
PREVENTION, THE APPROPRIATE TARGET OF INFANT PSYCHOTHERAPY

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ABSTRACT: The aim of this paper is to evaluate the case for preventive interventions in infancy aimed at the reduction of childhood psychopathology. The paper considers the terminology of prevention and the case for prevention in infancy. It is argued that increased knowledge concerning the developmental pathways involved in many psychological disorders opens the door to prevention initiatives. An overview of recent prevention trials is provided and the implications from treatment evaluation studies are explored. The case for prevention of conduct disorders is taken as an illustration of the potential for interventions in infancy. A developmental model of conduct disorder implicates a vicious cycle of parent–child interactions, a process that may arguably be preempted by early intervention. Three modalities are considered in detail: (a) early parent training; (b) the enhancement of attachment security; and (c) the facilitation of the development of reflective function. Studies in each of these areas are reviewed. The paper concludes that increased emphasis on the prevention aspect of infant mental health interventions is justified and desirable.

RESUMEN: El objetivo de este ensayo es evaluar el caso de las intervenciones preventivas en la infancia dirigidas a la reducción de la psicopatología de la niñez. El estudio considera la terminología de prevención y el caso de la prevención en la infancia. Se discute que el aumento en el conocimiento concierne a

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de conducta se toma a manera de ilustración de las posibilidades de intervenciones en la infancia. Un modelo de desarrollo de trastornos de conducta conlleva un ciclo vicioso de las interacciones padre/madre-niño, un proceso que pudiera discutiblemente ser agotado previamente por medio de una temprana intervención. Tres modalidades son consideradas en detalle: a) un temprano entrenamiento del padre o la madre; b) el acrecentamiento de la seguridad en la unión afectiva; y c) el facilitamiento del desarrollo de la función de reflexión. Se revisan algunos estudios en cada una de estas áreas. El ensayo concluye

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con que el incremento del énfasis en el aspecto de prevención de las intervenciones de salud mental infantil es tanto justificado como deseable.

RÉSUMÉ: Le but de cet article consiste à évaluer l'argumentation pour des interventions préventives dans la petite enfance dans le but de réduire la psychopathologie de l'enfance. Cet article examine la terminologie de la prévention et l'argumentation pour la prévention durant la petite enfance. Nous démontrons que les connaissances plus poussées concernant les voies développementales impliquées dans de nombreux troubles psychologiques ouvrent la porte à des initiatives de prévention. Un survol des récentes tentatives de prévention est présenté, et les implications pour les études d'évaluation de traitement sont explorées. L'argumentation pour la prévention de troubles de conduite est présentée comme une illustration du potentiel que possèdent les interventions dans la petite enfance. Un modèle de développement de trouble de la conduite implique un cycle sans fin des interactions parent-enfant, un processus qui pourrait très bien être prévenu par une intervention précoce. Trois modalités sont examinées en détail: a) l'éducation parentale précoce; b) l'amélioration de la sécurité de l'attachement; et c) la facilitation du développement de fonctions de réflexion. Les études dans chacun de ces domaines sont étudiées. L'article conclut qu'il est justifiable et désirable de mettre un accent de plus en plus grand sur l'aspect préventif des interventions en santé mentale de la jeune enfance.

ZUSAMMENFASSUNG: Das Ziel dieser Arbeit ist die Evaluation der präventiven Interventionen zur Reduktion der kindlichen Psychopathologie. In dieser Arbeit wird die Terminologie der Prävention ebenso beachtet, wie die Spezifika der Prävention in der Kleinkindzeit. Man argumentiert, daß die Verbesserung des Wissens über die entwicklungsmaßig bedeutsamen Wege, die zu den meisten psychologischen Störungen führen die Tür zu präventivem Tun öffnet. Es wird eine Übersicht über kürzlich gemachte Versuche vorgelegt und die Hintergründe der Studien zur Behandlungsevaluation erläutert. Die Frage der Prävention von Verhaltensstörungen wird als Beispiel für mögliche Interventionen in der Kleinkindzeit genommen. Ein Entwicklungsmodell von Verhaltensstörungen impliziert einen Teufelskreis von Eltern—Kind Interaktionen, ein Prozeß bei dem man leicht argumentieren kann, daß er vorher anders gestaltet werden könnte. Drei Arten der Intervention werden im Detail besprochen: a. frühe Elternschulung; b. Die Steigerung der Bindungssicherheit; und c. Die Erleichterung der Entwicklung der Fähigkeit zu Reflektieren. Studien aus diesen Gebieten werden kritisch dargestellt. Diese Arbeit schließt mit der Feststellung, daß es sowohl berechtigt, als auch wünschenswert ist, ein noch größeres Gewicht auf die präventiven Interventionen im Bereich der seelischen Gesundheit des Kleinkinds zu legen.

抄録: この論文の目的は、小児期の精神病理の減少を目指した、乳児期予防的介入の問題を評価することである。この論文は予防の用語と、乳児期予防の問題を考察する。各種心理的障害の発達経路に関する知識は、予防へと先手を打つドアを開いてくれると論じた。最近の予防の試みについて概観し、治療効果の評価研究が意味する所を検討した。乳幼児期介入の可能性を例示するため、行為障害の予防における問題を取り上げた。行為障害の発達モデルは、親子相互交流の悪循環を示唆し、早期介入により予め防げる可能性のあるプロセスであると考えられる。3つの介入様式について、詳しく検討した: a) 早期の親トレーニング、b) 愛着安定性の向上、c) 自省機能開発の促進。それぞれの分野における研究を概観した。乳幼児精神衛生介入において、予防的な側面をさらに強調することは、正当でありまた望ましい、というのがこの論文の結論である。

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EARLY PREVENTIVE INTERVENTION

The main advantage of being asked to present a plenary address at a Congress (other than the obvious honor) is not having to submit an abstract. This is just as well, because had I submitted one, I have no doubt that my esteemed colleagues, Drs. de Château and Guedeney, the Co-chairs of the Program Committee, would have rejected it, and appropriately so. This is because in this presentation I have decided to focus the evaluator's microscope not on early interventions

in general, but rather on early preventive interventions in particular. This is not just because, like the drunk who, having dropped his keys in the gutter, looks for them under the street lamp where he can see, I too prefer to look where there is a chance of seeing something, but more importantly because I firmly believe that the future of mental health work in infancy *is* in prevention. Arguably, in essence, all clinical interventions with infants are preventive in nature.

Terminology of Prevention

A brief word about terminology. In 1957 the Commission on Chronic Illness identified three kinds of disease prevention: primary, secondary, and tertiary (Commission on Chronic Illness, 1957). Caplan (1974) adapted this categorization to mental disorders. As you know, primary prevention is aimed at reducing the number of new cases of mental disorder (incidence), secondary prevention seeks to lower the rate of established cases of mental disorder by reducing their duration (prevalence), and tertiary prevention aims at decreasing the amount of disability resulting from mental disorders. While effectively used for physical disorders, it is clear that this system is inadequate for infant mental health. The distinction implicitly assumes knowledge of the causal pathways which underlie the disease process.

