Dr. J. Mesman, & Drs. A. Yaman.

2004  NWO VIDI - "Genes and environment in attachment". Awarded to Dr. M.J. Bakermans-Kranenburg

2004  NWO VENI - "Early parent child interaction patterns and the
development of externalising problems: combining attachment
and coercion theory". Awarded to Dr. J. Mesman

2005  Ministry of Justice (WODC). "Incidence of child abuse in The
Netherlands". Awarded to Prof. M.H. van IJzendoorn & Dr. P.
Prinzie.

2005  Ministry of Social Affairs and Employment. Grant for the
National Day Care Study, Project 2 (NCKS), "Improving the
quality of day care. Awarded to Prof. M.H. van IJzendoorn
with Prof. L.W.C.Tavecchio (University of Amsterdam), and
Prof. M. Riksen-Walraven (University of Nijmegen).

2005  NWO. “Neurobiological and parental determinants of infant
attachment disorganisation”. Awarded to Prof. M.H. van
IJzendoorn

* These grants have been listed in the Summary of funding of the Data Theory project.
### 2.7.3 Summary of funding

<table>
<thead>
<tr>
<th>Sources (Amounts in Euro $\times 1000$)</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>Six-year average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct funding</td>
<td>22.7</td>
<td>333.0</td>
<td></td>
<td>130.0</td>
<td></td>
<td></td>
<td>81.0</td>
</tr>
<tr>
<td>Science foundations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NWO</td>
<td></td>
<td></td>
<td></td>
<td>2653.5</td>
<td>170.0</td>
<td></td>
<td>470.6</td>
</tr>
<tr>
<td>Others</td>
<td></td>
<td></td>
<td>21.0</td>
<td></td>
<td></td>
<td></td>
<td>3.5</td>
</tr>
<tr>
<td>Total science foundations</td>
<td></td>
<td></td>
<td></td>
<td>21.0</td>
<td>2653.5</td>
<td>170.0</td>
<td>474.1</td>
</tr>
<tr>
<td>Contract research and other sources</td>
<td>34.0</td>
<td>650.0</td>
<td>114.1</td>
<td>300.0</td>
<td></td>
<td></td>
<td>183.0</td>
</tr>
<tr>
<td>Total</td>
<td>56.7</td>
<td>650.0</td>
<td>447.1</td>
<td>321.0</td>
<td>2653.5</td>
<td>300.0</td>
<td>738.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sources</th>
<th>Direct funding</th>
<th>Science foundations</th>
<th>Contract research and other sources</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>40%</td>
<td>74%</td>
<td>43%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7%</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>57%</td>
<td>64%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>60%</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>26%</td>
<td>93%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>25%</td>
</tr>
</tbody>
</table>

Note: Amounts are listed in the year acquired, or in 2000 if acquired earlier. In the latter case only the amount is given for the remaining years.
2.8 Overview of results

2.8.1 Key publications


2.8.2 Numerical overview

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic publications</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refereed journals</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>English(^1)</td>
<td>11</td>
<td>7</td>
<td>10</td>
<td>19</td>
<td>17</td>
<td>15</td>
<td>79</td>
</tr>
<tr>
<td>Dutch</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>0</td>
<td>4</td>
<td>4</td>
<td>16</td>
</tr>
<tr>
<td>Other journals</td>
<td>6</td>
<td>8</td>
<td>9</td>
<td>9</td>
<td>11</td>
<td>16</td>
<td>59</td>
</tr>
<tr>
<td>Book chapters</td>
<td>6</td>
<td>6</td>
<td>15</td>
<td>9</td>
<td>9</td>
<td>31</td>
<td>76</td>
</tr>
<tr>
<td>Total</td>
<td>24</td>
<td>24</td>
<td>38</td>
<td>37</td>
<td>41</td>
<td>66</td>
<td>230</td>
</tr>
<tr>
<td>Monographs and edited books</td>
<td>2</td>
<td>1</td>
<td>6</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>16</td>
</tr>
<tr>
<td>PhD theses(^2)</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>5</td>
<td>14</td>
</tr>
<tr>
<td>Professional publications and products</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: \(^1\) English and other foreign languages. \(^2\) PhD theses are listed in Section 2.5.5 and not in the lists with publications; they include theses of staff members who acquired during the period their PhDs elsewhere.
2.8.3 Publications 2000

