DOCUMENT RESUME

ED 156 340 PS 009 987

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TITLE Effects of Infant Day Care Experience on Behavior and Development: Research and Implications for Social Policy.
SPONS AGENCY Department of Health, Education, and Welfare, Washington, D.C. Office of the Assistant Secretary for Planning and Evaluation.; Department of Health, Education, and Welfare, Washington., D.C. Office of the Secretary.
PUB DATE Oct 76
NOTE 62p.; Filmed from best available copy; For related documents, see ED 149 661 and PS 009 986 - PS 010 006

EDRS PRICE MF-$0.83 HC-$3.50 Plus Postage.
DESCRIPTORS Behavior Development; *Child Development; Cognitive Development; *Comparative Analysis; *Day Care Programs; Early Childhood Education; Federal Government; Government Role; *Infants; Interpersonal Relationship; *Literature Reviews; Parent Child Relationship; Peer Groups; *Policy Formation; Social Relations
IDENTIFIERS *Day Care Effects

ABSTRACT

This paper reviews major research dealing with the effects of infant/toddler day care on the behavior and development of infants, with special emphasis on useful research implications for those concerned with providing high quality group care for infants outside the home. A brief examination of major analytic issues dealing with the problem of developmental effects of infant day care focuses on variations in program objectives, the problem of defining and measuring the effects of the day care experience on children, and interpretive problems concerning the relationship between particular day care experiences and specific outcomes in children and families. A review of major research findings in the context of the above issues comprises the largest section of the paper. The review is organized around three primary categories which are affected by the day care experience: (a) intellectual or cognitive outcomes, (b) parent-child relationships, particularly maternal attachment, and (c) social relationships with other adults and peers. Final sections briefly summarize some of the principal research findings on the effects of infant/toddler day care and the implications of these findings for day care policy. Proposed are specific guidelines and policies to ensure quality day care which is supportive and facilitative of early child development and parent-child relationships. A concluding section discusses appropriate roles which could be played by the federal government in supporting early child care. (Author/CM)

EFFECTS OF INFANT DAY CARE EXPERIENCE ON BEHAVIOR AND DEVELOPMENT: RESEARCH AND IMPLICATIONS FOR SOCIAL POLICY

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October 1976

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I. INTRODUCTION

In the past few years the question of the developmental effects of day care experience beginning as early as the first two years of life has become a matter of increasing significance and concern. The problem is clearly an important one from a theoretical point of view, since it represents one aspect of the broader question of the developmental impact of variations in early childrearing conditions. In this particular instance, the question is whether the child's intellectual, emotional, and social development are affected by extended experience in a group care setting outside his home, beginning as early as the first few weeks of life in some instances, as compared with the more usual experience of home care by the child's family.

The problem of developmental effects of very early day care experience has also become increasingly significant from the point of view of social planning and public policy considerations. As more and more women enter the world of work, either by choice or because of economic necessity, the demand for infant/toddler day care has increased substantially. Group day care facilities and programs for infants and toddlers are still relatively uncommon, in this country at least, in part because of the increased costs of providing high quality day care for children this young, and in part because there has been considerable concern on the part of many professionals and laymen as well, that extended experience in day care as early as the first year of life may have detrimental effects on the establishment of the normal pattern of affectional relationships between mother and infant which is considered so essential to healthy personality development. On the

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1 A review prepared for the Office of the Assistant Secretary for Planning and Evaluation, Department of Health, Education, and Welfare, U.S.A. Grateful acknowledgment is expressed to Jay Belsky and David Bellinger for their assistance in the search and critical review of the pertinent literature.

other hand, many have argued, particularly in recent years, that experience in day care is not only not harmful for the infant or toddler and his family, but in fact may be a developmentally facilitating experience. Moreover, it is felt, the availability of good substitute care outside the home might even enhance the relationship between mother and child since it would facilitate fulfillment of the mother's own work or career aspirations.

It is significant that these contrasting views concerning the potentially negative or positive effects of infant day care are held very strongly and with considerable emotional conviction even though (or perhaps because) the research evidence bearing on the issue is so limited and difficult to interpret. It is the purpose of this paper to review critically major research dealing with the effects of infant/toddler day care on development, with special reference to the implications which the research findings may suggest for those concerned with the provision of high quality group care outside the home for children in the first two years of life. There is no question but that the need for such out-of-home care for many families with infants and toddlers is continuing to increase, and there is great need to articulate valid guidelines for ensuring that the day care environments provided are optimally supportive of both infant and family development.

The review will begin with a brief examination of some of the major analytic questions and issues which require consideration in dealing with the broad problem of developmental effects of infant day care. Relevant literature will then be reviewed in the context of these analytic issues, with the intent of identifying major generalizations which can be drawn from the research findings, as well as major gaps in our knowledge and critical research needs. Final sections of the paper will present an interpretive summary of major research findings with implications for policies and guidelines aimed at ensuring high quality day care for infants and toddlers; as well as a discussion of issues involved in attempting to articulate appropriate roles which might be played by the federal government in

support of early child care.

II. METHODOLOGICAL AND ANALYTIC ISSUES

A. Variations in program objectives

Any systematic evaluation of empirical data bearing on the question of the effects of day care must consider these effects in relation to the varying objectives or purposes of the particular day care environments under consideration. Moreover, it is important to distinguish between outcomes which were specifically intended by a particular program, and effects which may be equally important, but were unintended or incidental.

Infant/toddler day care can generally be grouped into three broad categories on the basis of generally different primary objectives:

1. Day care as a good substitute for home care.

Most infant/toddler day care environments are set up primarily to provide good care outside the home. The majority of such care is provided by women in their own homes (family day care), although the number of day care centers which serve children under the age of two is gradually increasing. For the most part, these settings or programs have no specific compensatory or remedial objectives, nor are they concerned with the acceleration of development; hence there is typically little or no systematic evaluative data generated by such programs. It is interesting to note, however, that as studies of the effects of this type of day care began to emerge, the initial concerns were primarily to demonstrate that the day care experience had no detrimental effects on children's intellectual, emotional, or social development.

2. Day care as a vehicle for providing compensatory or remedial experience.

A good many infant day care centers in this country, including

some of the earliest ones, were set up primarily in the interest of providing an enhancement of the early social and learning environment of infants or toddlers from low income homes, which were considered to be not fully supportive of normal development. Such programs have been concerned in large part with prevention of the decline in intellectual performance frequently observed in children from low income families as they approach three or four years of age. Other recent programs have endeavoured to provide added experience or stimulation in day care for infants or toddlers identified more specifically as being "at risk" of developing sub-normally. Such groups have included, for example, low income children whose socio-cultural and family characteristics (including low parental or sibling IQ) suggest that they may be at risk of substantial developmental retardation, and developmentally delayed or handicapped infants. Evaluation of the effects of such programs has tended therefore to focus on the question of whether normal levels of intellectual functioning can be maintained in children who would otherwise be performing at below average levels.

3. Day care as a setting for acceleration of normal development through cognitive enrichment or "infant education".

In recent years, there has been a growing "infant education" movement, whose implicit goal seems to be maximization of the rates of perceptual, cognitive, language, and motor development from the earliest days or weeks of life. According to this view, infants generally do not reach the levels of competence of which they are potentially capable, even in what we would normally consider to be "good" home environments (e.g. Painter, 1971; White, 1975). Some have urged, therefore, that we need to provide optimally stimulating learning environments for all infants, often through added "stimulation", structured exercises or teaching methods, so that development may be accelerated and "optimal" levels of intellectual competence attained. While much of this effort to promote "infant education" has been directed at parents and the home environment, a number of group care programs have been interested in the question of whether the intellectual

development of infants and toddlers from middle class families can be significantly advanced by providing a structured, cognitively enriched "curriculum" in the day care center to supplement the experiences normally available to the children in their home settings[2] (Fowler, 1972; Robinson and Robinson, 1971).

Another important distinguishing feature of day care programs is the extent to which the primary focus is on the child (through enrichment of his experience outside the home), or upon the family as a whole, through the provision of a variety of supports and services to the family in the interests of enhancing parent-child relationships and the general home environment.

As indicated earlier, it is obvious that the effects of day care environments which differ so markedly in their stated purposes must be evaluated in the light of these differing objectives. One would generally not expect important DQ or IQ gains (or losses!) from day care environments that are set up primarily to provide a reasonable equivalent to good home care. On the other hand, absence of such gains in programs specifically designed to produce them would clearly have important implications with respect to the basic question of whether added stimulation or intellectual enrichment outside the home has any significant developmental consequences. At the same time, a day care program may have some very important, though unintended effects on the child and his relationships to his family, as well as the family itself and its relationships with the community. These "unintended" effects, which may be either advantageous or disadvantageous, are frequently not assessed in evaluations of program outcomes and clearly deserve more attention.

B. Major analytic problems

There are a number of important analytic problems and issues which need careful consideration in any systematic evaluation of the research literature on day care. These problems often make it quite difficult to infer confident generalizations from this

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2 For problems associated with this general approach if carried too far, see Willis and Ricciuti, 1975, Chapters 1 and 5.

literature, both in regard to substantive or theoretical conclusions and with respect to practical, social policy considerations. The principal issues are outlined briefly below, to help set a framework for the subsequent review and discussion of major empirical research on the effects of infant/toddler day care.

1. The problem of defining the day care experience (for infant and family)

Day care settings and environments in which infants and toddlers are cared for vary widely not simply in gross terms (e.g. day care centers or family day care homes), but also in a variety of specific features of the environment and the infant's experience in it which may well make a difference with respect to developmental outcomes. These variations in day care environments, which are often unspecified, make it very difficult to draw broad conclusions about the effects of "day care in general" on the basis of particular studies.