In the 1980s several authors (in particular Gordon, 1983; 1987) proposed modifications. The influential Institute of Medicine review of prevention (Mrazek & Haggerty, 1994) endorsed one of these proposals. Gordon proposed a three-way distinction most appropriate for Infant Mental Health¹: (a) *Universal preventive measures* that must be cost beneficial for everybody in the eligible population. Prenatal and perinatal care would be universal preventive interventions. (b) *Selective preventive measures*, which are cost beneficial only to a subgroup of the population whose risk of becoming ill is above average. (c) *Indicated preventive measures* are applied to groups who are asymptomatic regarding the disease but on examination are found to manifest a risk factor that may justify more costly and extensive interventions. In this system treatment and rehabilitation are quite separate and not regarded as prevention.

The Case for Prevention

I believe that infant mental health clinicians and researchers face a formidable task over the decade to come: *to persuade society and its agents, the politicians and the administrators of mental health budgets, to invest in the mental well-being of infants, to accept and internalize what we all believe to be a fundamental truth of our field, that the preservation of the mental health of infants is the key to the prevention of mental disorder throughout the lifespan.*

On the face of it, the task may not seem a particularly challenging one. Mental health prevention, alongside motherhood and apple pie, occupies a venerable place among the objectives, priorities, or targets of most national mental health policy statements (e.g., Department of Health, 1992; Kennedy, 1963). The general case for mental disorder prevention in young children rests on the following well-established facts:

- (a) The prevalence of psychiatric impairment among children and adolescents is high, approximately 20% (e.g., Zahner, Jacobs, Freeman, & Trainor, 1993; Zill & Schoenborn, 1990).
- (b) Only a relatively small proportion of these individuals (10–15%) find their way to psychiatric services (Kolko & Kazdin, 1993). This observation is not restricted to the

¹ The subdivision of prevention into universal, selective, and indicated overlaps with a typology proposed by Bloom (1968) and Heller et al. (1984) (see Offord et al., 1992) as community wide, milestones and high-risk components.

United States, where financial barriers to psychiatric care are considerable. In a recent study of 0- to 5-year-olds in New Zealand (Pavuluri, Luk, & McGee, 1996), only 19% of those in need were found to reach mental health services. However, had this number been higher, could services have coped?

- (c) The poor long-term outcome of untreated impairment which, has always been accepted for PDD and schizophrenia, is now increasingly recognized for disruptive behavioral problems (e.g., Offord & Bennett, 1994). Even emotional disorders of childhood, which were traditionally thought to remit spontaneously, have been found to have poor recovery rates—mostly around 50% (e.g., Cohen, Cohen, & Brook, 1993; Ollendick & King, 1994). Early psychiatric disorder persists to later childhood; a review by Campbell (1995) showed that about two thirds of 3-year-olds who show significant disturbance still have difficulties when assessed at 8 or 12 years of age. This is particularly true for the disorders that are of greatest cost and concern to the wider society: violent conduct disorder (e.g., White, Moffitt, Earls, Robins, & Silva, 1990). Conduct disorder, with many other childhood disorders, progresses beyond adolescence, to adult pathology: for example, disruptive behavior to antisocial personality disorder (Offord & Bennett, 1994; West & Farrington, 1973); depression to affective disorders in adulthood (Harrington et al., 1994). The infant mental health professional's priority, from an evaluator's point of view, is to target the problems with the poorest long-term outcome.
- (d) Much has been learnt about risk and protective factors for almost all child psychiatric disorders since the 1960s (e.g., Harrington et al., 1994; Rutter, 1993). The veritable explosion of epidemiological data on developmental pathways to psychiatric problems is, as I shall attempt to illustrate, the key for the appropriate targeting of interventions in early childhood.
- (e) Much has also been achieved to identify which of these risk or protective factors are malleable to interventions (e.g., Farran, 1991; Heinicke, Beckwith, & Thompson, 1988; Olds & Kitzman, 1993; Seitz, 1990; van IJzendoorn, Juffer, & Duyvesteyn, 1995). Prevention is underpinned by the modification of risk by selecting accessible and modifiable vulnerability or protective factors in the developmental causal chain of a disorder.
- (f) Treatment interventions available for many of the most recalcitrant mental disorders of childhood are sadly relatively ineffective (Kazdin, 1994; Target & Fonagy, 1996b).
- (g) One of the strongest arguments for preventive/early intervention is recent discoveries concerning "sensitive periods" in the development of the central nervous system (CNS). This has now been demonstrated in a number of areas including: emotional reactivity (Dawson, Hessel, & Frey, 1994), self-organization (Cicchetti & Tucker, 1994), motivation (Derryberry & Reed, 1994), relationships (Carlsson & Sroufe, 1995), the irreversible damaging impact of certain types of early sensory experience (Courchesne, Chisum, & Townsend, 1994), more specifically the overwhelming destructive effect of early emotional stress (Benes, 1994) and the sensitization to (or kindling effects of) these experiences (Post, Weiss, & Leverich, 1994). There can be no doubt, for example that the early maltreatment of a child has profound neuropsychological as well as behavioral sequelae (Cicchetti & Toth, 1995). The observation of infants with mothers who are depressed has also helped us to realize the importance of early interaction for later development (e.g., Murray, 1992). Work by Laucht and colleagues (Laucht, Esser, & Schmidt, 1994) in Germany has offered an elegant il-

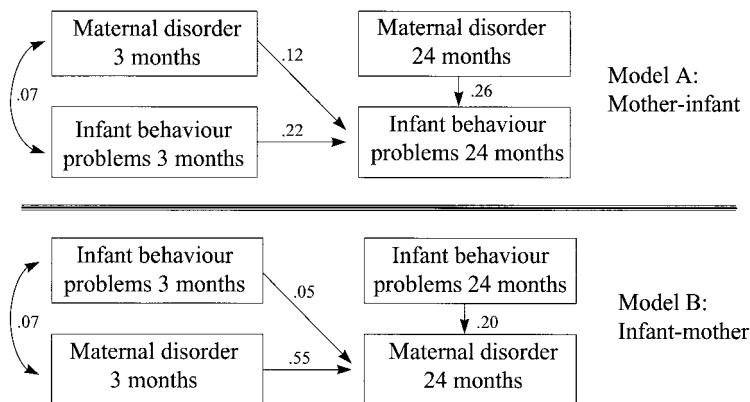


FIGURE 1. Directions of transmission between mother and infant psychopathology (Laucht et al., 1994).

illustration of the importance of disturbed mother-infant interaction as mediating this effect (see Figure 1). In this impressive epidemiological study ($N = 353$), maternal disorder and infant behavior at 3 months predicted disturbance of the mother–infant interaction, which in turn predicted infant behavior problems at 2 years independently of early measures of the infant’s behavioral problems. As the work of Field (1995) illustrates, infants of mothers who are still depressed when their infants are 6 months old begin to show growth retardation and developmental delay.

Overview of Past Evaluations and Follow-up

The sceptic is unlikely to accept the case for the value of early preventive intervention stated in such general terms. I am reminded of the statement attributed to the C.E.O. of a major U.S. Managed Health Care Organization: “In God we trust, from everybody else we demand outcome data.” Fortunately, over the last 25 years substantial evidence for the effectiveness of early preventive intervention has been accumulated (e.g., Brooks-Gunn, Klebanov, Liaw, & Spiker, 1993; Field et al., 1986; Horacek, Ramey, Campbell, Hoffman, & Fletcher, 1987; Kraemer & Fendt, 1990).