Academic publications

Refereed journals

English


Dutch

Other journals

Dutch


Book chapters

English


Dutch


**Monographs and edited books**

**English**


**Dutch**


**Invited papers; contributed papers at major conferences**


Wolff, M.S. de (01-06-2000). *School atmosphere and moral development A longitudinal study into the effects of the adolescents' perception of the moral atmosphere in their school.* Jena, Germany: 7th Biennial Conference of the European Association for Research on Adolescence.
2.8.4 Publications 2001

Academic publications

Refereed journals

English


Dutch


Other journals

English


Dutch


**Book chapters**

**English and other foreign languages**


**Dutch**


**Monographs and edited books**

**English**


**Invited papers; contributed papers at major conferences**


Van IJzendoorn, M.H. (10-01-2001). *Disorganized attachment and dysregulation of negative...*
emotions. Palm Beach, FL: Johnson & Johnson Pediatric Round Table on Socioemotional Regulation: Dimensions, Developmental Trends and Influences.

2.8.5 Publications 2002

Academic publications

Refereed journals

English


Dutch


Other journals

English


Dutch


Book chapters

English


Dutch


**Monographs and edited books**

**English**

Dutch


Professional publications and products


Invited papers; contributed papers at major conferences


Amsterdam: 8th Congress of the World Association for Infant Mental Health.

2.8.6 Publications 2003

**Academic publications**

**Refereed journals**

*English and other foreign languages*


**Other journals**

*Dutch*


**Book chapters**

*English and other foreign languages*


Dutch


Invited papers; contributed papers at major conferences


Juffer, F. (01-11-2003). Attachment and intervention in the context of adoption. Fölasa,
Sweden: Conference “The second chance: Adoption and attachment”.


2.8.7 Publications 2004

Academic publications

Refereed journals

English and other foreign languages


**Dutch**


**Other journals**

**Dutch**


**Book chapters**

**English**


**Dutch**


**Monographs and edited books**

**Dutch**

**Invited papers; contributed papers at major conferences**


Juffer, F. (24-04-2004). *Adoption: Chances for families.* Düsseldorf, Germany, Invited keynote speaker at the EuroAdopt conference 'Adoption as a Lifelong Process'.


2.8.8 Publications 2005

**Academic publications**

**Refereed journals**

*English*


Other languages


Dutch


Other journals

Dutch


Tavecchio, L.W.C. (2005). De rol van ouders in de ontwikkeling van kinderen met een


**Book chapters**

**English**


Dutch


Other languages


**Monographs and edited books**

**Dutch**


**Other languages**


**Invited papers; contributed papers at major conferences**


Juffer, F. (29-09-2005). *Adoption: A second chance*. Helsinki, Finland, Invited lecture presented for 'Save the Children-Finland'.


Van IJzendoorn, M.H. (15-05-2005). *Trauma, disorganized attachment, and resilience*. Jerusalem, Israel, Invited contribution to the Regional Scientific Workshop of the International Society for the Study of Behavioral Development on 'Chronic exposure to war experiences and political violence'.


2.9 Strengths, weaknesses, and prospects

The strengths of this programme are: its broad array of research issues addressed from a specific theoretical framework: attachment theory; its continuing expanding and reshaping of methods and techniques used to test its hypotheses (genetics; psychophysiology; meta-analytic methods); and the interdisciplinary origin of its staff members (trained in developmental and experimental psychology, pedagogy, human development, statistics, biology, history). The research team recently was enlarged with three senior researchers who may become tenured members of the group: drs. F. B. A. Naber (biologist), dr. P.J. Prinzie (orthopedagogy and methods of research), and dr. S. N. Brilleslijper-Kater (orthopedagogy). In 2005 several new PhD projects have been started. Three special personal chairs were created for core members of the research team (dr. P.M. Kroonenberg, dr. F. Juffer, and dr. R. van der Veer) and one of the team members became associate professor (dr. M.J. Bakermans-Kranenburg). The research team is a solid back bone of the programme and able to supervise a series of PhD and other projects.

Weaknesses are related to the conditions under which the programme has to function: because of the active role of almost all researchers in the teaching of an increasing number of students at all levels of their education, their workload is extremely large. Furthermore, housing has become a major issue as the team has been expanding without a corresponding increase of rooms and other facilities, such as laboratory rooms. The programme now is able to use two observational playrooms but a third facility is necessary to keep up with the intensive data collection going on in several projects. The increase in externally financed projects (through the NWO-grants: VENI, VIDI, Mozaïek, Spinozapremie) has not been matched by corresponding input from the university, for example in terms of housing and other research facilities.