A number of these important features of day care environments come under the general heading of "quality of care," a basic concern of everyone involved in the provision of day care services, but a concept which is still difficult to specify in measurable terms (Willis and Ricciuti, 1975). These features include the following:

a) Caregiver/child ratios at different ages;
b) Stability and continuity of caregivers
(does infant have opportunity to develop focused affectional relationship with small number of caregivers over an extended period of time, or is there a high staff turnover with many different individuals responsible for the child's care?);
c) Staff qualifications, in-service training and supervision;
d) Nature of infant's daily experience
(the question of "curriculum" -- including frequency and nature of contacts with caregivers, opportunities for learning and for pleasurable interactions with peers and adults, individualization of care, sensitivity of staff in

responding to infant's needs, etc.);

e) Provisions for ensuring adequate conditions of health, nutrition and safety.

The relationship between the day care setting and the families of the children served is an important matter in its own right, but it is included here since several features of this relationship may well affect the quality of the child's experience in the day care program, even though somewhat indirectly. These include:

f) Consistency between day care and home care practices, based on regular communication between staff and parents;

g) Openness of day care setting to parental involvement and participation

(e.g., parents' participation in easing initial transition and continuing adaptation to day care environment);

h) Extent to which day care program provides support of parental roles, encouragement of optimal parent-child relationships, or more general supportive family services.

Finally, there are two additional factors which are assumed to have an important bearing on the effects day care may have, in part because they reflect significant variations in the particular day care experiences of different children. These are:

i) Age of initial entry into day care

(of particular concern in relation to whether infants enter day care before or after specific attachment relationships to the mother have been established -- e.g. before 6 or 7 months, after 12 to 15 months)

j) Amount of day care experience

(important variations include both <u>duration of experience</u> in terms of weeks or months in day care at time of evaluations, and <u>amount of time</u> spent in day care on a daily or

weekly basis).

Wide variations in both age at initial enrollment and amount of day care experience are found from study to study, as well as within particular investigations.

2. The problem of measurement of the effects of infant/toddler day care

For the most part, studies of the impact of infant/toddler day care have been very limited both in the breadth of potential consequences examined, and in the thoroughness with which such consequences have been evaluated. Most studies have focused on day care effects on children, rather than on parent-child relationships or on families. The most common assessments of children's behavior have involved measures of early behavioral development (DQ) or general intellectual development (IQ), obtained by means of standardized tests. More recently, considerable attention has been directed to effects on the infant's attachment to mother, but here too, there has been rather heavy reliance on one particular approach -- namely, the child's reactions to brief maternal separation in a structured, strange situation. A few studies have observed mother-infant interaction for brief periods of time, also in contrived situations.

While measures of the sort just described do provide important information about possible day care effects, the information is quite limited in the sense that it tells us little about significant "real life" changes in children or their families. In the case of DQ or IQ scores, for example, we need to be able to evaluate the functional or "real" significance of reported IQ gains of 5 to 10 points (often found in intervention programs). It is not enough to know that such gains (or even smaller ones) are statistically significant; the question is whether they represent genuine gains in basic intellectual or learning competencies which will make a difference in the child's real world, or whether they primarily

reflect increased familiarity with testing procedures and demands, enhanced social responsiveness, or the learning of particular skills emphasized in the day care curriculum. Similarly, differences between day care and home reared children based on very brief observations of mother-child interaction in structured laboratory situations provide information of only limited and even questionable generalizability, in the absence of broader-based assessments of parent-child relationships in natural settings. It seems unfortunate that so little systematic effort has gone into the assessment of the impact of infant/toddler day care on parents and on the adaptive functioning of the family as a whole.

3. General design and interpretive problems

In the long run, one would hope that research on the impact of infant/toddler day care would permit us confidently to draw conclusions concerning direct, causal relationships or links between particular day care experiences and specific outcomes in children and families. There are several issues that require attention here as one attempts to derive such causal inferences from available research.[3] Most studies involve comparisons of children who are enrolled in day care programs with "equivalent" control groups of children who are primarily reared at home. Since families who must place their infants or toddlers in day care, or who choose to do so, may be very different in important ways from families who do not, it is very difficult to ensure that such groups are really equivalent in aspects of the home environment and parent-child relationships that are important for development. This is a particularly important issue in studies concerned with the effects of day care on parent-child relationships, where one really needs to assess such relationships objectively in both control and experimental groups before children enter day care, as well as later on, if one is to attribute later differences between these groups to the day care experience.

A more general way of stating this problem is that it is difficult

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[3] For a detailed discussion of some of these issues, see Bronfenbrenner, 1974.

to separate out the potential impact of day care experience from that of home and family influences. Perhaps more importantly, it is very probable that the impact of day care experience will vary considerably depending on the nature of the child's home environment and the pattern of family relationships existing in the home. Research available thus far permits little or no analyses of interactions of this sort, although some comparisons are possible of differential effects on children from grossly contrasting environments (e.g., children identified as being at particular risk of sub-normal intellectual development because of specific adverse circumstances).

The effects of day care may also vary substantially for groups of infants or toddlers who differ in temperamental characteristics. From the earliest months of life, relatively stable individual differences are observable in such dispositions as activity level, irritability, responsiveness, sociability or adaptability to new situations. Children who vary widely on such temperamental or early "personality" characteristics may well be treated differently by caregivers, so that their "functional" day care environments may be quite different. At the same time, their modes of responding or adapting to the daily transitions from home to day care center and to the day care environment generally may also be quite different.

Finally, the need to distinguish between short term and long term effects of day care experience is a well recognized, important, and difficult issue. Most of the studies available thus far have focused on short-term or immediate effects of infant/toddler day care, with assessments made while children are still enrolled in day care programs. Even in the case of several studies where longer-term follow-up after the age of 2½ or 3 years has been possible, observations are made while children are still enrolled in special pre-school or day care programs, so that little or no data are available on longer term consequences of infant/toddler day care after children have returned to full time home care for a substantial period of time.

Having examined briefly some of the principal analytic questions

and issues which must be considered in any systematic evaluation of research on the effects of infant/toddler day care, we turn next to a review of some of the major empirical research on this topic, relying on the issues just outlined to provide a guiding orientation for the review.

III. REVIEW OF MAJOR RESEARCH FINDINGS

The following review will be organized around several major classes of outcome variables which have been examined as potentially affected by infant day care experience. These major categories include: a) intellectual or cognitive outcomes, b) parent-child relationships, particularly maternal attachment, and c) social relationships with other adults and peers.

A. Intellectual and cognitive outcomes of infant day care

1. The question of adverse effects

If we consider first the question of whether extended experience in day care beginning as early as the first year of life has adverse effects on the child's intellectual development, the research evidence available thus far does not support this view. It should be pointed out however, that the data bearing on this question comes primarily from demonstration centers or special programs set up to provide models of good infant day care, or to provide compensatory experiences and family supports, in some instances, to disadvantaged or "at risk" groups. Very few studies have systematically examined the developmental consequences of experience in the infant care settings ordinarily available in a given community, particularly family day care.[4]

Two recent studies of this sort, carried out in Sweden (Cochran, 1976) and in Canada (Doyle, 1975 a, b) provide data indicating

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[4] The extensive New York City Infant Day Care Study (Mark Golden and Lucille Rosenblith), which is rapidly nearing completion, should soon provide important data on the development of infants and toddlers who have been in day care centers, family day care homes, and in own home care, followed longitudinally through 36 months of age.

essentially normal, equivalent levels of intellectual development for infants or toddlers enrolled in family day care or day care centers and in home care. Cochran's study was based on 120 children 12 to 18 months old, 60 of them enrolled in day care centers since 9 or 10 months of age. Doyle's research involved considerably smaller samples of children from approximately 8 to 36 months of age who had been in day care for quite variable lengths of time. In both instances, it should be noted, the day care centers involved were carefully geared to the provision of individualized care, with a small caregiver/child ratio (1:2 under 12 months, 1:4 one year and older). Also, in both instances very small groups of children (2 to 3) were cared for in the family day care settings. Whether one would find normal levels of intellectual development maintained under substantially less favorable day care conditions is an unanswered question at this point.[5]

There is additional evidence, both substantial and convincing, that high quality group day care for infants and toddlers does not adversely effect their intellectual development. This evidence is found consistently in evaluation studies of day care centers set up either to provide models of good infant group care for the general population (e.g. Kagan, et al., 1975; Keister, 1970; Willis and Ricciuti, 1974), to provide compensatory experiences for disadvantaged or "at risk" children (Caldwell, et al., 1970; Lally, 1974; Lewis, 1975; Ramey and Smith, 1976) or to provide cognitively enriched learning experiences aimed at acceleration or optimization of early intellectual development (e.g. Fowler and Khan, 1975; Robinson and Robinson, 1971). If anything, these investigations suggest that experience in some high quality day care environments may in fact be facilitative of intellectual development, rather than harmful.

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5 The possibility of somewhat reduced levels of intellectual functioning occurring in two-year-olds enrolled since 8 weeks of age in "typical" day care centers operating under minimal licensing standards (maximum caregiver/child ratios of 1/16-24) is raised by the findings of a recently received dissertation study by Peaslee (1976), carried out in Florida. Unfortunately, no specific information is provided concerning the presumably less than favorable environments of the 4 day care centers involved, and the equivalence of the home environments of the day care and home reared control children is not at all clear since the groups seem only to have been roughly equated on SES level (mainly middle class) and intactness of family.

2. Facilitative effects -- general findings

Whether infant day care experience can enhance the development of intellectual and cognitive competencies in young children is a considerably more difficult question to deal with than is the question of detrimental effects. A careful review of the research data presently available suggests the following summary generalizations:

a) A good many studies report modest apparent gains (or experimental vs control group differences) on the order of approximately 5-10 IQ or DQ points in favor of day care children;

b) A few studies report more substantial differences in favor of children with day care experiences. These more substantial IQ-DQ gains seem to occur primarily in centers which provide rather highly structured, cognitively oriented day care environments for children from presumably less favorable environments, or those considered at developmental risk;

c) In both instances, the reported gains are for the most part short-term effects observed while the children are still in day care. There is little or no data on longer term effects of infant day care, evaluated with and without the added experience of continued enrollment in day care or preschool settings after 2 or 2½ years of age.

d) For the most part, observed gains are more likely to be found after 18 months of age than earlier, even for infants entering day care in the first few months of life.