Despite several outstanding reviews (e.g., Cox, 1993b; Farran, 1991; Heinicke et al., 1988; McGuire & Earls, 1991; Rae Grant, 1991; Seitz, 1990) the results of this effort are hard to summarize. Programs have been heterogenous with regard to a number of critical variables such as whether the child or the parent is the center of the intervention, whether intervention needs to start during pregnancy or at birth, whether it needs to continue to the second or even third year of the child’s life and if so at what rate the intervention should be tapered, whether the intervention is best administered by nurses, psychologists, or other professionals or by volunteers, whether the intervention is best kept focused or broad-based, educational, behavioral, relationship or psychodynamically oriented. Given the number of parameters and the unsystematic way in which they vary across studies, strong and generalizable conclusions are hard to draw.

One of the largest studies so far reported is the *Infant Health and Development Program* (Brooks-Gunn et al., 1994) aimed at reducing the educational, health and behavioral risks associated with low birth weight. Home visits (once per week in the first year after neonatal discharge and biweekly for the subsequent 2 years), educational programs in specially designed

preschools (4 hours per day) and parent group meetings was provided for one third of the 985 infants across 8 sites, those offered the input being randomly selected. The impact on IQ, health status, and behavior (CBCL) was powerful and significant during the period of intervention (first 3 years [$p < 0.001$]) but declined on follow-up with only the heavier babies (2001 to 2500 g) continuing to show IQ benefits at 5 years ($p < 0.008$) and neither group manifesting significant health or behavior benefits in the longer term.

There is good evidence that changes in learning materials and stimulation, variety of stimulation, modelling of social maturity, acceptance of the child, consequent on the intervention accounts for the observed group differences (Bradley et al., 1994). An analysis by Yogman et al. (1995) indicated that high father involvement was associated with better outcome in terms of IQ, particularly for the African American ethnic group. Looking at the nature of the home visits, perhaps our disappointment with the follow-up results might be mixed with a bit of smugness. As clinicians we might have anticipated that the physical presence and educational and supportive input from a home visitor alone was unlikely to benefit these disadvantaged mothers in the long term. Two large ($n = 2235$ and 1654) randomized controlled trials with high-risk families demonstrated that home visitations with social support and education only had no discernable advantage for these mothers or their infants (Oda, Heilbron, & Taylor, 1995; Villar et al., 1992).

A second study, which deserves special mention, is the *Pre-natal Infancy Project*, also known as the *Elmeira Project*, conducted by David Olds and his colleagues. The program was based on the “ecological” model of Bronfenbrenner (1979), which assumes an interdependence among social systems that operate simultaneously at the level of the parent–child dyad, the family as a whole, and the larger socioeconomic influences of the community. High risk is thus seen as arising out of unhealthy maternal behavior, dysfunctional infant caregiving, and a stressful social environment. The high-risk sample was drawn on the basis of socioeconomic status, single status, and age. The sample was recruited before the 25th week of pregnancy. The intervention consisted of home nurse visits throughout the first 2 years of life (weekly for the first 6 weeks, then decreasing to once every 6 weeks during the second year). Visits included an educational component (risk behaviors), parenting techniques, enhancement of social support, advice. Benefits were evident at childbirth, particularly among young adolescent mothers (Olds, Henderson, Tatelbaum, & Chamberlin, 1986). During the first 2 years there was a 32% reduction in emergency room visits, particularly for injuries and ingestions (56%). Verified child abuse was reduced in the highest risk group, of unmarried teenagers, from 19 to 4% (Olds, Henderson, Chamberlin, & Tatelbaum, 1986). Child control practices included fewer restrictions and punishments and more intellectually stimulating material was available. Once the nurse home visits ceased (in the 3rd and 4th year), the differences in the rates of child abuse and neglect between the two groups were reduced and so was the difference in the children’s scores on intelligence tests (Olds, Henderson, & Kitzman, 1994). However, statistically significant differences in terms of number of injuries and ingestions were maintained as well as a clear impact on behavioral problems and lasting IQ gains in the children of mothers who smoked during pregnancy (Olds, Henderson, & Tatelbaum, 1994).

The results hint at the process of change: the strongest effects might have originated from the long-term consequences of changes in the mothers’ lives associated with the home visits. For example, they improved their child’s chances by delaying their next pregnancy and entering productive employment (Olds, Henderson, Tatelbaum, & Chamberlin, 1988). Thus, some of the lasting effects of preventive interventions are probably tied to structural changes in the lives of parents, which in turn continue to impact upon the development of the child. By the same token, the long-term success of the *Mother–Child Home Program of Verbal Interaction Project*, (Levenstein, 1992), which involved the modelling of a verbal cognitive curriculum by

home visitors, may well have been due to parents in the experimental group who, as a consequence of these interactions, decided to send their children to preschool (95 vs. 74%). This underscores the rather obvious observation that the engagement of parents is an essential precondition for the success of a program, even if this is focused principally upon children. The *Perry Preschool Project* (Schweinhart & Weikart, 1992), which seems to have been a highly successful preschool educational preventive intervention, included a probably crucial home visit component and had detectable effects at 19 years in terms of educational and behavioral outcomes (Schweinhart, Barnes, & Weikart, 1993).

There is some agreement among studies that early commencement of preventive interventions is essential. Experimental studies (e.g., Larson, 1980) show that intervention during pregnancy brings additional benefits. A prevention strategy devised by Spivack and Shure (1974), involving the teaching of interpersonal problem-solving skills, was also more effective in preschoolers than older children (Shure & Spivack, 1988). Although early intervention is more effective, there is a need to sustain any improvements that may have been brought about (Cox, 1993b). Thus, the overall cost of prenatal intervention will be greater.

There is less consistency in the literature on the qualifications required to perform preventative work. Most studies in the United Kingdom use Health Visitors (specially trained nurses with an additional year's training covering medical, social, and developmental aspects of child care) who have a statutory obligation to visit young children and their caregivers. Preventative programs tested added to this training by providing extra didactic seminars, back-up consultation (Hewitt & Crawford, 1988), support groups and joint case work (Thompson & Bellenis, 1992), and a combination of didactic, supervisory, and mutual support case discussion formats (Bellenis & Thompson, 1992). It is important to note that, despite the highly trained nature of this group and their excellent integration with the statutory services, controlled evaluation studies have not yielded striking results either from the point of view of the caregiver or the child (Stevenson, Bailey, & Simpson, 1988) or from the point of view of reduced referral on to secondary services (Bellenis & Thompson, 1992; Thompson & Bellenis, 1992). For example, in one of the studies, the uptake of this preventative service was less than 15% (Stevenson et al., 1988).

Barker and Anderson (1988) have developed a unique training package in Bristol (United Kingdom) for Health Visitors, which incorporates sensitizing them to mental health and social problems, training them to promote the mother's self-esteem as well as structured interviews designed to elicit parenting difficulties. There is some evidence that speaks to the success of the program, which has now been adopted quite widely in the United Kingdom. In the absence of a randomized controlled trial, one may comment on the popularity of the program, but generalizations may be premature. Newton (1992) comments on the overemphasis of the program on cognitive skills and complaints by the Health Visitors that the work is emotionally exhausting.

