A sample of 80 families with a 2- or 3-year-old child in day care in one of four popular forms (baby sitter in the child's own home, family day care, part-time nursery program, and full-time day care center program) participated in a study of the effects of forms of care on children's development. Parents and caretakers were interviewed, and observations were made of children's physical and social environments. Findings of these investigations revealed differences in the quality of life provided by the different forms of care. Each child was then observed in and out of the home setting and was administered standardized tests. Data suggested eight measures reflecting developmental competencies: autonomy, social reciprocity with mother, social knowledge, sociability with adult stranger, sociability with an unfamiliar peer, negative behavior to peer, social competence at home, and cognitive ability. Different day care forms were found to be associated with patterns of competence in the children exposed to them. For example, the educational orientation of the nursery school was reflected in advanced cognition and adult-oriented competence, whereas children with untrained sitters in their own home excelled in no domain of competence. Relationships in the data were further analyzed to explore how behavior of individual children was related to features of in-home and center programs. Evidence was found that, while day care programs had some direct effects on development, they clearly were not operating alone.
What Day Care Forms and Features Mean for Children’s Development

Alison Clarke-Stewart

In the past, most research on day care has contrasted traditional at-home—mother care with one form of alternative care: the day care center. But the question this research was designed to answer - are children in day care different from those reared exclusively at home - is fast losing its relevance. For reasons of economic and personal necessity, fully half of the mothers of preschool children in this country are already using some form of day care for their children. For these parents the important question about day care is not "What is the effect of day care?", but "How can we provide our child with the best possible day care environment?" Their concern, like ours, is with knowing which aspects of day care distinguish the programs in which children do well from those in which they suffer, in knowing whether there are differences in the effects of different programs, and in knowing just how they can recognize a good day care arrangement when they see it.

For, when any parents choose a day care setting for their child they get a package of day care features. The woman who runs the day care home down the block is 37 years old, has been taking in children for the last eight years, and has three toddlers and an infant in her care this week. The university-based nursery school across town has three teachers with Montessori training, serves 25 children from two to four years old, boasts a well-equipped playground, and closes for two months during the summer. The parents must choose between these two complex arrangements. They cannot transfer the special warmth they liked in the sitter's home to the nursery school, nor bring the more elaborate play equipment and staff of the nursery school to the conveniently located day care home. Just realizing the complexity of such differences between settings may begin to confuse parents making the decision. Yet these are but two of the possibilities. The

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parent might, in addition, interview a variety of sitters who would come to the child's home and visit a number of day care centers that would offer them a wide range of services.

It was to get information that might help parents choose among such day care arrangements and programs by finding out which aspects of the day care arrangement - which forms and features of day care were most likely to enhance or to hinder children's development, that my students and I conducted The Chicago Study and Child Care and Development.

We first identified four different day care forms that are in popular use: (1) care provided by a babysitter or "nanny" in the child's own home; (2) care provided in a family day care home; (3) care provided in a part-time nursery school program and (4) care provided in a full-time day care center program. We then located a sample of 80 families who had a 2- or 3-year-old child in one of these forms of care. All the families were intact and self supporting, and as it turned out, the majority were of middle class or professional class status. Most, but not all, of the mothers were working — about half part-time and half full-time.

Of course day care varies not just in its overall form but in the specific features of particular settings. To ensure variability in these features we took no more than four children from any one setting, so that altogether 63 different day care settings were represented in the study. Then, to get information about what went on in these different settings, researchers interviewed each child's parents and caretakers at length and made systematic observations totalling 4 to 8 hours for each child of (1) the physical environment - tallying up toys and tricycles, pictures and plants, razor blades and open stairways, dirty dishes and open paint cans, and (2) the social environment - recording who was present and what they did with the child - coding each utterance directed at the child and every occurrence of play, helping, teaching, touching, kissing, hitting, and so on.
These observations provide us with a description of the "quality of life" for children in the four different forms of day care.

First, in-home sitter care. When day care is necessary, the form working parents often claim to prefer is to have an adult who comes into their home and looks after the children there. Department of Labor statistics suggest that this form of care is used by about one-third of the working mothers of preschool children. Often (nationally, over half the time) the in-home sitter is a relative, who may or may not be paid. In our study, one-fourth of the sitters were unpaid relatives, the rest were not relatives and were paid for their services. The "typical" sitter was an older woman (about half were over 55) with no professional training and limited education (the babysitters were unlikely to have graduated from high school; only two of them had ever taken a course in child development.) The physical setting - the child's own home - tended to be more adult oriented than child oriented. That is, homes had more different types of adult items like drapes, plants, musical instruments, TV, stereo, vases (19) than different types of toys and educational materials, puzzles, push-pull toys, balls, books, games, etc. (12). They did not usually have specific areas set aside for children's different play activities and there were quite often dirty, messy, and even potentially dangerous features in these homes - overflowing ashtrays, peeling paint, dirty dishes, broken objects, cleaning supplies or medicines, knives etc. (average = 7). The in-home sitters had responsibility for at most two children. This feature offered children frequent opportunities for 1:1 adult-child interaction, and indeed the amount of caregiver-child interaction observed in home care - physical contact, hugging and kissing, helping, talking, 1:1 teaching - was significantly greater than what was observed in centers. It also offered children very limited opportunities to interact with their peers. When there was another child present it was usually a younger sibling, offering the child only exchanges with an unskilled playmate with whom the child would have been able to play anyway. No child in our study was with another youngster who was more than a year older than the child
himself. Nor did visits with other children when with the sitter - at home, in the park, at a neighbor's - greatly augment this contact. Observers found that children with in-home sitters, on the average, interacted with fewer than two other children. The activities the child engaged in were also quite limited. Although in home care arrangements there was more emotion expressed - both positive (smiling, laughing) and negative (crying, hitting) - there were fewer planned activities and more time was spent by children alone or watching TV. In home settings activities were likely to be woven around the normal loose routines of a household - infants needing to be fed and changed, lunch prepared, toys cleaned up, etc.; and with only one or two children and few real deadlines, sitters had little need to create the structural support that routines and organized activities provide. Indeed it is this homey informality and flexibility, combined with a greater sense of their own control over their child's environment, that makes this day care arrangement attractive and reassuring to parents.