It is rather striking that so many studies of the development of children with infant/toddler day care experience report modest IQ or DQ gains on the order of 3 or 4 to 10 points (e.g. Doyle, 1975a, b; Keister, 1970; Lewis, 1975), even when fairly intensive efforts are made to enhance intellectual development (e.g. Fowler and Khan, 1975). The same magnitude of IQ/DQ gain is reported in many studies aimed at enhancing the child's home environment through extensive home visiting

efforts (e.g. Johnson et al., 1974; Lambie, et. al., 1974).

If one has a strong conviction that early day care experience or home intervention should have a significant positive impact on early childhood development, these common findings of modest apparent IQ gains of up to about 10 IQ or DQ points, are likely to be regarded as evidence supporting this view. On the other hand, one can also regard the research data as suggesting that almost any sort of intervention can quite readily produce short-term IQ test score differentials of this modest order of magnitude, and that in the first few years of life the development of intellectual and cognitive competencies is very resistant to significant acceleration through attempts to optimize the child's early environment, whether in the home or in day care centers.

It is interesting to note, for example, that in the Milwaukee project aimed at the prevention of familial retardation in a "high risk" inner-city group (Heber, et al., 1972), although the experimental children began attending a special day care center by about 3 months of age, it was not until 18 to 22 months of age that differences in Gesell test performance in favor of the day care group began to emerge (about 3-5 months ahead of age). The absence of earlier effects is particularly striking in view of the fact that these children were in a full time, daily program highly structured to promote intellectual development, with a one-to-one caregiver-child ratio from 3 to 15 months of age.

Similarly, in two other studies of infants entering cognitively oriented day care programs between 1 and 5 months of age (Robinson and Robinson, 1971) or between 1 and 3 months of age (Ramey and Smith, 1976), differences in Bayley DQ's in favor of experimental children were not found until 18 months of age. Even in a program specifically aimed at acceleration of intellectual development of middle-income as well as "disadvantaged" children (Fowler and Kahn, 1974, 1975), infants entering a cognitively structured day care center before the end of the first year showed DQ advantages (Griffiths) on the order of 6 to 12 points over home controls from 18 to 29 months

of age, after which (at 36 to 43 months) these differentials became considerably reduced. Moreover, Binet IQ's of the day care children were not elevated, ranging from 108 to 104 between 22 and 43 months (no control data on Binet).

A persuasive example of the general equivalence of day care and home care experience in relation to intellectual development during the first 2 to 3 years of life is provided by the very recent work of Kagan, et al. (1975, 1976). Thirty-three children, half Caucasian and half Chinese-American, who entered a demonstration day care center between 3½ and 5½ months of age were compared with matched home-reared controls on several measures of cognitive and language development at various ages from 3½ to 29 months. Each infant was assigned a primary caregiver, and the curriculum (outlined in a detailed manual) emphasized one-to-one interactions between caregiver and infant, stressing a variety of moderate "surprise" experiences considered to be facilitative of cognitive development. What is striking about the findings of this study is the general similarity of the day care and home reared children on the measures of intellectual and language development. At 7½ and 13 months there were no differences either on motor or mental items from the Bayley scales. At 20 months while day care and home children again performed equivalently on a cluster of Bayley language items, the day care group showed a slightly higher level of performance on a non-language Bayley cluster, consisting mainly of imitation and form board tasks, both of which are activities stressed in the day care setting.

Several findings of this research illustrate the previously mentioned generalization that the impact of day care experience can be expected to vary depending on the child's home environment -- or, more specifically, that day care experience is more likely to have a facilitative effect on development in those instances where it provides a substantial <u>supplementation</u> of experiences not fully available in the home environment. For example, at 29 months of age performance on a test of basic English language concepts was facilitated by day care experience only for the Chinese working

class group, which included many non-English-speaking families who seemed generally restrictive of their child's early experiences. For the Caucasians, on the other hand, home care children scored higher.

3. Facilitative effects -- populations "at risk"

As mentioned earlier, although it is not at all clear that infant day care experience can enhance the intellectual development of children whose home environments seem adequately supportive of normal development, there is somewhat more persuasive evidence that children from developmentally less favorable environments, who may be presumed to be at some developmental risk, can be benefited by high quality, relatively structured day care experience. Lally (1974), for example, compared Binet IQ's at 36 months for 69 children who had been enrolled in the infant/toddler day care program of the Syracuse Children's Center since some time in the first year of life, and 60 low education controls, recruited at 36 months from the same types of very poor, multi-problem families served by the day care program. Day care children had a mean IQ 13 points higher than that of the controls (111 vs 98). Moreover, 94% of the day care children had IQ's above 90, in contrast with 73% of the controls. (Since Binet testing was done under more relaxed, "optimal" conditions, the obtained means are probably somewhat higher than would be found with more formalized standard testing procedures.) Preliminary data at 48 months of age, when the children were still attending the day care center (modeled after the British Infant School) suggest some attenuation of the earlier group differences (111 vs 103). It should be pointed out that the Family Development Program of the Center places heavy emphasis on comprehensive health, educational, and social services for the multi-problem families enrolled. Also, children attended the Center on a half-day basis up to 15 months of age, with a 1:4 caregiver child ration; after this they attended full time and were clustered in small "family-style" groups.

Some very recent data reported by Ramey and Smith (1976), while based on very small samples, also suggest that cognitively enriched

experience in an infant day care program may help prevent the anticipated lag in intellectual development in disadvantaged children who are considered at environmental risk on the basis of a variety of specific maternal and family characteristics identified before birth. Experimental and control samples of "high risk" infants were constituted by pair matching at birth and random assignment to either group. Both groups received extensive family support including social services, health care, and nutritional supplements, with the deliberate omission of any instruction or guidance in regard to infant development and rearing. Thus both groups were equivalent in background and treatment except that the experimental infants attended an educationally structured, cognitively oriented day care center on a full time basis beginning at 1½ to 3 months of age (caregiver/child ratio 1/2.8 up to 12 months; 1/3.5 for older children). While there were no differences on the Bayley Mental Development Scale at 7 months of age, at 18 months the 13 experimental infants had a DQ of 102, sixteen points higher than that of the 11 control infants (mean DQ 86). Moreover, the day care infants required fewer trials to learn a two-choice visual discrimination task (square versus triangle), particularly at 18 months of age. While these findings are clearly suggestive of positive effects of the enriched day care experience while the children are still enrolled in the program, it is not clear at this point whether such effects would endure without a continuance of the enriched experience, particularly since the family support program deliberately omitted any efforts to advise parents as to "how to treat or interact with their children."

A final example of the apparent effectiveness of educationally structured day care experience in preventing the intellectual decline of children at risk of developmental retardation is provided by the previously mentioned Milwaukee Project (Heber, et al., 1972; Garber, et al., 1976). Twenty infants of low-income black families, with maternal IQ less than 75, began full time, daily attendance in a special day care center around 3 months of age, remaining in the program until age 6 years. During the first 15 months there was a

one-to-one teacher/child ratio, and by 24 months children were grouped to provide a 1:3 ratio. The program is described as involving "a cognitive-language orientation implemented through a planned environment utilizing prescriptive teaching techniques" (Garber, et al., p.6). A vocational/educational rehabilitation program was offered to the mothers upon entry into the project (about 1/3 were illiterate), along with continuing social services, counseling, and support (but apparently not including parenting education).

As mentioned previously, when compared with a control group of infants from similar high risk families, no substantial differences emerged until 22 months of age, when the day care children were 4 to 6 months ahead of age on the Gesell scales, while the control children were about at their age norms. Between 24 and 72 months of age the Binet IQ's of the experimental children remained more than 20 points higher than the controls (low 120's versus low 90's). There also was some suggestive evidence that the educational program improved language competence and performance on matching and sorting tasks. As the investigators point out, whether this intensive and lengthy pre-school intervention has significant long term effects will need to await a comparative evaluation of the children's achievement after they have entered the public school system.

From the perspective of the present review's focus on the effects of infant day care, it should be pointed out that in both the Milwaukee program (just summarized) and the previously described Syracuse program, the most promising data suggestive of positive consequences of the intervention programs emerge after the age of two years, while the children are still enrolled in educationally oriented, "enriched" day care environments. There is no way of knowing, of course, whether the same differentials in levels of intellectual test performance might have been achieved if the children had entered these programs at around 18 to 24 months of age (or even later), rather than early in the first year of life. It is not unreasonable to hypothesize that this indeed might have been the case, for two reasons: a) the general absence of differential

effects prior to 18 to 24 months, and b) the probability that the heightened measures of intellectual performance at 3-to 6 years of age are much more reflective of the types of language and problem solving skills, strategies or motivation emphasized in the educational experiences of these children after they reached the age of 2 or 2½ years, rather than reflecting their much earlier day care experience as infants or young toddlers.

On the other hand, in the previously mentioned North Carolina study (Ramey and Smith, 1976), by 18 months of age "high risk" infants in day care (mean DQ 102) were already 16 points higher than controls, whose mean DQ was somewhat below normal (86). Whether this differential will continue at subsequent ages, of course, will not be known until later follow-up studies are reported from this program.

It is interesting to note that while the North Carolina and Milwaukee studies both report appreciable DQ advantages for day care over home reared children at 18 or 22 months of age, in the North Carolina study the contrast was between normal levels of performance for experimental infants (102) and below average DQ's for the control children (86), whereas the Milwaukee program reports advanced development for experimental infants (about 120) in comparison with average levels for control subjects (about 100). The higher DQ's for both experimental and control infants in the Milwaukee program are difficult to evaluate, particularly in view of the fact that these families seem to have been somewhat more severely disadvantaged or "at risk" than was the case for the North Carolina families (in terms of maternal IQ and education). Since the samples involved are quite small, the difference may of course reflect sampling variations, or such factors as varying degrees of success in matching experimental and control subjects upon entry into the program, differences in the developmental tests employed, in the frequency of repeated testing, etc.