Interestingly, although formal comparisons have not yet been made, the outcomes from volunteer-based schemes are somewhat more promising (Cox, 1993a). In such schemes there is no expert helper and the distinction between befriender/volunteer and the befriended mother is not stressed (Pound & Mills, 1985). A controlled trial (Cox, Pound, & Puckering, 1992) showed that these minimally trained volunteers were effective in bringing about improvements not only in the mother's mental state, but also some degree of improvement in mother-child relations as revealed by blind rating of video recordings.

This pattern of findings confirms one of the paradoxes in the evaluation of psycho-social interventions (Roth & Fonagy, 1996): that, while the therapist is a key source of variability in accounting for differences in treatment effects, therapist's experience or training accounts for only a modest proportion of this (Stein & Lambert, 1984; 1995). Experience may be particularly

helpful in reducing drop-out rates while professional training seems hardly relevant, but varies somewhat according to therapeutic modality and client group. On a personal note, I have to confess to having often felt uneasy about the mixture of roles and moralities involved in a psychotherapeutic relationship (friend and helper on the one hand, professional and expert on the other). It would not surprise me if the mere absence of this conflict adds to the effectiveness of volunteer helpers—a hypothesis that, of course, could be tested if a group of professionals would volunteer to be befrienders.

Supportive interventions have their roots in nursing, social work, and community psychology. Through intervention parents (normally mothers) access to resources (housing, child-care, welfare benefit) is effectively facilitated (see Booth, Barnard, Mitchell, & Spieker, 1987; Minde, Shosenberg, Thompson, & Marton, 1983). Inevitably, the role of support goes beyond bringing about an improvement in the caregiver's objective situation. An implicit aim of such interventions is the activation of the young mother's attachment system through the provision of a stable, safe, nonexploitative relationship with the home visitor (Minde et al., 1983). The provision of information concerning child development often forms a subsidiary goal of prevention programs (e.g., Belsky, 1985; Pfannenstiel & Honig, 1995). Again, it is hard to conceive of such information impacting on the child's relation to the caregiver and the implicit goal must include the enhancement of parental sensitivity to the child.

In a large measure due to the ground-breaking work of Barnard (Barnard et al., 1985), we have evidence that a relationship-based approach is an essential component of successful prevention. She demonstrated that a didactic approach was less successful than one that focused on relationship building, treating the mother as the person with the responsibility to promote the development of her child. Improving parent-child communication, and the strengthening of parent-child relationships, was the principal goal of two successful programs where long-term follow-up data is available (Johnson & Walker, 1987; Lally, Mangione, & Honig, 1988). In both programs, the fostering of an affectionate relationship between infant and mother brought about a reduction in problem behaviors at 7 to 12 (Johnson & Walker, 1987) and 15 years (Lally et al., 1988). Preventive interventions focused on enhancing the parent-child relationship through highlighting the infant's idiosyncratic cues, providing feedback, and developing the mother's skills and self-confidence (e.g., Greenspan, 1992). In about half of the 12 studies that included long-term follow-up, significant gains on infant development were demonstrated in association with improved mother-infant relationship (see review by Lojkasek, Cohen, & Muir, 1994). These results are strongly supported by observational studies that demonstrate that effects of many aspects of risk (socioeconomic status, maternal psychopathology) are, to some degree, mediated by the low quality of mother-child interaction (e.g., Dodge, Pettit, & Bates, 1994; Harnish, Dodge, Valente, & the Conduct Problems Prevention Group, 1995).

A somewhat novel approach of infant, rather than caregiver, focused preventive interventions arose relatively recently out of infant-led psychotherapy (Muir, 1992; Wesner, Dowling, & Johnson, 1982). In such interventions, regular time is set aside for the infant in which spontaneous and undirected activity of the infant is acknowledged by the mother in much the same way as a psychotherapist might with an adult patient. The intervention is relationship focused, but is relatively unguided by an "expert" and it is the mother who is encouraged to take on the observer role. Evaluations of this method are at relatively early stage (e.g., Beeghly et al., 1995; Gomes et al., 1995), but the potential of this simple approach for universal prevention programs is considerable.

Perhaps the most clinically significant findings of early preventive interventions has been from studies that demonstrate a reduction of childhood physical and sexual abuse and neglect. A number of studies offer evidence that maltreatment can be prevented (Gray, Cutler, Dean,

& Kempe, 1979a, 1979b; Hardy & Streett, 1989; Larson, 1980; Olds, Henderson, Chamberlin, Tatelbaum, 1986), although not all studies demonstrate significant benefit (e.g., Barth, 1991). MacMillan et al. (1994a; 1994b) have reviewed this literature and concluded that “extended home visitation can prevent child physical abuse and neglect among families with one or more of the risk-markers of single parenthood, teenage parents status and poverty” (MacMillan et al., 1994a, p. 854). Evidence on the prevention of sexual abuse is less compelling (MacMillan et al., 1994b). Beyond the humanitarian significance of the findings, in view of the well-documented and serious sequelae of childhood maltreatment (Cicchetti & Toth, 1995), these findings are of the utmost importance to preventive mental health care.

The promise of preventive intervention is considerable. Taken together from the studies, I have referred to and others we may conclude that early preventive interventions have the potential to improve in the short term the child’s health and welfare (including better nutrition, physical health, fewer feeding problems, low-birth-weight babies, accidents and emergency room visits, and reduced potential for maltreatment), while the parents can also expect to benefit in significant ways (including educational and work opportunities, better use of services, improved social support, enhanced self-efficacy as parents and improved relationships with their child and partner). In the long term, children may further benefit in critical ways behaviorally (less aggression, distractibility, delinquency), educationally (better attitudes to school, higher achievement) and in terms of social functioning and attitudes (increased prosocial attitudes), while the parents can benefit in terms of employment, education, and mental well-being.

These conclusions should be qualified substantially in the following ways: (1) Outcomes are selective—no study achieved all these effects together. (2) Many of the studies reported unacceptable rates of refusal, which threatens generalizability. For example, even in the highly successful Rochester nurse home visitation program, only 80% of the pregnant women invited to participate agreed to become involved (Olds, Henderson, Chamberlin, & Tatelbaum, 1986). Unfortunately, it is most likely those in greatest need who decline the invitation to take part. (3) Attrition is high in most studies, making conclusions from long-term follow-ups doubtful; the low self-perceived risk of adverse outcome may account for the low uptake and high rates of attrition observed in many prevention studies. For example, three of the most influential studies, the *Houston Parent–Child Development Centre Program* (Johnson & Walker, 1987; Johnson, 1990, 1991), the *Parent–Child Interaction Training Project* (Strayhorn & Weidman, 1991) and the “*I Can Problem Solve: An Interpersonal Cognitive Problem-Solving Program*” (Shure & Spivack, 1982, 1988) had attrition rates of around 50%. (4) Results are generally poorer with, what appear to be, more high-risk samples. (5) Theoretical models of prevention lag behind those underpinning treatment interventions. (6) The heterogeneity of the studies does not permit clear recommendations about *the* effective preventive intervention program.

