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ABSTRACT

Professional support is urged for early and continuing family care and education of the child and the need for a life-time and life-space or ecological perspective in contrast to a professional and institutional perspective on child care and education. The current focus in psychology on the individual, frequently without adequate analysis of the social context, has led to research, training, and service programs that are concerned with development of the individual, diagnosis of the individual, and individual treatment. More training in a socioecological developmental psychology will produce scientists and practitioners who are knowledgeable about the role of family and community in child development. This training will lead to better diagnosis and evaluation of family and community factors and of professional and institutional policies and practices that influence child care and child development. More socioecological training of professionals would also lead to consideration of ecological variables in program planning and evaluation and to professional and institutional consultation, support, and training for parents. (SH)

THE ECOLOGY OF CHILD DEVELOPMENT: IMPLICATIONS FOR RESEARCH AND THE PROFESSIONS

Earl S. Schaefer

Converging research findings from early intervention programs suggest the relevance of the perspectives of ecology, the science of "the interrelationships of living things to one another and to their environment"(Studdard, 1973) to the field of child development. Research findings in an infant education project (Schaefer and Aaronson, 1972) and a review of research on parents as educators (Schaefer, 1972) suggest the need for professional support for early and continuing family care and education of the child and the need for a life-time and life-space or ecological perspective as contrasted to a professional and institutional perspective on child care and education (Schaefer, 1971, 1974). Bronfrenbrenner (1974) has also developed this perspective from his review of the effectiveness of early intervention that includes a discussion of"the ecology of early intervention."

Analyses of the network of family relationships among mother, father, child and sibling and the influence of the community and the professions upon family care of children (Schaefer, 1974, In Press) suggest the need for analysis of the ecosystem of child development, i.e., "the interacting system of a biological community and its nonliving environment"(Studdard, 1973). The analysis of social ecology and of psychological environments by Insel and Moos (1974) also emphasized the

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need to conceptualize the "psychological and social dimensions of the environment in a framework of person-milieu interaction." Sullivan (1931, 1938) implicitly adoped an ecological view of psychiatry in the statement that "to isolate its individual subject matter, a personality, from a complex of interpersonal relations . . . is preposterously beside the point" and in his definition of psychiatry as the study of interpersonal relations. Bell's (1974) analyses of family therapy and of the family in the clinic, hospital, and community is also contributing to study and treatment of the individual within a family context and to understanding of the influence of the community and of the professions and institutions upon children and families.

Greater understanding of an ecological perspective on child development is needed both to broaden the scope of psychological research and to change the major focus of child care, child health, and education programs. The major focus upon the individual or monad in psychology may explain the fact that many intervention research programs and the great majority of service programs still provide child-centered child care, child health and education programs. The extensive research on mother-child relationships in psychology and psychiatry has failed to change that focus. Even research on the mother-child dyad typically failed to analyze the reciprocal action of mother and child until Bell (1968, 1971) convincingly integrated the evidence that the child also influences the parent's behavior. Greater attention to the parent's behavior is shown by the large number of methods that attempts to measure parent behavior toward the child (Schaefer, 1965a; Lytton,1971), and the lack of methods with which to measure child behavior toward the parent. Longitudinal analyses of the reciprocal behavior of mother and child, such as the work of Moss (1967) are needed. The difficulties of causal analysis in

parent-child relationships suggest the need for intervention research designed to change both parents and children and their reciprocal behaviors. The growing behavior modification research that indicates changes in parent behavior can produce changes in child behavior (Johnson and Katz, 1973; Brown, 1971) suggests that analyses of parent influence upon the child not be neglected in analyzing child influence upon the parent.

Whether because of assumptions of the greater influence of maternal behavior (Bowlby, 1969) or because of the greater accessibility of mothers, research on father-child relationships has been comparatively neglected. Yet Radin's (1973) research on paternal behavior and intellectual development, Rode's (1971) research on adolescent alienation, and Rutter's (1971) research on behavior problems of boys all suggest that the father may have equal influence on child development. Typically low levels of paternal acceptance and involvement are found to have negative effects upon the child. Perhaps the neglect of the father in behavioral science research is both a product of and may contribute to the limited involvement of fathers in child care, health and education.