As suggested by the foregoing example, it is very difficult systematically to relate variations in the findings of studies of infant day care to the frequently wide variations in relevant "inde-

pendent variables" of the investigations. The problem is particularly acute since most of these variations occur non-systematically among studies in the literature, rather than being introduced systematically within a particular study to answer specific questions.

4. Summary

Despite the various difficulties just indicated, there are a few generalizations and conclusions concerning intellectual consequences of infant day care experience which can be inferred from the research findings available thus far, as suggested earlier in this discussion. At the same time, there are a good many unresolved ambiguities which continue to confront us.

a) There is generally no evidence indicating that extended experience in infant day care beginning as early as the first year of life is likely to have adverse effects on intellectual development. However, most research bearing on this question has involved day care settings established to demonstrate models of good infant care outside the home. Whether early intellectual development might be influenced unfavorably by experience in very poor or adverse day care settings, which might be the only ones available to some families, is an important matter requiring further research. Such environments could hypothetically be sufficiently unfavorable that intellectual and language development might in fact be impaired somewhat, at least temporarily. One would hope, however, that infants and toddlers who require out-of-home day care are for the most part not being cared for under environmental conditions so disadvantageous that there is a significant possibility of adverse developmental consequences.

b) There is little or no persuasive evidence that infant day care experience can significantly enhance the development of intellectual competencies in children whose home environments

can be presumed to be reasonably supportive of normal development. If anything, the research suggests that it is quite difficult to produce such changes, even with structured programs aimed specifically at intellectual facilitation.

c) There is somewhat more promising evidence suggesting that experience in infant day care may help prevent the decline in intellectual test performance typically observed in children from low income or environmental risk groups, particularly if the program is an educationally structured one with high caregiver/child ratios. Even in these instances, however, it is not at all clear that day care experience during the first two or two and one-half years of life can produce enduring developmental effects in the absence of continued enrichment of the child's experience, either in pre-school settings or through enhanced and continued support of intellectual development in the home environment.

d) There is no evidence to suggest that the earlier the pre-school child enters day care the more positive the effects on intellectual development. In most instances, DQ or IQ differentials in favor of day care children do not begin to emerge until around 18 to 22 months of age or later, even for children entering educationally oriented day care programs before 5 or 6 months of age.

e) Finally, even where statistically significant IQ DQ gains favoring children with infant day care experience are reported, it is extremely difficult to evaluate the meaningfulness and long-term significance of these test score gains, and to connect them unambiguously to particular features of the day care experience as such.

B. Effects on parent-child relationships and maternal attachment

One of the early concerns about infant day care experience was that it might adversely affect the development of the affectional relationship or attachment between mother and infant which normally begins to emerge in the second half of the first year of life. This special affectional bond between infant and mother (or other principal caregiver) is manifested by positive emotional responses shown selectively to the mother, and by reactions of protest and distress, as well as efforts to maintain proximity and contact when the mother leaves the child, particularly with a stranger or in a strange environment. Moreover, in the presence of the mother or other "attachment figure," the one-year-old is likely to be less fearful and more willing to explore strange environments and people, using the mother as a "secure base" for such explorations.

The early development of such focused affectional relationships with a few special adults like the parents is considered essential for healthy personality development, since it lays the ground work for the growth of feelings of basic trust and confidence in both self and others; and thus facilitates the child's later capacity to establish genuine affectional relationships with significant persons outside the family (Ainsworth, 1973; Bowlby, 1973). Moreover, this special affectional relationship between infant or toddler and parents helps enhance the parents' role in the rearing and socialization of the young child.

Much of the initial concern about possible unfavorable consequences of infant day care stemmed from early studies of repeated or prolonged maternal separations, such as those involved in extended institutionalization or hospitalization, which indicated very disturbing effects of these experiences on the child's subsequent social and emotional development (reviewed by Bowlby, 1973). Later writers (e.g. Rutter, 1972; Yarrow, 1964) have pointed out that such dire consequences of early maternal deprivation are neither inevitable nor irreversible, and depend heavily on the severity and duration of the adverse experiences involved, and on the nature of the child's subsequent environment.

Meanwhile, there remains a legitimate concern about possible unfavorable social and emotional effects of various forms of extended substitute care (including day care), and a continued interest in research directed at these issues.

While the infant in day care is not separated from his mother and family for days or weeks at a time (as in the case of residential care or extended hospitalization), he may experience frequent, sometimes stressful, maternal separations, in some instances as often as every day. In addition, he may be cared for outside his home by various people other than his parents for as many as forty or fifty hours a week. The major questions raised by these circumstances are a) whether the repeated separation experiences of the child make him less secure, confident, and trusting in his attachment relationship with his mother, and b) whether the infant's special affectional relationship with his parents may be weakened or diluted because he is cared for by an alternate caregiver (or caregivers) outside the home for a high percentage of the time.

In the following review of pertinent research bearing on these general questions, consideration will be given first to some limited data concerning infant's separation reactions as they make the transition to day care, followed by studies of the impact of day care on attachment relationships based primarily on a) infants' reactions to brief maternal separation in structured test situations, b) infants' adaptation to unfamiliar social situations, and c) observations of mother-infant-caregiver interactions.

1. The problem of adaptation to daily separations

It is interesting to note that there is so little empirical, systematic observational data dealing with the infant's (and mother's) initial adaptation to the daily separations involved in leaving an infant at a day care center or family day care home, as a function of the child's age. Our own experience in infant day care at Cornell, which is shared by a number of colleagues elsewhere, suggests that the initial experience of being left by mother with strangers at a day

care center may indeed be a somewhat difficult experience for some infants, particularly if they enter day care for the first time at around 8 months or a little later, when negative reactions to maternal separation and being left with strangers tend to be heightened. It is also clear that some mothers do not find it easy to leave their infants at a day care center, and may thus make the infant's adaptation to the separation experience more difficult. Whether children who show the greatest initial difficulties in adapting to the repeated separation of day care attendance are more likely to show atypical relationships with their mothers later on is an unanswered question at this time.

One of the first systematic descriptive studies of infants' reactions to being left at a day care center was carried out in 1972-73 at the Cornell Infant Nursery (Willis and Ricciuti, 1974). This was a longitudinal study of 10 infants entering day care between 2 and 6 months of age on a 5-day-a-week basis, (some full time, some half time). Their separation reactions were systematically observed twice weekly over a period of nine months, when the parent left the infant with the familiar caregiver at the entry hall to the nursery. Under these circumstances of early entry into a program with stable, familiar caregivers, we found distress reactions occurring very infrequently indeed, and mostly after nine months of age.

In an earlier experimental study of 10 infants entering the Cornell nursery between 2 and 3½ months of age and attending 5 half-days per week (Ricciuti and Poresky, 1973; Ricciuti, 1974) we made longitudinal comparisons, over the period from 4 to 12 months of age, of infants' emotional reactions to being left alone by mother in a small playroom either with the infant's familiar caregiver, or with a stranger. The results indicated quite clearly that when the infants were left alone with their regular caregivers they showed essentially no distress until the 12 month period, when some moderate distress reactions occurred in a few children. However, these reactions were substantially less negative than the distress reactions observed when the infants were left by mother with a stranger, which began to appear at 7 and 8 months of age, and became increasingly pronounced

by 12 months. These findings clearly suggest that the presence of a familiar, stable caregiver can facilitate the infant's daily transitions from home to day care center by minimizing the separation distress typically associated with being left with different strangers, particularly toward the end of the first year of life.

The study just discussed also provides some further evidence concerning the importance of the familiar caregiver as an alternate attachment figure for the infant in extended day care. With increasing age, the study infants showed the same pattern of increasing distress when the familiar caregiver left them with a stranger, as when mother did so. Also, the caregivers played a significant role in reducing the infant's distress, or increasing his positive affect, after the mother had left the infant with a stranger.

The results of the foregoing studies clearly support the view that it is important to provide stable, consistent caregivers with whom infants in day care can readily become familiar and affectionate, and who are available as alternate attachment figures. (In practical terms this policy is often difficult to implement if a center has a high staff turnover rate, or must depend heavily on rotating volunteer staff.) On the other hand, if one provides stable, affectionate, caregivers for infants in day care, are they likely to develop an inappropriately strong relationship with the caregiver, so that from the point of view of both the infant and the mother the caregiver comes to be perceived as in some sense competitive with the mother? This particular issue is one on which there is very little direct empirical data, and yet it is of considerable concern to many parents, to day care providers (e.g. Willis and Ricciuti, 1975), and to those concerned with day care policy. Some indirect evidence bearing on this question will be referred to later in the review.

2. Studies based on reactions to brief maternal separation

We turn next to recent empirical research dealing with the

effects of infant day care experience on infant-mother attachment. These studies have typically taken the form of comparing infants or toddlers enrolled in day care with comparable groups of home reared infants on a variety of attachment behaviors, with heavy emphasis on the infant's responses to brief maternal separation. Generally speaking, the majority of these investigations suggest that infants with and without day care experience show quite similar patterns of maternal attachment behavior. However, systematic studies of this problem, which is a difficult one to investigate, are still rather few in number. For the most part they deal with very small samples of children entering day care at varying ages, and they employ varying techniques for assessing the attachment behavior of mothers and infants. In short, there are so many technical limitations and interpretive ambiguities characterizing research in this area, as mentioned earlier in this review, that evaluation of the findings in terms of confident generalizations concerning the broad question of day care effects on mother-infant relationships is quite a difficult matter.