What Can We Learn From Treatment Research?

These studies *are*, however, extremely helpful in identifying the goals of the field for the next decade. I believe that the potential of early prevention has not yet been fully developed. In the remainder of this paper I consider a somewhat different approach (perhaps less in substance than in form), which may move us closer to the goal of preventing mental disturbance through interventions in the early years. I suggest that the field of early prevention could benefit from some of the lessons that treatment research has learned over the past 25 years. In our recent review of the effectiveness of psychosocial treatment interventions, commissioned by the U.K. Department of Health, my colleagues Dr. Tony Roth, Dr. Mary Target and I reviewed the existing outcomes literature from the point of view of providing guidance for purchasers, managers, and providers of services and produced a report for the Department entitled: “What

works for whom?" The review was in its turn peer-reviewed by 30 or so international experts before being endorsed by the Department and is about to be published by Guilford Press. As it ran to 600 pages with about 2000 references, I shall forgo the pleasure of providing you with a formal summary. I would, however, like to underscore a few of our conclusions, which are of relevance to us here:

1. The era of generic therapies is over. No treatment can be equally applicable without modification to every disorder. Equally, it is unrealistic to hope that a generic preventive intervention will be able to reduce the risk for all psychological disorders. Prevention, as treatment, will need to be disorder specific. This means that we should address ourselves to those disorders where longitudinal studies have given us sufficient clues about identifying "at-risk" populations. Further, while universal prevention is desirable, the generality of such an approach mitigates against any particular individual experiencing it as relevant to them. It may indeed be difficult to modulate a program so that it is perceived to be of equal relevance to all groups (McGuire & Earls, 1991).

As few risk factors in psychiatry represent more than 10 or 20% of the risk (e.g., Rutter & Smith, 1995), selective interventions run the risk of offering help to those who do not need it (Osofsky, Culp, & Ware, 1988). Even when the program is aimed at those experiencing prodromal symptoms, the utility of prevention is not guaranteed. In the *Rochester Primary Mental Health Project*, not only was the intervention ineffective in reducing referral rates, but the rate of referrals in the untreated group was only 20%, which makes it difficult to avoid the conclusion that 80% of those who had the benefit of the program had no demonstrable need for it (Levine & Perkins, 1987).

2. Nonspecific, poorly structured treatments, such as generic counselling, nonfocused dynamic therapy and a variety of experiential therapies are unlikely to be effective with severe presentations. Similarly, prevention needs to be focused on specific risk or protective factors, firmly rooted in empirically based formulations of the development of the disorder.
3. Short-term, nonintensive dynamic therapies are as or more helpful as intensive and long-term ones for nonsevere cases, but they are commonly associated with negative outcomes when applied to more complex and difficult (multiply co-morbid) cases. Unfortunately, the latter is the context in which they are most commonly offered. Similarly, preventive efforts need to be titrated to the severity of the disorder they are intended to prevent. In the past, the net being cast too wide, it was inevitable that in many cases the intervention was too weak to permit clinically and economically significant reductions of risk and prevention was only partial. The prevention of serious disturbance needs to be a long-term and intensive enterprise.
4. The long-term outcome of most treatment interventions is rarely explored. When long-term follow-ups are provided, they tend to highlight the limitations of the intervention. Effective interventions take on board the cyclical nature of serious mental disorder and provide specific relapse prevention strategies. Similarly, in prevention provision needs to be made to maintain short-term gains.
5. Attrition is not just a problem of prevention interventions and techniques applied in trials of psychotherapy could be applied to prevention.
6. In our review, we found a great deal of evidence for what has come to be known as the "efficacy" vs. "effectiveness" debate. Many findings of randomized controlled trials simply cannot be replicated in clinical practice (e.g., Weisz, Donenberg, Han, & Weiss, 1995). The early prevention literature is not yet at a stage when this could be a signif-

icant problem, but tests of generalizability should be built into prevention trials so that—if I may be pardoned the pun—similar methodological problems are prevented.

7. The sheer number of Randomized Control Trials performed makes psychotherapy the best validated medical treatment intervention. Sadly, the vast majority of studies (particularly those undertaken with children) fail to meet the minimal methodological requirements that might permit generalizability. In particular, and this is sadly true for the early-intervention literature, authors appear frequently to be far more concerned with maintaining the homogeneity of their technique, than the more important task of ensuring that the sample description permits generalization.

THE PREVENTION OF CONDUCT DISORDER

The Case for the Prevention of Conduct Disorder

Why should conduct disorder be the principal target of early preventive intervention? (1) It is very serious. It is the most common reason for referral to mental health services for boys (Offord, Boyle, & Szatmari, 1987). It is strongly developmentally linked to delinquency and adult criminality (Farrington, 1994). Maintaining juvenile corrective facilities costs in excess of one billion dollars per year in the United States alone (Reid, 1993). (2) Conduct disorder is resistant to treatment, particularly in adolescence (e.g., Kazdin, 1993). (3) The early identification of conduct disorder is becoming an increasingly realistic goal. Elevated aggression and a disruptive behavioral pattern reliably identify such children (e.g., Tremblay et al., 1992, 1994; White et al., 1990). The earlier the onset, the more serious the outcome (Blumstein, Cohen, Roth, & Visher, 1986). Bates and his colleagues found that ratings of boy's difficult temperament at age 6 months significantly predicted his behavior problems at age 8 years (Bates, Bayles, Bennett, Ridge, & Brown, 1991). Thus, elevated aggression and its precursors, such as negativity, may be an excellent target for universal and selective interventions (Tolan, Guerra, & Kendall, 1995a). Lochman and the Conduct Problems Prevention Research Group (1995) designed an elegant multiple-gating procedure based on teacher and parent rating. Thus, procedures are already in place for identifying a high-risk group (see also Feil, Severson, & Walker, 1995). (4) Although the cause of antisocial behavior is still a subject of debate regarding, for example, the relative importance of individual versus environmental factors, preventive interventions could be theory-driven directed against either individual characteristics or characteristics of the social environment. (5) There is suggestive evidence from community-based universal or selective prevention programs of the kind we have reviewed above that early interventions aimed at enriching the preschool period and prevent school failures among high-risk populations have had an unexpected impact on delinquency and related behaviors (Farrington, 1994; Offord & Bennett, 1994). In brief, by understanding the antecedents of serious antisocial behavior, early preventive interventions may be effective in modifying trajectories and thus interrupt the course toward chronic antisocial behavior (Tolan et al., 1995a, 1995b). David Farrington, one of the great figures in British criminology recently wrote: "It is plausible to argue that events occurring between conception and 3 years of age are the first steps in a developmental sequence leading to childhood conduct disorder and eventually to juvenile delinquency and adult crime" (Farrington, 1994, p. 85).