Although psychology has contributed substantially to analyses of the mother-child dyad, and is increasingly including the father-child dyad, developmental psychologists typically have neglected analyses of the effects of mother-father relationships upon child development. For example, the index of the volume on socialization in the Handbook of Child Psychology includes no references to marriage or the husband-wife relationship (Mussen, 1970). Yet Rutter's (1971) research suggests that the quality of the husband-wife relationship may be the best indicator of the antisocial behavior of boys, and Nye (1957) found that children from unhappy unbroken homes are more maladjusted than children from broken homes. That failure to establish a stable husband-wife relationship is highly related to the child's total environment is shown by census

data that in 1969 32 percent of the families below the poverty line were headed by females, while only 8 percent of families above the poverty line were headed by females (U.S. Census, 1970).

Perhaps development of an ecosystem view of child development would provide a rationale for inclusion of data on husband-wife relationships in studies of child development. Heider's (1958) balance theory analysis of the relationships of two persons with an object suggests that the husband-wife relationship might influence both father-child and mother-child relationships. Thus both empirical data and psychological theory suggest the need to broaden our analyses of child development from the individual child or monad to parent-child and husband-wife dyads, and to mother-father-child interactions or triads. Other data suggest that analyses of child development might fruitfully include entire family groups, i.e. the network of family relationships among father, mother, child and sibling. Yet psychologists have frequently left research on marriage and the family, apart from parent-child relationships, to the sociologists. Perhaps Burgess (1926) in his concept of the family as a unity of interacting persons contributed to the development of a more comprehensive, more ecological approach to sociological research on the child and family. Even Handel's (1965) review in the Psychological Bulletin of the psychological study of whole families had limited effect upon psychological research on child development.

Psychological research on whole families has been delayed by the lack of a unified set of methods with which to investigate relationships among mother, father, child and sibling(s). A conceptualization of the network of family relationships that includes mother-father, parent-child, and sibling dyads has resulted in the development of a set of inventories with which each family member can describe their perceptions of the

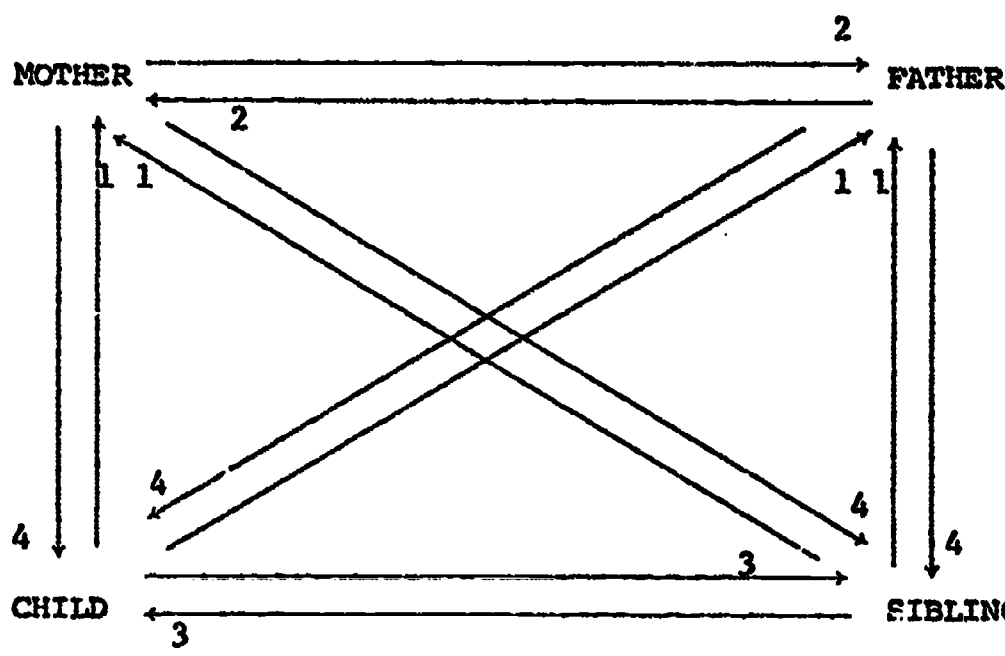
behavior of all other family members toward them in a single testing session. (Figure 1). Initially the development of inventories for the measurement of family members' perceptions of the behavior of other family members toward them was motivated by the hypothesis, derived from earlier research, that " A child's perception of his parents' behavior may be more related to his adjustment than the actual behavior of his parents" (Schaefer, 1965a). Insel and Moos (1974) suggest that view in their proposal of "a general principle to the effect that the way one perceives his surroundings or environment influences the way one will behave in that environment." Boneau's (1974) discussion of "an internal model of the environment (IME) . . . that is unique to the individual and is based on the individual's history of interaction with the world . . ." also views the person as a"gatherer, processor, and user of information." Boneau hypothesizes a "formal system that utilizes the several items of information in the process of generating behavior".