One of the main problems is the difficulty of systematic conceptualization and assessment of salient aspects of the affectional relationship between infant or toddler and its parents. Many of the studies have relied primarily on observations of children's reactions to being left by mother with a stranger in an experimental situation, following the procedure developed by Ainsworth for one-year-olds (Ainsworth and Bell, 1970) or some variant of this approach. Ainsworth's "strange situation" involves seven sequential episodes, lasting approximately 22 minutes over-all, during which the mother leaves the child twice -- first alone with the stranger, and then with no one in the room. The child's behavior is observed throughout, with particular emphasis on the periods when the mother is out of the room, and during the "reunions" upon her return. Observations focus on such "attachment behaviors" as crying or portest, efforts to maintain proximity and contact with the mother, as well as resistance to or avoidance of

mother. Ainsworth has suggested that rather than attempting to assess the strength of the infant's attachment to mother, these observations can fruitfully be employed to identify individual differences in the quality of the attachment relationship. Infants could thus be identified as showing either normal or "harmonious attachment" (indicated by active proximity seeking and contact maintenance), "defensive detachment" (shown by an absence of the above along with some avoidance of maternal contact) or "anxious/ambivalent attachment" (indicated by the presence of conflicting approach and avoidance or resistant behaviors).

The categories just mentioned are based upon reactions shown by infants and toddlers to rather extreme long term or repeated separations. Whether these same characteristics can be employed to infer variations in the attachment relationships of children with more normal experience is still a questionable matter. Recent research has suggested that young children's responses to maternal separation are to a large extent situationally determined, depending on the particular context of the situation as perceived by the child, and vary substantially with maturation level (Kagan, 1974; Ricciuti, 1974). Thus, whether the child's reactions to separation in a particular experimental situation can be assumed to be predictive of his adaptation to more normal separation experiences, or of the quality of his general attachment relationships to mother, is still an open question. Studies which rely exclusively on such measures, therefore, without other supplementary assessments of infant-mother attachment, provide very limited and often ambiguous data.

One of the first investigations of the possible impact of infant day care experience on mother-child attachment was conducted by Caldwell, et al. (1970) who reported no evidence of adverse effects. Eighteen 30-month-old children who had entered the Syracuse Children's Center sometime between 6 and 15 months of age were compared with 23 control children without extended day care experience on a number of child-mother and mother-child attachment behaviors which were rated

from a single combined interview and observation session. The two groups were found to be essentially equivalent on such variables as affiliation, nurturance, hostility, happiness, and emotionality, and the authors concluded that mother-child attachment relationships had not been unfavorably influenced by extended participation in their day care program.

Several years later, however, Blehar (1974) reported what she regarded as qualitative disturbances in the mother-child relationships of 20 two and three-year-old children who had been in day care for about five months, as a consequence of the "disruptive effects of frequent daily separations." Relying entirely on the previously described "strange situation" of Ainsworth, Blehar reported that the day care children were more distressed than controls when mother left the room, particularly in the case of the older children, who showed a mixture of proximity or contact seeking as well as resistance and avoidance, a pattern considered indicative of "anxious, ambivalent" attachment. The younger children were characterized as having a "detached" relationship, on the basis of their avoidance of mother and reduced proximity seeking.

The successive emergence of these two early studies, leading to opposite conclusions concerning the possibility of adverse consequences of day care experience, provides a good illustration of some of the previously mentioned technical and interpretive difficulties which continue to confront investigators working in this area and which make the deriving of general conclusions a tentative matter at best. The two studies involved very small samples of children, who had first entered day care at very different ages, and who were enrolled in a special demonstration and research center in one instance, but in four different private day care centers in the other. Both studies had difficulty achieving equivalence of day care and home care families, since there was no possibility of random assignment to groups, and it is obviously possible that families who choose to enroll their children in day care may differ from those who do not, particularly with regard to patterns of maternal

attachment existing prior to entry of the children into day care. Finally, the assessment of attachment in the two studies was carried out with completely different procedures of uncertain validity as indices of general characteristics of the attachment relationships between mother and child. In the case of the assessments based on strange situation behavior, there is also the concern that some of the responses considered indicative of disturbances in the mother-child relationship may well be indicative of normal autonomy and independence striving in the older children (Ricciuti, 1974; Schwartz, 1976).

Since the report of Blehar's study, a number of additional investigations of infant/toddler day care and maternal attachment have appeared, based on observations of children in Ainsworth's strange situation or in briefer separation situations. For the most part, these studies report little or no differences in observed attachment behaviors between day care and home reared children. Moskowitz and Schwarz (1976) for example, in a partial replication of the Blehar research, compared the strange situation behavior of 12 home reared children at 42 months of age with that of 12 children who had been in one of two day care centers for five months. In contrast with Blehar's results, these investigators found that the home care children were significantly more distressed than the day care children when mother left them alone for the second time, and they found no evidence of the anxious-ambivalent attachment reported by Blehar for her 40-month-old subjects. The differences between these two studies are difficult to explain, and are particularly interesting in view of the systematic procedures employed in the more recent investigation to minimize potential experimenter bias effects.

Two other studies employed Ainsworth's procedure in comparing the behavior of day care and home reared children. Brookhart and Hock (1976) made their observations both in a laboratory setting as well as in the child's home, and found essentially no differences in the maternal attachment behaviors of 15 eleven-month-old infants

who had been in day care for two months (at least on a half-time basis) and a comparable group of 18 home reared infants. Similarly, Doyle (1975) found no differences between a sample of 12 infants from 5 to 30 months of age who had been in a day care center for seven months on the average, and a comparable home reared group. In a subsequent analysis (Doyle and Somers, 1975), it was possible to compare 11 children who had been in center care for 12 months on the average and were now 23 months old, 9 children cared for outside the home by baby-sitters or grandparents for an average of 10 months, and 13 home reared children. The major difference was that the home children cried more and played less than either of the substitute care groups when the mother left them alone the second time. This finding was regarded as reflecting the fact that home reared children had less experience with brief separations from mother and hence were more sensitive to the experimental separation. (The wide variability in age and in duration of time in day care within such small samples make the data of these last two studies quite difficult to evaluate.)

Several recent studies which observed infants' and toddlers' reactions to single, brief maternal separations, also report no consistent differences between day care and home reared children (Cochran, 1976; Kagan, et al., 1975).

3. Studies based on reactions to unfamiliar social situations

The studies summarized thus far have focused on the question of how infants with different rearing experiences cope with maternal separation. A number of inveatigations have compared day care and home reared children's reactions to unfamiliar social situations involving strange adults and/or children. These studies too have generally revealed rather few differences, which for the most part tend to suggest that early day care experience may facilitate the child's adaptation to new social situations.

A preliminary study by Ricciuti (1974) illustrates some of the interpretive difficulties raised by the previously mentioned problem

of variations in infants' responses as a function of the particular context or setting in which observations are made. Nine infants 12½ months old who had entered a day care center on a full- or half-time basis between 2 and 6 months of age, were compared with home reared controls in their reactions to the approach of a female stranger in an unfamiliar playroom. Neither group showed any tendency to respond negatively to the stranger's approach while the mother was present. After mother had left the room, however, both groups tended to react negatively to the stranger, with the day care children showing considerably more negative responses than did the home care group (although not significantly so). In addition, more of the day care infants (6/9) than home children (3/9) were sufficiently distressed during the separation episode to require mother's return after 4 or 5 minutes, rather than the 10 minutes planned. Rather than interpreting the apparently greater distress of the day care children as evidence of a less secure or disturbed maternal attachment, Ricciuti suggested that the experimental situation may have been intrinsically more distressing for the day care than home children, since it was more incongruent or dissonant with their expectations of being brought to the day care center and left by their mothers with their familiar caregiver as usual, rather than with a stranger.

This view was considered compatible with the rather different results obtained when these same day care and home reared children were observed in a more natural social situation involving a brief visit to a playroom containing several pre-school children and their teacher. Under these circumstances, the day care children showed a much greater readiness to move away from mother and approach other children, and they maintained a greater distance from mother when she moved temporarily out of sight into an adjoining space. These findings, and similar results obtained with an earlier sample, suggest that prior experience in group day care may facilitate the initial approach of young toddlers to a new social situation involving other children and an unfamiliar adult, even if at the "expense" of

briefly leaving mother.

Similar results supporting this view come from the recent work of Kagan, et al. (1976), indicating that when 29 month old children enrolled in day care since 4½ months of age visited an unfamiliar day care center with their mothers, these children were somewhat more ready to play with toys and thus seemed less apprehensive than home reared children observed in the same situation. Moreover, at 20 months of age, these day care children were considerably less apprehensive than home children after an unfamiliar child and his mother entered a playroom where the target child and his mother had been for 21 minutes. During the following 21 minute "peer play" sessions, day care children did not show as marked an increase in time spent close to mother, or as large a reduction in playing time as did the home children. (Similar but non-significant differential trends were found at 29 months of age.)

The possibility that prior infant day care experience may facilitate children's entry into a new pre-school program at 46 months of age is suggested in the work of Schwartz, et al. (1973). In comparison with children without prior day care experience, the infant day care group were somewhat happier, less tense, and more interested in other children during the first day at pre-school, and during observations made in the fifth week of attendance. It should be mentioned, however, that the 20 infant day care children entered the pre-school as a group and hence were acquainted with half the children attending, while those entering for the first time had essentially no familiar peers present.

4. Studies based on mother-infant-caregiver interactions

Several investigators have examined the influence of infant day care experience on various attachment behaviors shown by children in structured social situations involving mother, child, the child's caregiver or teacher, and a stranger. Kagan et al. (1975) for example, asked whether infant day care experience altered 20 month old children's tendency to seek their mother when bored (by having

very few toys to play with in a 45 minute play session) or mildly apprehensive (by seeing three adults in the play room suddenly changing their seats at two points in the session). Although the children generally spent little time in close proximity to any of the three adults in the room, both home care and day care children spent substantially more time near mother than near the stranger or familiar adult (caregiver or family friend). However, this tendency was somewhat more marked for the day care group (who spent about 5 minutes out of 45, on the average, close to mother) than for home children (3½ minutes out of 45). These rearing group differences were particularly apparent in the Chinese children, who seemed more apprehensive in the situation than the Caucasian children and tended to stay closer to their mothers. Kagan, et al. concluded that the contrasting home backgrounds of the children in the two ethnic groups was a more important determinant of their reactions in the experimental situation than the day care versus home rearing contrast. The somewhat greater tendency of the day care children to maintain close proximity to mother, especially in the first 15 minutes, is attributed to the situation being more discrepant or unexpected for these children, who were accustomed to meeting their caregivers in the nursery rather than in the strange room and strange location to which they had been taken.