There are five kinds of interlinked risk factors in conduct disorder: (1) biological (gender, early temperament difficulties such as resistance to control, hyperactivity, cognitive and language comprehension problems); (2) social (poverty, ethnicity, over-crowding); (3) family adversity, disruption and stress (maternal alcohol abuse, depression, marital discord); (4) in-

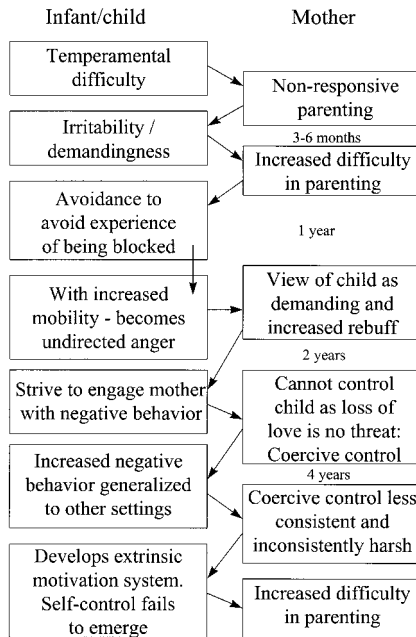


FIGURE 2. The developmental relationship of conduct disorder and insecure attachment.

effective parental management and socialization (harsh, erratic, abusive discipline); (5) problems in early parent–child relations (insecure attachment). Mark Greenberg and his colleagues (Greenberg, Speltz, & DeKlyen, 1993) proposed that insecurely attached children might develop internal working models “in which relationships are generally viewed as characterized by anger, mistrust, chaos and insecurity” (p.201). This would account for the attributional biases that have been noted in aggressive children (Dodge, 1991).

Sidestepping the controversy concerning the relative importance of these factors, let us consider a heuristic bi-directional developmental model of the early phase of conduct disorder that might form the basis of an early prevention strategy (Shaw & Bell, 1993) (see Figure 2). Let us assume that certain temperamentally difficult (Bates et al., 1991) boys have mothers whose past experiences, the mental representations in which these are encoded, and current mental state (Avison, 1992) make it hard for them to relate in an attuned way to a male child (see e.g. Serbin, Peters, McAffer, & Schwartzman, 1991). Perhaps as a consequence of unresolved experiences of trauma (Main & Hesse, 1990), they are frighteningly intrusive (Lyons-Ruth, 1996), and are certainly relatively unresponsive (Shaw et al., 1995). This creates a particular risk in that nonresponsive parenting we know exacerbates the irritability or demandingness of the infant (Lyons-Ruth, Alpern, & Repacholi, 1993), which in turn increases the mother’s difficulty in parenting (Martin, 1981). Anxious attachment or disorganization of attachment develops (Erickson, Sroufe, & Egeland, 1985; Greenberg et al., 1993) to the mother as part of a strategy to avoid being blocked from access to her, and approaches decline in frequency in the middle of the second year (Main, Kaplan, & Cassidy, 1985). Thus, a holding environment that could contain the child’s, perhaps constitutionally determined, impulsivity (Earls, 1994) or hyperactivity (Offord et al., 1992) is absent. With increased mobility come more frequent episodes of undirected anger and negative reactions, which may provoke mothers

of these infants to view their child's behavior as demanding and difficult (Sanson, Oberklaid, Pedlow, & Prior, 1991).

The disengagement in the mother-child dyad, which is reflected in the infant's reduced expectation of security from her, also disrupts the child's opportunity to learn about mental states in the normal course of interaction. Mentalizing, conceiving of interpersonal experience in terms of mental states or minds, we believe gives coherence to the self-representation (Fonagy & Target, 1996; Target & Fonagy, 1996a). Without it, the self is experienced as at risk of disintegration. Oppositional, and at times aggressive, behavior serves the function of protecting a fragile side of ourselves so, expectably, the child's behavior will become increasingly negative in approaching the mother yet simultaneously shielding himself from her (Fonagy, Moran, & Target, 1993). (At this stage difficult children are only difficult with their attachment object.)

By 24 months the dyad may be predisposed to a coercive style of interaction. It is hard to control a child whose bond to the caregiver is deeply insecure, as a major means of control (the threat of loss of love) has significantly reduced potency. Gradually, the characteristics of the dyadic process will be generalized to others. For example, the child may extend his expectations of interaction to a preschool situation. Coercive intervention strategies become more extreme and therefore almost by necessity less consistent (Patterson, DeBarysh, & Ramsey, 1989), harsh or threatening punishments cannot be used to address every instance of rule violation. The child's motivational system is extrinsic. Self-control, based on sensitivity to internal signals, fails to emerge.

A few findings may help us take some of these ideas further (Fonagy, Target, Steele, & Steele, 1997b). (1) Five-year-old children, who were securely attached at 12 months, manifest greater competence than those who were insecurely attached in tasks requiring the understanding of mental states (Fonagy, Redfern, & Charman, 1997a; Fonagy, Steele, Steele, & Holder, 1998). (2) Overcoming childhood adversity, as indexed by developing a secure attachment relationship with one's own child despite early hardship, is associated with an above average capacity to represent one's childhood in terms of the thoughts and feelings of one's parents and one's reactions to them (mentalizing) (Fonagy, Steele, Steele, Higgitt, & Target, 1994). (3) Individuals with unresolved childhood experiences of severe trauma show a marked inability to use mental state language in childhood (Beeghly & Cicchetti, 1994). (4) In adulthood this lack is associated with the diagnosis of severe personality disturbance (Fonagy et al., 1996). (5) The reluctance or inability to incorporate mental states in narratives of past experiences is most marked in a sample of criminals, and even within this group differentiates individuals committed for violent crimes (Levinson & Fonagy, 1998).

In brief, we may hypothesize that at least a proportion of those children who move from negativity, through conduct disorder, to delinquency and crime, do so because of harsh and abusive parenting, which in some way undermined their understanding of, or concern with, the mental states of those around them. One can empathize with the unwillingness of abused children to think too intensively about the thoughts and feelings that may motivate the individual who is maltreating them. There is little room in such relationships to play with ideas, to joke and pretend, situations that as we shall see may be key to the acquisition of an understanding of minds.

There are at least four ways in which inadequate mind reading skills may be causally linked to disordered conduct. (1) Lacking a full sense of intentionality or agency may cause an individual to feel less personally responsible for his actions; (2) limited concern with mental states disables the normal aversive reaction to distress in others when this is caused by the self; (3) the lack of a sense of oneself as a fully intentional being may lead one to dehumanize and degrade others, depriving them of their intentionality and capacity to think of themselves as more than physical objects; (4) the limitations of metacognitive capacity may cause a fluidity

of the entire mental representational system so that ideas may be readily reconstructed and actions reinterpreted. Thus, unacceptable conduct may be reconstrued as acceptable in a selective and self-serving manner.

Implications for Prevention

There are three obvious targets that, were this heuristic model to be accepted, might serve as the focus for early prevention:

1. The caregivers can be assisted to modify the nature of their interaction with the child to be less harsh and coercive and thus less threatening to the child's vulnerable sense of emerging self. This might in turn reduce the child's need to display negativity. Theoretically, there is no reason why parents should not be able to do this because the motivation for their harshness may not be deep-seated and multiply determined, but rather a natural response to the child's confrontational behavior (Gill, 1969; Reid, 1978).