The development, factor analysis and correlation of a version of the Child Report of Parent Behavior Inventory with earlier observations of parent behavior (Schaefer, 1965a, 1965b, Schaefer and Bayley, 1967) has supported hypotheses about the significance and validity of a person's perception of behavior of their family members. Factor analyses of the Child Report of Parent Behavior Inventory have repeatedly replicated three major parent behavior dimensions of acceptance, control and involvement, and other studies have found significant correlations with child behavior, achievement and adjustment.

The apparent validity of the Child Report of Parent Behavior Inventory has motivated the development of a Communication in Marriage Inventory with which to measure perceptions of the husband-wife dyad (Schaefer and Phillips, 1970), a Sibling Behavior Inventory with which

Figure 1

A Network of Family Relationships: Inventories of Perceptions by Family Members



1. Child Report of Parent Behavior Inventory
   Earl S. Schaefer, 1965

2. Communication in Marriage Inventory
   Earl S. Schaefer and Julie Phillips, Unpublished

3. Sibling Behavior Inventory
   May Aaronson and Earl S. Schaefer, Unpublished

4. Child Behavior toward the Parent Inventory
   Earl S. Schaefer and Neal Finkelstein, Unpublished

Presented at the Southeastern Society for Research in Child Development Meeting at Chapel Hill, North Carolina, March 8, 1974.

to measure perceptions of sibling dyads (Aaronson and Schaefer, 1970) and a Child Behavior Toward the Parent Inventory with which to measure parent perceptions of child behavior toward them (Schaefer and Finkelstein, 1973). Analyses of these inventories show that a major dimension of love and acceptance is prominent in perceptions of each family dyad and that dimensions of control, dependency and involvement can also be isolated from these reports. The set of inventories now allow analyses of reciprocity in perceptions of family members and intercorrelations of the entire set of family relationships with one another, thus facilitating research on family dyads, triads, and family systems and their correlation with child development.

The current focus in psychology upon the individual, frequently without adequate analysis of the social context, has led to research, training, and service programs that are concerned with development of the individual, diagnosis of the individual, and individual treatment. Perhaps a focus upon relationships in dyads and triads and in family and community systems might lead to different emphases in many different fields. Specifically, a study of child development in a network of family relationships and in a system of family, community, and professional relationships might lead to an emphasis on the development and maintenance of growth-promoting and supportive relationships.

Despite the importance of the network of family relationships for child development, the fact that social stresses and supports as well as professional and institutional interventions may influence family relationships suggests that the family is not an isolated self-sufficient child-rearing unit. The need to analyze community supports and stresses that influence family functioning is supported by findings that lack of associations outside the home (Elmer, 1967), less contact with relatives

and less engagement in church activities (Giovannoni and Billingsley (1970) are more characteristic of abusing and neglecting mothers. Conflict with the husband and/or lack of support from the husband, including absence of the father, is also related to abuse (Elmer, 1967), to neglect (Giovannoni and Billingsley, 1970), to emotional disturbances of the mother in the first four months after delivery (Gordon and Gordon, 1959) and to rehospitalization or death of premature infants (Glass, et al., 1971). Gordon and Gordon's (1959) conclusion that "A definite trend appears for parents with few environmental strains to response without emotional upset, while those with many environmental difficulties tend to react with considerable emotional upset" in the postnatal period is paralleled by Giovannoni and Billingsley's (1970) statement that the "low income neglectful parent is under greater environmental and situational stress and has fewer resources and supports in coping with these stresses than does the adequate mother. It is the current situation strains that predominate among neglectful parents, not those of their past life." Thus many of the differences in parental care between social groups might be related to differences in social stresses and in social supports.