Ramey and Farran (1976) also observed the attachment behaviors of 23 day care children in a 14 minute session with their mothers, their day care teacher, and a male stranger. The children ranged from 9 to 31 months of age (average 19 months) and all had entered full time day care by 3 months of age. Since the children showed more attachment behaviors directed toward their mothers than either their teachers or the stranger (e.g., more time near mother, offering her toys, asking her for help in securing a cookie, etc.), the authors concluded that the day care experience had not weakened the normal emotional bond between child and mother. While these children were not compared with home reared controls, their behavior in the experimental situation did relate to several aspects of their home environment. Children whose mothers were rated higher on "maternal involvement with child"

on the basis of a 6 month home visit, tended to spend less time near mother and more time in exploration (e.g., visiting the teacher's side of the room). This relationship provides a useful reminder that variations in observed attachment behaviors may be very much related to aspects of the child's home environment and experiences rather than to the day care experience as such (as suggested also in the work of Kagan, et al., 1975, and in a recent report by Hock, 1976). Moreover, the impact of the day care experience may vary substantially depending on the nature of the existing relationship between mother and child.

A related set of observations came from the previously mentioned study by Ramey and Mills (1976) comparing fifteen 3½ to 9 month old high risk infants entering a day care intervention program before 3 months of age, and a comparable high risk, home reared group. Detailed observations of mother-infant interaction in a 25 minute unstructured playroom session revealed very few significant differences among the two high risk groups and a home reared sample from the general population (3 of 15 infant or maternal variables; 4 of 56 jointly occurring mother-child variables). The differences that were found indicated that in contrast with high risk controls, the day care infants vocalized more and showed more frequent interactive behaviors with their mothers (especially involving joint vocalization). On the basis of these findings, the authors concluded that early day care experience had had no adverse influence on the development of normal mother-infant relationships, and if anything, this experience may have had a positive impact on these relationships, in part perhaps, by making the infants more responsive to adults.

5. Summary: Effects on attachment and mother-child relationships

a) On the basis of the research data available thus far there appears to be essentially no evidence to support the view that extended day care experience beginning in the first two years of life has a disruptive influence on the affectional relationships between infant and mother. In fact, there is some data suggesting that under

favorable circumstances such experience may make it so what easier for children to adapt comfortably to unfamiliar social situations requiring a willingness to tolerate some distancing from mother.

b) While these findings might tempt one to conclude that the expressed concerns about unfavorable effects of infant day care on early mother-child relationships have been greatly exaggerated, and that they are essentially unwarranted, such a reassuring general conclusion cannot yet be accepted without serious reservations because of the limited scope of the research dealing with this broad question at this point in time.

c) Systematic studies dealing with effects of infant day care on mother-child relationships are still very few in number and are based on very small samples (mostly between 10 and 20 day care children), usually with children varying widely in length of time in day care, as well as in age of initial entry. Moreover, the strategies and procedures for assessing salient aspects of the mother-child relationship potentially affected by the infant's enrollment in day care have been quite limited in breadth as well as depth. Little effort has been made to obtain fuller assessments of this important relationship, viewed from the perspective of both the infant and the mother, including her subjective feelings and perceptions, both negative and positive, as well as her possible ambivalences and conflicts. At the same time, most studies have focused on short term effects, usually after the children have been in day care for a relatively brief time (mostly under a year, in some instances as little as 2 months).

d) Many of the studies (at least half) have dealt with children enrolled in "model" centers intended to demonstrate high quality infant day care, and all the studies reviewed were characterized by very favorable caregiver/child ratios (1 to 4 or better). Under conditions less favorable for the maintenance of

high quality care, and where the day care program has no provisions for supporting and strengthening the early affectional relationships between mother and infant, it is certainly conceivable that these relationships might be affected adversely by extended infant day care experience, at least temporarily. This is a matter that clearly needs to be considered by those providing day care for infants and toddlers.

e) Finally, there are a number of very important unresolved questions in this general area which can only be answered with confidence through additional research. (1) Does it really matter, for example, whether infants enter day care before a focused attachment relationship with the mother has begun to develop (around 7 or 8 months), or after that relationship has been well-established (around 12 to 15 months). (2) When children begin day care as early as the first few months of life as well as at various later ages, what are the specific conditions of care and parental involvement most likely to minimize potentially disruptive effects on mother-child relationships, and to enhance the development of normal patterns of affection and attachment between child and parents? (3) To what extent do characteristics of the infant's home environment and the quality of the mother-child relationship prior to the child's entry into day care determine what the particular effects of day care experience will be?

C. Effects on social relationships with peers and adults

Another aspect of social development which has been of some interest with regard to possible day care effects is the question of the child's social interactions with peers and with significant adults other than the parents. More specifically, one of the speculative questions which has been raised is the matter of whether extended group care experience early in life may make children more aggressive and uncooperative in peer relationships

and less amenable to adult socialization influences. Research evidence bearing on this question with regard to infant/toddler care is extremely limited, and based at this point primarily on several recent follow-up studies of children previously enrolled in the infant/toddler program at the Syracuse Children's Center.[6] In the Syracuse research, Schwarz et al. (1974) found that 19 four-year-old children with considerable prior experience in an infant/toddler program were rated by teachers as more active, less cooperative with adults, and more aggressive with both peers and adults four and eight months after entering a new day care center, as compared with children who entered this center without prior day care experience. The groups did not differ in ability to get along with peers, spontaneity, or intellectual competence.

In a recent review, Schwarz (1975) considers these findings along with results of several other follow-up studies of the social behavior of older children with various types of substitute care experience beginning after the age of two years. He concludes that taken as a whole, these studies suggest that extensive day care experience in the pre-school years may lead to higher levels of self-assertiveness and independence (especially in boys), along with somewhat less cooperative and less positive interactions with adults, whose approval may be less salient for these children. Reviewing essentially the same studies, Bronfenbrenner (1975) recently interpreted the evidence as suggesting the possibility that group day care may increase aggressive, impulsive and egocentric tendencies in children, along the general lines which appear to characterize socialization in age-segregated peer groups in the United States.

It should be emphasized that these generalizations concerning possible day care effects must be regarded as highly tentative, as both reviewers point out, and are based on very limited data, particularly insofar as infant/toddler day care is concerned. With

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6 These studies, and several related investigations dealing with children entering various substitute care arrangements at older ages, have been summarized in recent reviews by Schwarz (1975) and Bronfenbrenner (1975).

regard to studies of children entering substitute care after the age of two years, for example, one has to recognize the wide variations in types and quality of substitute care arrangements involved, and the difficulty of connecting these variations to particular effects on the children. Also, as Schwarz points out, it seems probable that those children in the least favorable, least stable substitute care settings may well have come from particularly stressful, adverse home environments, so that as emphasized earlier in this paper, it is extremely difficult to separate the effects of the day care experience as such from that of highly salient home influences.

Another problem which arises here is the question of the extent to which the reported social behaviors of children with extensive day care experience are situation-specific -- i.e., as observed in the day care or pre-school setting itself -- and to what extent they are characteristic of the child's typical social interactions with peers and adults in a variety of everyday situations. For example, in the Syracuse studies of four year olds with prior infant/toddler day care experience, their greater activity and aggressiveness and their decreased cooperativeness with adults may have reflected their greater sense of independence and mastery in an environment with which they had had extensive prior experience. Perhaps adult bids for cooperativeness in this setting were more appropriately geared to the expectations and orientation of the children without extensive prior day care experience. In short, in the absence of information concerning the generalizability of these behaviors outside the daycare setting, it is difficult to know whether they should be regarded as in some sense "undesirable" (as some might infer) or rather as reasonably adaptive to the situation, given the children's prior experience.

There appears to be little or no additional systematic data available comparing children with and without infant/toddler day care experience in terms of their ongoing social relationships with peers and adults. Several recent studies have reported ratings of infants' or toddlers' social behavior in the day care setting, but

no comparisons of these children with home reared controls were made (Fowler, 1975; Largman, 1975; MacRae and Johnson, 1976).

Summary: Effects on relationships with peers and adults

a) The general issue of potentially unfavorable effects of extended early day care experience upon children's subsequent peer relationships and responsiveness to adult socialization influences remains an important but open question at this time, in view of the very limited research evidence available.

b) Nevertheless, on the basis of theoretical considerations as well as suggestive trends revealed in some studies with older children, we need to remain alert to the possibility of such unfavorable influences arising under circumstances of infant/toddler day care in which children have little or no opportunity for developing meaningful, ongoing relationships with familiar adult caregivers who play a significant role in the guidance of their everyday behavior in the day care setting. Such unfavorable day care circumstances could be rendered even more disadvantageous if at the same time the parents' role in the rearing and socialization of the child happened to be a minimally salient one.

IV. INTERPRETIVE SUMMARY AND IMPLICATIONS FOR INFANT DAY CARE GUIDELINES AND POLICIES

The sections which follow will first present a brief overview of major research findings and some of their implications for the problem of articulating appropriate guidelines and policies for infant day care. Some of the principal factors which appear to play a significant role in determining what effects infant day care may have will then be discussed in terms of relevant research evidence, as well as suggested guidelines aimed at increasing the likelihood of positive effects and minimizing the possibility of negative consequences of infant day care experience.

A. Overview of major research evidence on effects of infant day care

1. With regard to the possibility of adverse effects, there appears to be little or no persuasive empirical research evidence thus far indicating that infant day care experience is likely to have unfavorable developmental consequences. This is a valid generalization whether one considers the child's intellectual development, affectional relationships between child and mother, or subsequent peer relationships and responsiveness to adult socialization influences.