What is envisioned here is a parent-training and social skills development program of the kind described by Patterson and others (Patterson, 1982; Webster-Stratton, 1993), which is effective in improving child management skills, increases pro-social behaviors, and reduces behavioral problems in middle childhood (e.g., Bank, Marlowe, Reid, Patterson, & Weinrott, 1991). The modification would be to implement the program far earlier and to a broader population than is normally the case; before the highly maladaptive patterns of parent-child interaction had already undermined aspects of the child's developmental potential.

One such prevention study has already been undertaken by Tremblay and colleagues (1995) in Montreal. They demonstrated that parent training based on the Oregon model together with social-skills training for the child administered to kindergarten children reduced self-reported delinquency and teacher-related disruptiveness throughout early and midadolescence. Unfortunately, the impact of the intervention appeared to diminish as the child approached 14–15 years old and did not impact on the likelihood of legally defined delinquency.

There are several major groups in the United States actively working in this area. These programs are promising; I think they could be further improved by moving the intervention to an even earlier phase of the child's life and combining the virtues of the parent-skills training tradition (focus on specific skills and situations, high level of structure, etc.) with those of early interventions in the transgenerational tradition of Selma Freiberg, Dan Stern, Bertrand Cramer and others (focus on the meaning of recalcitrant parental behaviors for the individual, or the meaning of the infant's behavior for the caregiver). Early parent-training approaches could be further improved by taking on board recent advances in behavior genetics. A substantial body of evidence now suggests that the environment predictive of conduct problems is not that shared between siblings (based on the behavior of parents with both children), but rather the specific behavior of the parent with the specific child in that family. The difference in level of conflict-negativity or warmth-support directed toward one child substantially correlates with that child's antisocial behavior (Reiss et al., 1995). Furthermore and interestingly, a high level of conflict directed toward one sibling can lead to lower than expected levels of antisocial behavior in the other. These findings suggest that parent-based preventive interventions should not be addressed to the general levels of parenting

skills, but to the behavior of the parent to the child, relative to the parent's behavior to other children in the family.

2. An obvious alternative target for prevention in this model is the attachment relationship between parent and child. Fortunately, there is already lively work in this area. van IJzendoorn and colleagues (1995) reviewed studies to date aimed at modifying infant attachment classifications. Echoing our findings from the psychotherapy review they found short-term focused interventions more effective in achieving this than long-term unfocused ones. Although most of these interventions aim at enhancing parent-sensitivity, the relation between changes in sensitivity and attachment is relatively weak. Observed sensitivity changes more readily than the infant's classification.

This suggests that either parental sensitivity is not what determines quality of attachment or that our measures of sensitivity are too blunt, picking up many "pseudo-sensitive" behaviors that are not critical in creating a secure base for the infant (Bowlby, 1969) and reestablishing his emotional equilibrium following arousal (Carlsson & Sroufe, 1995). van den Boom (1994, 1995) surprised us all in how effective a relatively brief (3-session) personalized parent sensitivity training could be with infants screened for difficult temperament. At 12 months 62% of the intervention group were classified secure as opposed to 22% of controls; at 18 months this discrepancy increased to 72 vs. 26%. Large differences in mother-child interaction, still evident at 42 months suggest that this approach may be of value in selective prevention. The data, if replicated, (I know of at least one study that is attempting to do just this—Bakermans-Kranenburg, Juffer, & van IJzendoorn, 1996) suggests that such well-timed focused early intervention may set up a virtuous cycle of protection rather than the various vicious cycles of vulnerability, which we are far more used to studying.

The modification of attachment classifications is the target of a number of ongoing interventions with very high-risk samples. There are two, which I would like to single out for mention: Erickson's STEEP (*Steps Toward Effective, Enjoyable Parenting*) project (Erickson, 1996; Erickson, Korfmacher, & Egeland, 1992) in Minnesota and Christoph Heinicke's Home visiting program at UCLA (Heinicke, Fineman et al., 1998; Heinicke, Goorsky et al., 1998). Both studies bring much needed clinical sophistication to the field of prevention, highlighting the essential fact that high-risk intervention (preventive or therapeutic) is a clinical rather than an epidemiological task. Both are outstanding in terms of methodological rigor and ingenuity of program design. Long-term follow-up of these samples will tell if the powerful observed changes in caregiving behavior will be sufficient to prevent the emergence of behavioral problems later.

3. Finally, let me get on my own hobby horse, having mostly been riding other people's this morning. In my view, the quality of the attachment relationship is a correlate of the risk for potential problems, but does not constitute a risk itself. Insecure and even disorganized classifications are far too common within normal samples for insecure attachment classification to be other than a necessary, but not a sufficient criterion for potential difficulty. Secure attachment is necessary for the development of a sense of psychological self, for a mentalizing capacity that we assume enhances resilience and effectively inhibits natural antisocial tendencies.

There are two possible ways of stating the relationship between mentalization and attachment (see Figure 3A). First, it is possible that secure attachment predisposes the child to social experiences wherein, given propitious circumstances, mentalization will be acquired. One of these may be pretend play. Securely attached children manifest stronger engagement in fantasy play

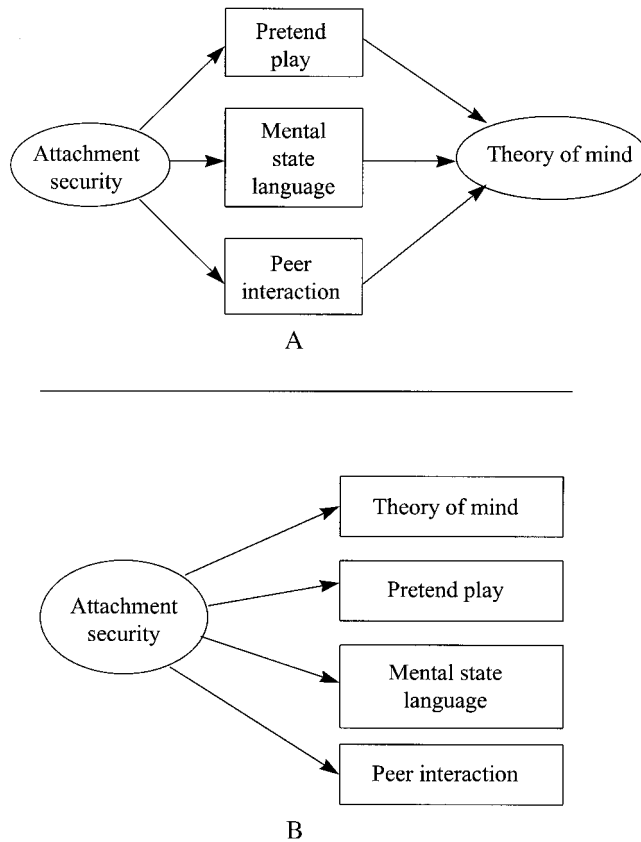


FIGURE 3A-B. The relationship of attachment security and theory of mind; the upper portion of the figure represents some possible mediating mechanisms, the lower portion of the figure illustrates the possibility of the direct relationship.

(Rosenberg, 1984, cited in Carlsson & Sroufe, 1995) and children who are better able to engage in joint pretend play do better on tests of “mind reading” and emotion understanding (Youngblade & Dunn, 1995). It is possible that the experience of sharing a world of pretend may foster an understanding of the mental states of others and that this capacity is in turn facilitated by secure attachments in infancy.