If adequacy of family functioning and child care can be influenced by community supports, to what extent are our current professions and institutions providing training and support for family care of children? Although the focus and scope of psychological research has seldom included such questions, relevant pediatric research reveals that very little discussion of child behavior and development occurs during well child visits (Stine, 1962), that questions about child behavior during pediatric visits are often unacknowledged and unanswered, Starfield and Barkowe (1969) and

that 51 percent of mothers who identified their children as having definite behavior or emotional problems did not talk to professionals about the problem, one-third talked to pediatricians, and the remainder talked with a social worker, teacher, or psychiatrist (Chamberlin, 1974). The majority of mothers who talked to pediatricians saw the interaction as very helpful and only 20 percent reported the interactions as of little or no value. These researches suggest that many parents are receiving very little professional support or consultation on the behavioral and developmental problems of their children but those who do receive such help find it useful. Further research on the ecosystem that influences child development; the family, the community and the professions and institutions that relate to families and children, might provide a basis for more effective child care and child health and evaluation programs. Specifically, studies of the triad of parent, professional and child that investigate the amount of direct child care provided by the professions and the amount and nature of parent-professional interaction and parental involvement might contribute to changes in program perspectives, policies and practices and to more family-centered, as contrasted to child-centered,programs. A model for parent and professional interaction and involvement that suggests possible areas of research is reproduced in Figure 2 (Schaefer, In Press).

More awareness of the ecology of child development might significantly influence future intervention research in child development. Despite findings that the child's social, emotional and intellectual development was correlated with the parent's behavior (Schaefer and Bayley, 1963; Bayley and Schaefer, 1964), the Infant Education Research Project developed in 1965 (Schaefer and Aaronson, 1972) still had a