On the other hand, before arriving too hastily at the comforting general conclusion that extended day care experience during the first year or two of life poses no problems with regard to infant development or parent/child relationships, two important facts must be considered. First, the available research bearing on this general issue is still quite limited in both quantity and depth. Secondly, it must be emphasized that the research thus far is based for the most part on children in day care facilities set up to demonstrate high quality infant care, or otherwise characterized as favorable day care environments. There is little or no research on the development of children enrolled in the broad range of day

care settings typically available in a variety of communities, including those with very limited resources or support for infant day care. We need to be alert to the possibility, therefore, that under some circumstances the conditions of care may be sufficiently unfavorable that extended experience in such settings could have adverse effects, at least temporarily, on the child's development and/or on parent-child relationships. The familiar and recurring problem that we confront here, of course, is that of defining "quality of care" more specifically, and devising policies and mechanisms for ensuring that conditions of day care are unlikely to be so unfavorable that there is a significant possibility of adverse outcomes.

2. What about the facilitative effects of infant/toddler day care experience? With regard to intellectual development, it does not appear that infant day care experience can readily enhance the development of intellectual competencies in children whose home environments are already supportive of normal development. On the other hand, in the case of children from substantially less favorable home environments, or those judged to be at some developmental risk, it appears that cognitively structured programs with high caregiver-child ratios may hold some promise of preventing the decline in intellectual functioning often observed in children from these groups. Even in such instances, however, it is not yet clear whether the infant day care experience can produce enduring developmental gains in the absence of continuing enhancement of the child's subsequent developmental experiences in pre-school or home environments.

Moreover, we need to find better ways of evaluating the degree to which even substantial IQ gains represent genuine increases in intellectual and learning competencies which make a difference in the child's real world. Finally, when some evidence of positive effects is found, it is still very difficult to determine what specific aspects of the day care experience or "program" were primarily responsible for these effects. Once again then,

we are faced with the need for more specific delineation of salient features of the day care environment and the child's experience in it which should be "optimized," if we are to increase the likelihood of infant day care experience having facilitative effects on development.

As mentioned earlier, the search for positive outcomes of infant day care has tended to focus primarily on childrens' DQ or IQ test scores. There may well be other positive effects of enrollment in high quality day care which occur either in the child, in his family, or in the family's functioning as part of the larger community; however, there has been very little in the way of focused effort directed at the assessment of such outcomes. In the case of infant social development, for example, most studies have tended to focus on the question of possible negative effects. While there is some limited data to suggest that early day care experience may facilitate the infant or toddler's adaptation to unfamiliar social situations, there may well be other and more substantial positive social consequences of pleasurable group experience in a high quality infant/toddler day care environment that might be identified if our research were more directly concerned with exploring this possibility. Similarly, for the many families which require a suitable day care placement for their infant or toddler, enrollment in a high quality setting, whether in family day care or in a day care center, may have a very significant positive impact on the family's general capacity to function adaptively. Such benefits for the family as a whole are most likely to result where there is a close, mutually supportive relationship between the day care staff and the child's parents.

3. The role played by the child's home environment requires careful consideration in any analysis of the potential impact of infant/toddler day care on children and families. From a methodological point of view, it is often difficult to attribute reported differences between day care and home reared children exclusively

to the impact of the day care experience as such, since it is not clear that the groups were really equivalent in terms of salient features of the home environment and ongoing parent-child relationships. From a more substantive perspective, it is important to recall the reporting of several findings suggesting that at least under favorable circumstances of substitute care, variations in children's home environments may have a more potent influence on infant-toddler behavior and development than whether the child was primarily home reared or spent considerable time in day care. In short, day care/home care contrasts may well be less salient determinants of children's development than prior or existing variations in home and family environments.

A final, and perhaps most important point to reiterate here is that both short-term and long-term consequences of extended day care experience in the first two years of life are likely to depend very much on the nature of the ongoing relationships between the day care providers and the child's family, particularly the parents. Parents and day care providers should see themselves as needing to work together in a mutually supportive and complementary manner in the best interest of the child. Moreover, a high quality day care program can serve a very important function in supporting and strengthening the role of the parents as the child's primary caregivers. Under such circumstances, the likelihood of positive consequences of enrollment in early day care for both child and family should be substantially increased, and the possibility of negative effects greatly reduced.

B. Factors influencing outcomes of infant day care: Proposed guidelines and recommendations

Having summarized briefly some of the principal research findings on the effects of infant/toddler day care, along with some of their day care policy implications, we now turn more directly to the general problem of articulating specific guidelines and policies intended to ensure that infant day care experience will be

supportive and facilitative of early child development and parent-child relationships, rather than detrimental. We approach this problem by considering various conditions and circumstances of early day care which appear to make a difference insofar as effects on children and families are concerned, and suggesting ways in which these conditions of infant day care might be optimized.

Unfortunately, as indicated earlier, systematic empirical research concerned directly with the effects of variations in important characteristics of infant/toddler care (e.g., caregiver/child ratios, group size, specific content of "curriculum," etc.) is extremely limited. While there are substantial variations in such features of infant day care across studies reported in the literature, these are primarily fortuitous, often poorly specified, variations which provide a very inadequate basis for arriving at empirically derived generalizations and conclusions concerning the impact of particular features of infant day care environments on children. Consequently, in the sections which follow, various proposed guidelines and recommendations depend only partially on available research, but are based also on theoretical considerations and on the wisdom and judgment of people having substantial experience with the problems of providing high quality day care for infants and toddlers.

1. The general issue of "quality of care"

Most of the important circumstances and conditions of infant day care which are likely to make a difference with regard to developmental outcomes (previously outlined on pp. 6-7) fall under the general rubric of "quality of care," a crucial but still elusive concept which remains very difficult to define and assess objectively. Generally speaking, quality of care refers to a constellation of desirable characteristics of the day care environment and the infant's daily experience in that environment, which are considered to be facilitative of the child's intellectual, social, and emotional development, and supportive of normal

relationships between infant and family. Going beyond this general statement to define explicit ingredients of quality care becomes a more difficult task, especially if one wishes to do more than identify minimal requirements necessary to ensure adequate safety and physical care.

In the course of developing a manual of guidelines for group care of infants and toddlers recently at Cornell, Willis and the present reviewer (Willis and Ricciuti, 1975) took the position that the best starting point in defining quality day care is that the day care setting should approximate what most people would consider a good, natural home environment. Moreover, its goals with respect to the child's growth and development should be the same goals that most parents want for their very young children. Thus, the day care setting should represent an environment that not only provides for the infant's basic physical needs in terms of health, safety, and routine caregiving, but also ensures that he is cared for by familiar, responsive, and affectionate caregivers who a) foster through their interactions with the infant an early sense of basic trust and confidence in salient, caring adults, b) frequently create mutually enjoyable opportunities for learning through play and social interactions in the natural context of daily caregiving, and c) are sensitive in dealing with the individual needs and characteristics of particular babies, especially with regard to the relief of distress and the need to avoid excessive stimulation.

In addition, the infant/toddler day care setting should be one in which there is recognition of the value of guided, pleasurable social interactions between older infants (or toddlers), and in which familiar adult caregivers play a significant role in helping these older infants gradually to begin learning the earliest rudiments of self-control. Finally, there should be a close, mutually supportive relationship between the day care setting and the children's families, in the interest of enhancing the consistency of care between the two settings, while at the same

time providing support for parental roles and encouragement of optimal parent-child relationships.

This brief conceptualization of one view of what constitutes high quality infant day care obviously represents a complex of various features of the infant's daily experience, many of them highly qualitative in nature, and therefore difficult to specify and measure objectively. A few efforts have been made to describe developmentally salient features of early day care environments in systematic, quantitative terms (Prescott, 1973; Johnson and Ricciuti, 1974; Bingham, 1976), but there is urgent need for additional concentrated efforts along these lines, particularly in regard to infant day care. Such efforts are important both to make characteristics of quality day care more explicit for day care providers, as well as to facilitate the gradual development of appropriate procedures for periodic monitoring of the quality of care in various day care settings.

2. Specific features of day care environments and quality of care

In the absence of reliable procedures for objectively specifying and evaluating "quality of care" in the broad sense in which it has been discussed thus far, agencies responsible for ensuring adequate day care environments for young children have been developing standards in regard to a variety of specific features of day care environments and programs with the intent of minimizing the possibility of harmful effects on children, while at the same time enhancing the likelihood of developmentally facilitative effects. Let us now consider some of the more important of these specific characteristics of infant day care environments from the point of view of suggested guidelines or recommendations likely to optimize their potential impact on the quality of care.

It should be mentioned at the outset that many of the day care requirements incorporated in various state and federal standards are clearly very important in terms of ensuring minimal standards for health, safety, and physical care. Little more will be said

about these except to make the familiar observation that simply meeting these standards does not in itself ensure quality of care of infants, nor rule out the possibility of unfavorable effects on development if the infant's social experience is severely lacking in those characteristics previously defined as constituting high quality care.

a) Caregiver/child ratio[7]

This is an important characteristic of day care environments which has been given a great deal of consideration (e.g. see Fowler's recent review, 1975) and required adult/child ratios are typically specified in day care standards. Here, too, the point needs to be made that while it is important to avoid extremely unfavorable ratios (e.g. as low as 1/8 or 1/10 for infants or toddlers), meeting the most favorable ratios of 1/1 or 1/2 does not necessarily ensure high quality care. Basically, ratios should be high enough to facilitate the kinds of interactions between caregivers and infants previously outlined in the general definition of high quality care. Ratios of about 1/3 or 1/4 have been found to be quite reasonable for infants in the first and second year of life, and such ratios have characterized most of the studies reviewed which reported no evidence of adverse effects on children's development.