Engaging in conversations about feelings and the reasons behind people’s actions is linked to the relatively early achievement of mind reading (Dunn & Brown, 1993). Discourse patterns between mothers and children at age 6 of dyads classified as secure tend to be more fluent (Strage & Main, 1984, cited in Carlsson & Sroufe, 1995) and to create patterns of narration that support thinking about feelings and intentions that lie at the root of theories of mind.

Secure attachment in infancy is associated with ratings of peer competence (Elicker, Englund, & Sroufe, 1992). Children are more likely to talk about mental states with siblings or friends than with their mothers (Brown, Donelan-McCall, & Dunn, 1996) and their use of mental state terms with friends predicts best performance on experimental tests of mentalization. Thus, securely attached children are more likely to engage in the kind of playful, cooperative *interactions with their peers* that we may expect will facilitate learning about minds.

The evidence from Dunn’s work suggests that behavior in these different contexts (pretend play, management of conflict, and discourse) correlate poorly with one another (Youngblade

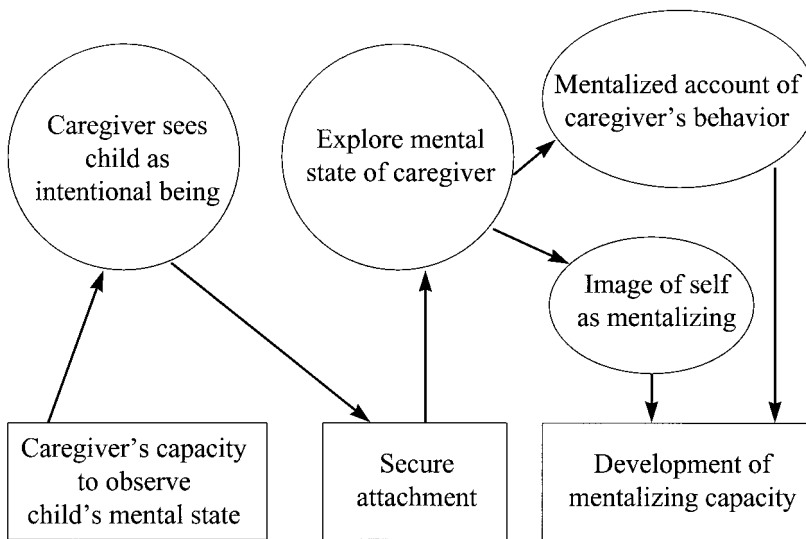


FIGURE 4. Appreciation of nature of mental states develops only through getting to know the self in the mind of the other (paraphrased from Hegel, 1807).

& Dunn, 1995). This suggests a second type of model: the variables that prima facie could be considered to be mediating the attachment mind reading relationship are not on the causal path at all but that early experience with the primary caregiver in the first year of life creates the bedrock of theory of mind competence (see Figure 3B).

What evidence do we have to support such a contention? First, it is important to note that a mother's attachment classification before the birth of the child is a powerful predictor of the child's theory of mind competence at 5 years. In our sample 75% of children of secure, autonomous mothers passed the cognitive-emotion task, while only 16% of children of preoccupied mothers and 25% of those of unresolved mothers did so. This suggests that the caregiver brings her capacity to envision the child as a mental entity to the parent-child relationship, evident soon after the birth of the child, which may be critical in the child's establishment of secure attachment and mind reading.

What is the nature of this competence? We have already touched on how the caregiver's capacity to envision the mental states of their own parents is predictive of the infant security of attachment to each of the caregivers. Ratings on this scale were found to predict the child's performance on cognitive-emotion tasks for mother and for father. Even more important, mother's capacity to reflect on her own childhood in the Adult Attachment Interview shared that portion of the variance with the child's theory of mind performance that was predicted by the quality of mother-infant attachment. Thus, the child's attachment security was not the only predictor. The mother's capacity to envision the child as a mental entity also proved to be important in predicting mentalizing.

It is our belief that the caregiver's capacity to observe the moment-to-moment changes in the child's mental state is critical in the development of mentalizing capacity (see Figure 4). The caregiver's perception of the child as an intentional being lies at the root of sensitive caregiving, which is viewed by attachment theorists to be the cornerstone of secure attachment (Ainsworth, Blehar, Waters, & Wall, 1978; Isabella, 1993). Secure attachment in its turn pro-

vides the psychosocial basis for acquiring an understanding of mind. The secure infant feels safe in thinking about the mental state of the caregiver and is thus more readily able to construct a mentalized account of the caregiver's behavior. What I believe is far more important for the development of mentalizing is that exploration of the mental state of the sensitive caregiver enables the child to find in the caregiver's mind an image of himself as motivated by beliefs, feelings and intentions, in other words, as mentalizing. There is considerable evidence to support the view that secure attachment enhances the development of the self, inner security, feeling of self-worth, self-reliance and personal power of the emerging self, as well as the development of autonomy (Bates, Maslin, & Frankel, 1985).

I am thus suggesting that the enhancement of mentalizing should be at the core of prevention in early childhood. This could be achieved in a variety of contexts. It should be remembered that the caregiver may be the first but is by no means the last teacher the child has in his passage to learn about minds. Thus, preventive strategies might include structured interactions with siblings, group work for preschoolers along the lines of the transactional groups of the West Coast of the 1960s, structured family pretend games with emotional foci (mock arguments, discussions of preferences), just encouraging parents to talk about people and their actions; there are infinite possibilities. The focus is not simply to equip the young child with mentalizing skills (as most preventive paradigms rooted in deficit models dictate), but rather to ensure that robust functioning of this capacity so it is not withdrawn defensively in the case of emotionally charged interpersonal situations. Perhaps preventive interventions should borrow from the exciting work of those, such as T. Charman (personal communication, 1997) and Baron-Cohen (Hadwin, Baron-Cohen, Howlin, & Hill, 1996), who are working on designing strategies to teach autistic children about minds. B. Pynoos (personal communication, 1997), in San Francisco has established an intervention program with aggressive children where understanding the minds of others is the implicit focus of a graded intervention. In talking about these ideas with colleagues, they often tell me that they have been doing these kinds of interventions for many years (although usually the not so hidden implication is that there is nothing new in these ideas).

Regardless of the therapeutic stance, the strengthening of mentalizing will serve to enhance the patient's core self-structure, leading to desirable outcomes such as the encouragement of concern, the creation of whole-person representations, and meaningful and predictable experiences in relation to the understanding of the behavior of others.

Mind reading may not be an unequivocally positive experience. Dunn's work, however, gives us an indication that at least the understanding of emotion at 3 and a half predicts a positive perception of social relations, mature moral sensibility, and the understanding of complex emotions (Herrera & Dunn, cited in Dunn, 1996). Whether bonding creates the social situations that will encourage mind reading or secure attachment *is* that social situation, perhaps matters less than the better understanding of the nature of early experience, which can predictably lead to desired social outcomes. I believe that the systematic facilitation of the development of the child's awareness of the mental states of those around them is an important target for preventive intervention in social and behavioral disorders in children as well as personality disturbance and antisocial behavior in adolescence and adult life. I believe the task is clear and the experimental work now needs to be performed.

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