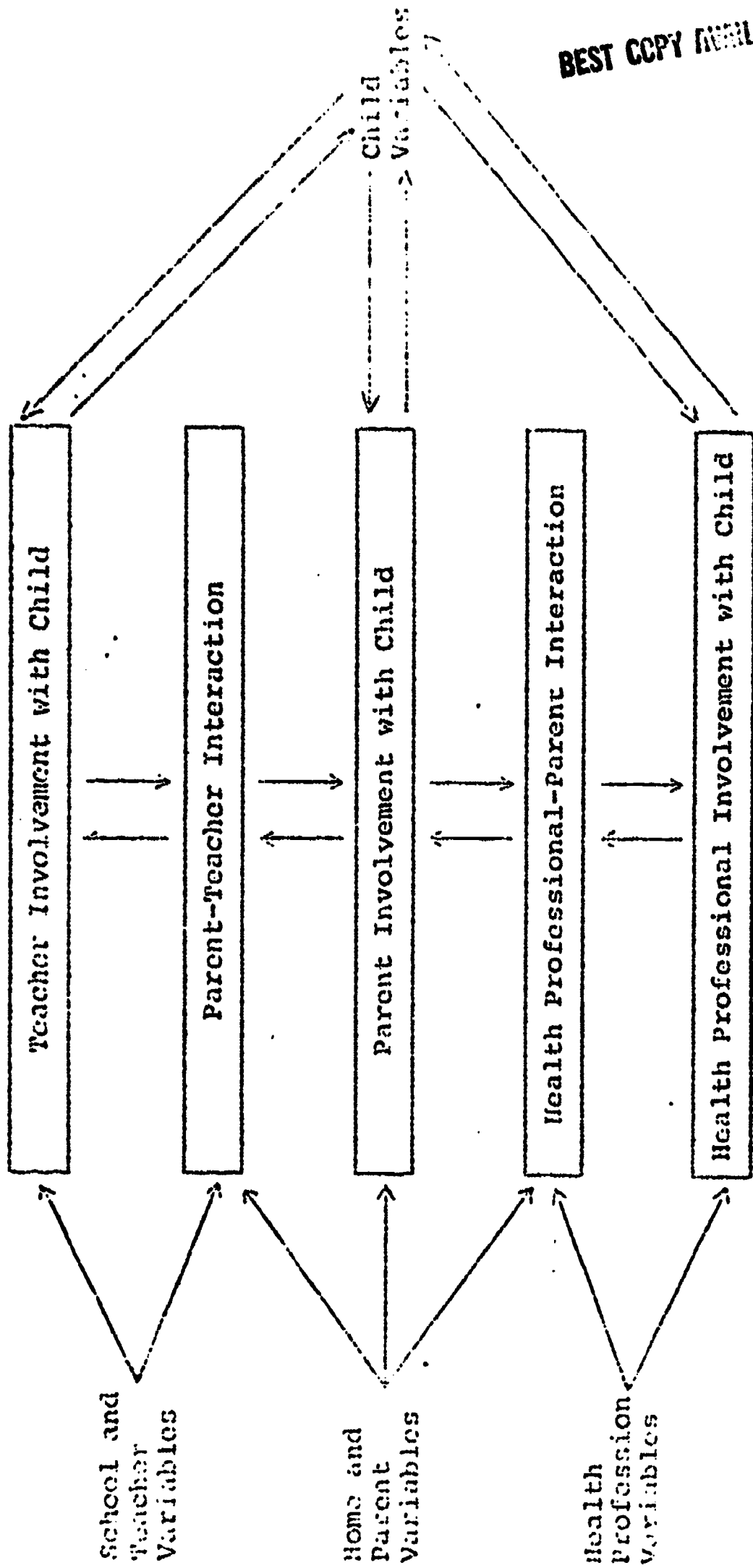


Figure 2. A Model of Parent-Professional Interaction and Involvement.

primary emphasis upon supplementing rather than supporting parental education of the child. Although child-centered tutoring during the second and third year of life had an immediate impact upon the child's intellectual development, at six years of age no differences in academic achievement of tutored and untutored children were found. These findings support a change in emphasis from the need for early child-centered intervention to the need for early and continuing parent-centered intervention to support child development. Bronfrenbrenner's (1974) review and analysis of research on early intervention has also motivated his endorsement of the strategy of ecological intervention and of the development of family support systems. The apparent superiority of parent-centered as contrasted to child-centered interventions in producing lasting significant changes in intelligence and academic achievement (Lazar and Chapman, 1972) has led to awareness of the need to evaluate long-term as well as short-term effectiveness of our present child-centered approaches of professions and institutions that relate to families.

Support for family-centered intervention is provided by Scrimshaw's (1974) analysis of myths and realities of health planning and nutrition. He concludes: "I have become convinced that any effective program to prevent PCM (Protein-Calorie Malnutrition) in the preschool child must be based on regular contact with the family in the home." Scrimshaw advocates " . . . a system in which an auxiliary health worker, or even a volunteer, monitors the growth of the child and the occurrence of significant disease by frequent home contact with the mother . . . The common feature of the few successful programs I have observed is this provision for frequent routine visits to the mother and child in the home."

Programs to influence parenting skills in improving intellectual development through home visits have demonstrated that support for family care and education can support intellectual development as well as physical development of the child. More research on the effectiveness of home visits in supporting the development and maintenance of parent-child relationships and the social and emotional development of the child is needed to test the effectiveness of parent-centered intervention and to develop methods and models that can be implemented by existing professions and institutions.

Evaluation of the cost-effectiveness of child-centered vs. parent-centered early intervention is related to the issue of family care vs. day care for infants and young children. A recent study by Schwarz, Strickland, and Krolick (1974) found that infants in day care from approximately nine months of age as compared to a group who entered day care at approximately four years of age showed greater aggression, more motor activity, less cooperativeness with adults, and lower tolerance for frustration. Similar results were found in other studies of children in infant day care and preschool contrasted to children reared in homes. It is reasonable to assume that differences in the ecology of the child in the home as contrasted to the day care center or preschool would be related to differences in social and emotional development. More research and evaluation of the effects of different types of child care and education upon child development is needed to provide a basis for the development of social policy. If future studies show that parent-centered and home care as contrasted to day care for infants are more cost effective in supporting long term social, emotional and cognitive development and academic achievement than child-centered programs, those researches would suggest that the helping, health and education professions should

provide training and support for family care of young children rather than providing direct care and education for children.

The need to provide support for parental attachment and parental care of children is supported by research findings that hospital policies and practices in the care of the mother and newborn infant at the time of delivery may significantly influence maternal attachment. Earlier animal research indicated that separation of the mother goat from her kid for twenty-four hours resulted in rejection of the kid (Hersher, Moore and Richmond, 1958; Hersher, Richmond and Moore, 1963). Klaus and his colleagues(1972) found that increased contact between mother and infant in the first three hours and first days of life as contrasted to the usual hospital routine of low contact is significantly related to several indices of maternal positive attachment at one month of age. Other research that has found that maternal behavior toward a child stabilizes in the early days. weeks, months, and years of life would also suggest that early care of the mother and newborn may influence the development of stable patterns of maternal attachment and maternal care. The current focus of the health system of providing for the health needs of the individual mother and individual infant with little attention to the mother-child dyad, the mother-child-father triad, or the family system may be impairing the development of positive family relationships. If this hypothesis were proven, policies in maternal and child care at delivery may be producing mental health and physical health problems while other health professions and helping professions are attempting to remediate them.