Generally speaking, day care requirements need to be realistic in the sense of being reasonably attainable by most concerned day care providers, rather than rigid and largely unattainable, especially if meeting a particular requirement does not by itself ensure high quality care or prevent possible adverse effects. In the case of caregiver/child ratios, for example, it would be very unreasonable to require ratios as high as 1/1 or 1/2 for infants, as some have suggested, since the effect would likely be either to seriously curtail available day care for infants and toddlers, or to press some day care providers into meeting the requirement by relying

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[7] For further discussion of this and remaining features of day care environments covered in this section, see Willis & Ricciuti, 1975.

heavily on part-time volunteers or poorly paid aides with high turnover rates, thus significantly reducing the continuity and stability in caregiving staff, and seriously jeopardizing the quality of care provided.

Proposed guidelines (primarily center care)

Requirement:

	Ratio
Under 2 months	1/2
2 - 12 months	1/3
13 - 24 months	1/4
25 - 36 months	1/5

b) Stability and continuity of caregivers

As already mentioned at several points, one of the most important features of a good infant day care environment is that the infant be cared for regularly by a very small number of different caregivers over extended periods of time. Only in this way can the infant develop the kind of relationship of trust and affection with the familiar caregiver in the day care setting which is so necessary if the various criteria of high quality care previously described are to be attained. At the same time, having primary responsibility for 3 or 4 infants over an extended period of time fosters meaningful relationships between the caregiver and several infants whom she gets to know especially well, thus helping her to be sensitive and responsive to the individual needs of particular infants, and to discuss these meaningfully with each child's parents.

Proposed guidelines

Recommendation: Day care centers should strive for maximum stability and continuity in caregiving assignments, so that each infant is cared for primarily by one or two familiar caregivers over extended periods of time. Use of volunteers as aides should be arranged so as to

avoid seriously jeopardizing stability and continuity of care. Frequent rotation of staff and infants in their care should be avoided.

c) Staff qualifications, training, and morale

If there is any single factor which might carry overriding weight in influencing the quality of infant day care, it is the quality and dedication of the staff at all levels, but particularly the caregivers. Sensitive and competent caregiving is not guaranteed by formal academic qualifications, so that these should not be over-emphasized in evolving day care regulations. Many programs have been able to train highly competent caregivers with relatively limited formal education (high school graduation or less). As supervisory responsibilities increase, of course, additional formal training in child development and early education becomes more important. However, this reviewer is not prepared at this point to specify particular levels of training that should be required for different levels of responsibility.

Finally, strategies for maintaining the continuing morale and dedication of caregiving staff are particularly crucial, along with meaningful staff supervision, if the quality of care provided by even a highly competent staff is to be maintained. Included in such strategies would be varied forms of systematic and continuing in-service training, and opportunities for assumption of increasing responsibilities.

d) The question of "curriculum"

As indicated in the previous discussion of the general concept of "quality of care," the approach we have followed at Cornell stresses the importance of the many opportunities for significant learning experiences -- cognitive, social, and emotional -- which occur naturally in the course of the infant or toddler's play and ordinary interactions with peers and caregivers,

which perceptive caregivers can facilitate and capitalize on. In our view, the infant day care "curriculum" is best conceptualized as a set of well-understood guiding principles of quality care which the caregiver employs naturally in her everyday interactions with the infants in her care. Within this context, the caregiver may also utilize her full knowledge of various play activities or experiences which she can provide at appropriate points in her natural interactions with particular infants.

It is our belief that the approach just described is preferable to one in which a formal "curriculum" of prescribed learning activities or exercises must be offered for a given number of minutes a day to each infant. The latter strategy is susceptible to an undesirable degree of formalization which from the point of view of the caregiver, tends to emphasize the need to complete certain lists of activities, rather than the need to incorporate learning experiences into natural situations when they are most likely to be meaningful for the infant.

e) Relationship between day care setting and families served

The importance of a close and mutually supportive ongoing relationship between the day care providers and the child's family, particularly the parents, has been stressed at various points in this review. By encouraging parental involvement and participation in enhancing the infant's day care experience, the child's initial transition and continuing adaptation to the day care environment should be greatly facilitated. In the context of this relationship, regular communication between parents and staff should help ensure reasonable consistency between day care and home care practices. Finally, the day care facility should serve the very important function of supporting and strengthening the role of the parents as the infant's primary caregivers, thus furthering the development of normal affectional and attachment relationships between child and parents. These approaches should greatly reduce the possibility of possible adverse effects of

early day care experience on the infant or toddler's social relationships, especially with his family, and substantially increase the likelihood that this experience will be a positive one.

Proposed guidelines

Requirement: Day care facilities providing services to infants and toddlers (whether centers or family day care homes) should develop appropriate strategies and mechanisms for building continuing, mutually supportive relationships with families of the children served, in the interest of promoting and supporting the parents' role as primary caregivers for their children.

f) Variations in infant day care settings

As indicated earlier, there is essentially no systematic empirical data available thus far on comparative effects of infant/toddler day care as a function of the particular settings involved (e.g., centers, family day care homes, group homes, etc.). Such comparisons would tend to be relatively uninterpretable, however, in the absence of specific information concerning the functional environments characterizing the particular settings compared. The main point to be made here is that generally speaking, quality of care is not determined automatically by the type of setting in which care is provided, but varies widely independently of settings.[3]

For some years there has been a rather widely held view, for example, that children under the age of three should be cared for in family day care homes rather than in day care centers. Experience in recent years however, has shown pretty clearly that it is possible to provide high quality care for infants in appropriately organized and operated centers, as well as in family day care homes. Our view has been that both forms of care should be seen as

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[3] A current thesis investigation by Bingham (1976) for example, suggests that caregiver-infant interactions vary as widely among family day care and center settings as between the two types of settings.

appropriate alternatives, each with its peculiar strengths, which broaden the range of options available to families needing infant/toddler care.

c) Over-all "quality of care" (revisited)

We return once again, finally, to the general concept of quality of care, as reflected in the ongoing daily experiences of the infant or toddler in day care. The various specific conditions and circumstances of day care discussed in the preceding paragraphs are considered important by most workers because they presumably have a significant impact, for better or worse, on the over-all quality of care received by infants and toddlers in day care. As indicated earlier, it is very important that we continue to try to make our conceptualization of quality care more explicit, and to develop reliable observational procedures which will permit systematic assessment of the ongoing quality of care in any particular day care setting. Such procedures would be of value to day care providers in evaluating the ongoing nature of their own programs, as well as to various review or licensing agencies.

V. ROLE OF FEDERAL GOVERNMENT IN SUPPORT OF EARLY CHILD CARE[9]

This final section of the paper presents briefly some general views and recommendations concerning the general issue of appropriate roles which might or should be played by the federal government in support of early child care, with particular reference to matters of infant/toddler day care. Generally speaking, the federal government should play a major and significant leadership role in a variety of efforts to strengthen and support optimal conditions of early child care, whether care is being provided entirely in the child's own home, or in various forms of substitute care, including day care in its various forms.

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[9] Acknowledgment is gratefully expressed here to Anne Willis and June Rogers for their help in thinking through with the author many of the issues discussed in this section of the report.

To be more specific, there are two broad inter-related avenues of influence through which government could have a major impact on the quality of early child care in this country: a) by serving in a major advocacy and educational role aimed at advancing the cause of optimal early child care, and b) by becoming involved in the formulation of requirements and standards intended to ensure the quality of early child care provided outside the home for fees, as in day care.

A. Advocacy and educational role of federal government

The government should play a very important role as a major advocate of the importance of high quality early child care for all children, and also as educator or provider of information concerning what quality child care represents and how it can be achieved. Employing a variety of resources and channels of information, government could serve this role so as to have a significant impact on the following types of audiences and concerned groups:

1. Families rearing their children at home;
2. Consumers of day care services, i.e., families requiring child care outside the home;
3. Day care providers;
4. Enablers or facilitators of day care services, e.g. legislative bodies and agencies at local, state, and federal levels.

A particularly important view that needs to be communicated, along with the sense of priority which quality early child care demands, is the recognition and acceptance of the basic fact that ensuring quality infant/toddler care is costly, whether the child is reared at home with his family or enrolled in a day care setting. Moreover, the government should take the lead in developing policies which would permit funds allocated for support of day care outside the home to be used for support of in-home care as well.

B. Federal role with regard to day care requirements and standards

The federal government should take an active leadership role, working closely with the states, in continuing efforts to formulate reasonable day care requirements and standards. It is recognized, as indicated in the previous discussion, that there are formidable difficulties in arriving at firmly based distinctions between features of day care environments and programs which should be required (e.g. for licensing or for federal funding), and those which represent highly desirable and strongly recommended standards. To the extent that minimum requirements can be identified with confidence, these should be regulated by the federal government.

As mentioned earlier in the discussion of staff/child ratios, however, in moving from highly desirable to required standards, one needs to be very certain that the proposed requirements will really make a difference in quality of care, and will be sufficiently realistic and attainable so that the end result will not be a serious reduction in the availability of good quality day care. A related point of great importance is that along with setting more demanding requirements and standards aimed at improving the quality of care, there is a corresponding and urgent need to make necessary funding available so that the new requirements can in fact be met.

Finally, it is apparent that meeting minimal requirements, as in the case of licensing, does not in itself guarantee quality day care. In the final analysis, as discussed earlier, we will need to move toward assessment and monitoring of the quality of ongoing care in various day care settings through appropriate observational procedures. The federal government should play an active role in systematic development of such strategies and procedures, with the collaboration of concerned day care providers and other interested groups involved in day care.

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NOTE TO THE READER:

The interpretations and conclusions expressed in this paper are the author's and are not intended to represent the position or policy of the Department of Health, Education and Welfare.

It is being distributed to solicit comments and criticisms to assure technical soundness, the adequacy of supporting materials, relevance, and general comprehensibility. It is hoped that this paper and its review will contribute to the improvement of the public debate on social policy and the proper Federal role in regulating child day care.

Comments may be addressed to:

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