My concern with the current focus of education led to a discussion of a professional institutional perspective on education that views education as the school age child in the classroom with a professional eduacator as contrasted with a life-time, life-space perspective or

ecological perspective on education (Schaefer, 1971). A common sense analysis of characteristics of family care of the child that included priority, duration, continuity, amount, extensity, intensity, pervasiveness, consistency, responsibility, and great variability in family care as contrasted to professional care supported the face validity of an increased emphasis of professional efforts upon family care (Schaefer, 1972).

An ecosystem analysis of child development would recognize that both the family and the school are involved in the child's education. Traditionally parents have had major responsibility for the child's education in the home during the early years and teachers have had major responsibility for the child's education in the school during the school years. However, analyses of parent involvement by Gordon (1969) and Hess, et. al (1971) and evidence of the major influence of parent involvement upon the child's educational achievement (Douglas, 1964; Rupp, 1969; Hess, 1969; and Schaefer, 1972) have focused attention upon parent-teacher interaction and parent involvement with the child's education in both home and school. Yet the evaluations of parent-centered early education programs that attempt to increase parent effectiveness typically evaluate effects upon the child rather than upon the parent, perhaps because of the lack of conceptualization and measurement of parent-teacher interaction and parent involvement.

The growing literature on parent involvement and parent-teacher interaction motivated the development of a set of scales for measuring the parent's attitudes, views and behaviors with a Home-School Relationships Inventory (Schaefer and Edgerton, 1974). A pilot study of this inventory yields three different clusters: 1. Scales on the parent's involvement in the child's education in the home, including scales of Importance of

Home Learning, Seeking Information on Child Development, and Use of Media and Community Resources. 2. Scales on the parent's involvement with the child's education in the school including Comfort at School, Contact with Teacher, and Desire to Help Teacher in the classroom. 3. Attitudes toward the teacher's involvment with the child's education in the home including Attitudes about Help from Teacher, Attitudes about Teacher Suggesting Activities, and Desire for Contact with Teacher. This pilot work on parent-teacher interaction and parent and teacher involvement in the child's education in the home and school suggets that many attitudes about home school relations are related with educational level of the parent, which in turn is related to the child's achievement

Perhaps differences in educational achievement by children of different socioeconomic groups are partially due to parents' awareness of the importance of home education and to their involvement in the child's education in the home and in the school. Further conceptualization, measurement and research and evaluation of program effects on parent and professional interaction and parent involvement are needed to improve communication, cooperation and collaboration of parents with the professions that provide services to children and families.

This discussion has suggested that development of a field of socio-ecological developmental psychology would contribute significantly to the science of psychology by accelerating a shift in focus from study of individuals or monads, to study of dyads, triads and ecosystems. Studies of the child's interactions and relationships in the family, the school, the day care center, the hospital and with the institutions and professionals that relate to children and to families will provide a basis for planning and evaluating intervention research and more effective child care, child health and education programs. Further descriptive research

on the child's interactions with his environment will contribute to socio-ecological developmental psychology. Study of the systems or eco-systems that have an impact on family care is also needed to provide a basis for more effective intervention research on child development. Both description and intervention research on the network of family relationships among mother, father, child and sibling, on family-community relationships that influence child care, on family-professional interactions in the care and education of children, and on the effects of national policies and legislation upon children and families (Hearings, 1974) will provide a better knowledge base for both training, program planning and evaluation.

More training in a socio-ecological developmental psychology will produce more scientists and practitioners who are knowledgeable about the role of family and community in child development. This training will lead to better diagnosis and evaluation of family and community factors and of professional and institutional policies and practicies that influence child care and child development. More socio-ecological training of professionals would lead to inclusion of ecological variables in program planning and evaluation and might lead to more professional and institutional consultation, support and training for parents. Perhaps the professional and institutional perspective of supplementing and inadvertently supplanting family care by child care and education will eventually be replaced by a life-time, life-space ecological perspective that emphasizes programs that strengthen and support both family and community care of children.

REFERENCES

Aaronson, M. and Schaefer, E.S. Sibling Behavior Inventory. Unpublished form. 1970.

Bayley, N. and Schaefer, E.S. Correlations of maternal and child behaviors with the development of mental abilities. Data from the Berkeley Growth Study. Monographs for the Society for Research in Child Development, 1964, 29, No. 6.

Bell, J.E. Family Therapy. New York: Jason Aronson 1974.

Bell, R.Q. A reintrepretation of the direction of effects in studies of socialization. Psychological Review, 1968, 85, 81-95.

Bell, Richard Q. Stimulus control of parent or caretaker behavior by offspring. Developmental Psychology, 1971, 4, 63-72.

Boneau, C.A. Paradign Regained? Cognitive behaviorism restated. American Psychologist, 1974, 29, 297-309.

Bowlby, J. Attachment and loss. Volume I. Attachment. New York: Basic Books, 1969.

Bronfenbrenner, U. A report on longitudinal evaluations of preschool programs. Volume II: Is early Intervention Effective? Washington, D.C. DHEW Publication No. (OHD) 74-25, 1974.

Brown, D.G. Behavior modification in child and school mental health. An annotated bibliography on applications with parents and teachers. U.S. Dept. of Health, Education and Welfare. Publication No. (HSM) 71-9043. 1971.

Burgess, E.S. The family as a unity of interacting personalities. The Family, 1926, 7, 3-9.

Chamberlin, R.W. Management of preschool behavior problems. Pediatric Clinics of North America, 1974, 21, 33-47.

Douglas, J.W. The home and the school: A study of ability and attainment in the primary school. London: McGibbon and Kee, 1964.

Elmer, E. Children in Jeopardy: A Study of Abused Minors and Their Families. Pittsburgh: University of Pittsburgh Press, 1967.

Giovannoni, J.M. and Billingsley, A. Child neglect among the poor: A study of parental adequacy in three ethnic groups. Child Welfare, 1970, 49, 196-204.

Glass, L., Kolko, N. and Evans, H. Factors influencing predisposition to serious illness in low birth weight infants. Pediatrics, 1971, 48, 368-371.

Gordon, I.J. Developing parent power. In E. Grotberg (Ed.) Critical issues in research related to disadvantaged children. Princeton, N.J. Educational Testing Service, 1969.

Gordon, R.S. and Gordon, K. Social factors in the prediction and treatment of emotional disorders of pregnancy. American Journal of Obstetrics and Gynecology, 1959, 77, 1074-1083.

Handel, G. Psychological study of whole families. Psychological Bulletin, 1965, 63, 19-41.

Hearing before the Subcommittee on Children and Youth of the Committee on Labor and Public Welfare. U.S. Senate.
First session on examination of the influence that governmental policies have on American families.
American Families: Trends and pressures, 1973, Washington: U.S. Government Printing Office, 1974.

Heider, F. The psychology of interpersonal relations. New York: Wiley. 1958.

Hersher, L., Richmond, J. and Moore, A. Maternal behavior in sheep and goats. In Rheingold, H. (Ed.) Maternal behavior in mammals. New York: John Wiley and Sons, 1963.

Hersher, L., Moore, A.U., and Richmond, J.B. Effect of postpartum separation of mother and kid on maternal care in the domestic goat. Science, 1958, 128, 1343-1348.

Hess, R.D. Parental behavior and children's school achievement: Implications for Head Start. In E. Grotberg (Ed.) Critical issues in research related to disadvantaged children. Princeton, N.J. Educational Testing Service, 1969.

Hess, R.D., Block, M., Costello, D., Knowles, R.T. and Largan, D. Parent involvement in early education. In E.H. Grotberg. (Ed.) Day care: Resources for decisions. Washington: Office of Economic Opportunity. 1971.

Insel, P.M. and Moos, R.H. Psychological environments: Expanding the scope of human ecology. American Psychologist, 1974, 29, 179-188.

Johnson, C.A. and Katz, R.C. Using parents as change agents for their children: A review. Journal of Child Psychology and Psychiatry, 1973, 14, 181-200.

Klaus, M.H., Jerauld, R., Kreger, N.C., McAlpine, W, Steffa, M. and Kennell, J.H. Maternal attachment: importance of the first post-partum days. New England Journal of Medicine, 1972, 286, 460-463.

Lazar, J.B. and Chapman, I. A review of the present status and future needs of programs to develop parenting skills. Prepared for the Interagency Panel on Early Childhood Research and Development. Social Research Group.. The George Washington University. Washington, D.C., April, 1972.

Lytton, H. Observation studies of parent-child interaction: A methodological review. Child Development, 1971, 42, 651-684.

Moss, H.A. Sex, age, and state as determinants of mother-infant interaction. Merrill-Palmer Quarterly, 1967, 13, 19-36.

Mussen, P.H. (Ed.) Carmaichael's manual of child psychology. Third edition. Volume II. New York. Wiley, 1970.

Nye, F.I. Child adjustment in broken and unbroken homes. Marriage and Family Living, 1957, 19, 356-361.

Radin, N. Observed paternal behaviors as antecedents of intellectual functioning in young boys. Developmental Psychology, 1973, 8, 369-376.

Rode, A. Perceptions of parent behavior among alienated adolescents. Adolescence, 1971, 6, 19-38.

Rupp, J.C.C. Helping the child to cope with the school: A study of the importance of parent-child relationships with regard to elementary school success. Groningen, Walter- Noordhoof, 1969.

Rutter, M. Parent-child separation: Psychological effects on the children. Journal of Child Psychology and Psychiatry. 1971, 12, 233-260.

Schaefer, E.S. Children's reports of parental behavior. An inventory. Child Development, 1965a, 36, 413-424(a).

Schaefer, E.S. A configurational analysis of children's reports of parental behavior. Journal of Consulting Psychology, 1965b, 29, 552-557(b)

Schaefer, E.S. Need for early and continuing education. In V.M. Dennenberg (Ed.) Education of the infant and young child. New York: Academic Press, 1970.

Schaefer, E.S. Toward a revolution in education: A perspective from child development research. The National Elementary School Principal, 1971, 51, 18-25.

Schaefer, E.S. Parents as educators: Evidence from cross-sectional, longitudinal research, Young Children, 1972, 27, 227-239.

Schaefer, E.S. Family care of children. Continuing Education for the Family Physician. 1974a,2, 56-60.

Schaefer, E.S. The network of family relationships: Inventories of perceptions of family members. Presented at the Symposium on the Child, the Family, and the Substantive Environment. Paul R. Dokecki, chairman. Southeastern Society for Research in Child Development. Chapel Hill, N.C., March, 1974b.

Schaefer, E.S. Factors that impede the process of socialization. In Begab, M. and Richardson, S. (Eds.) Mental Retardation and Society. In press.

Schaefer, E.S. and Aaronson, M. Infant education research project: Implementation and implications of a home tutoring program. In Parker, R. (Ed.) The Preschool in Action: Exploring Early Childhood Programs, Boston: Allyn and Bacon, 1972, pp. 410-434.

Schaefer, E.S. and Bayley, N. Maternal behavior, child behavior and their intercorrelations from infancy through adolescence. Monographs of the Society for Research in Child Development, 1963, 28, (No. 3, Whole No. 87).

Schaefer, E.S. and Bayley, N. Validity and consistency of mother-observations, adolescent maternal interviews, and adult retrospective reports of maternal behavior. Proceedings, 75th Annual Convention, American Psychological Association, 1967, 2, 147-148.

Schaefer, E.S. and Edgerton, M. Development of inventories for assessing parent and teacher interaction and involvement. Project report to the N.C. State Board of Public Instruction, 1974.

Schaefer, E.S. and Finkelstein, N. Child Behavior toward the Parent Inventory. Unpublished form. 1973.

Schaefer, E.S. and Phillips, I. Communication in Marriage Inventory. Unpublished form. 1970.

Schwarz, J.C., Strickland, R.G. and Krolick, G. Infant day care: Behavioral effects at preschool age. Developmental Psychology. 1974, 10, 502-506.

Scrimshaw, N.S. Myths and realities in international health planning. American Journal of Public Health, 1974, 64, 792-798.

Starfield, B. and Barkowe, S. Physician's recognition of complaints made by parents about their children's health. Pediatrics, 1969, 43, 168-172.

Stine, O. Content and method of health supervision by physicians in child health conferences in Baltimore. American Journal of Public Health, 1962, 52, 1858-1865.

Studdard, G.J. Common environmental terms: A glossary. Washington, D.C. Environmental Protective Agency, 1973.

Sullivan, H.S. Socio-psychiatric research. American Journal of Psychiatry. 1931, 87, 977-991.

Sullivan, H.S. Psychiatry: Introduction to the study of interpersonal relations. Psychiatry: 1938, 1, 121-134.

U.S. Bureau of the Census. Census of the Population: 1970. General social and economic characteristics. Final Report PC(1)-C1 United States Summary.