The next form of care, in which the child goes to the sitter's house for supervision, is similar to care in the child's own home in many ways. This form of care is used by about one-third of the employed mothers of preschool children in the United States. It is more popular for children under 3 than for the over-3s. In our sample, at the beginning of the study 20 children (at an average age of 32 months) were in day care homes; one year later, 7 were in day care homes. On the average, children in day care homes spent 7 1/2 hours a day there. The women who ran these day care homes were significantly younger than the in-home sitters (their average age was 36 years vs. 47 for sitters), but, like them, were unlikely to have had professional child care experience. They did have more education - most had taken some college level courses - and half had taken at least one course in child development - but their level of education was still significantly below that of the teachers in the center programs. Although it is common for home day care to be provided by a relative, this was not the case in our study. Only one day care home provider was a relative and only two were unpaid. Day care homes were identical
to the children's own homes in the variety of toys, the predominance of adult
decorations, the messiness and dangerousness of the physical environment they
provided. At first glance this may be surprising - one might expect that a facility in the
business of providing child care would be more child centered than children's own
homes. But a day care home is fundamentally a home, even when it is stretched to take
in more children or to provide a service for a fee. It functions as a home for the family
who lives there, and most day care providers, even those who are doing it for profit,
strive to incorporate their young charges into their own family's routines, rather than
making child care a career and their home an institution.

The main way in which day care homes are different from children's own homes is
in the social milieu they provide. In the typical day care home there were five children
(range 3 to 10), and the child we were observing interacted with all of them. Thus, day
care homes provide significantly more varied opportunities for interaction with different
children than own-home care. These children represented a mix of racial, ethnic and
social class backgrounds but they were all young. None of the day care homes in which
we observed had children more than one year older than the child in the study, so children's
encounters were, as in own-home care, limited to those with relatively unskilled
playmates.

The third form of care was that provided by nursery schools. Nursery schools have
grown steadily in popularity since they began in this country in the 1920's. Today, most
middle class parents consider it desirable to provide their 3 and 4 year old children with
some kind of nursery school experience - and more than one-third of them do so. In our
study 22 children were attending nursery school at the beginning of the study and 39 were
in nursery school one year later. The typical nursery school teacher was the same as a
day care home provider (37 years old), but there the similarity ended. These women were
child care professionals. All were college graduates and over 90% had had formal
training in child development at college. They had been in their present jobs an average
of four years - longer than caregivers in any other form of care in the study. The physical settings in the nursery schools we observed were neat and orderly, free of hazards, with only a couple of messy features per setting. In these settings children were exposed to at least three different adults, and instead of a lone sibling or a handful of fellow toddlers to play with, there was a large group of other children. The average class size was 18 and our children were observed to interact with 10 of these children, on the average, during each two-hour observation period. Not surprisingly, children in nursery schools participated in 1:1 interaction with an adult less frequently than children in home day care did, but they participated in group activities with the teacher - listening to the teacher read, talk, teach, more frequently than these children. They also had more frequent and varied experiences with other children - playing, chatting, learning - and the children with whom they interacted included some who were older, who could offer them more (socially) mature playmates and models, and represented a wider range of ethnic and social class backgrounds. Nursery school programs were more likely to have scheduled activities, clearly defined play areas with associated routines, and a specific curriculum: traditional nursery school, open education, Piagetian, Montessori, or Distan. These programs were evaluated by our observers and by the caregivers themselves as offering children more opportunities for education, interaction, and socialization than home care programs.

The fourth form of care, care in full-time day care centers, was basically the same as care in nursery schools, but extended to full-time by meals, naps, and periods of free play. The only differences we observed between these two forms of care - apart from the longer hours - were that the teachers in day care centers tended to be younger (30) and had been working in their present jobs a shorter time (2 1/2 years).

Clearly, then, there are differences in the quality of life provided by these different forms of day care. How are these differences related to children's development? In order to answer this question we had each child in the study come to
the university for a series of standard tests and observations, and we also observed each child at home. From all the data we collected in these tests and observations we pulled together a set of 8 measures that seemed to reflect important developmental competencies:

1. Autonomy (physical independence from mother) - How close the child stayed to mother in our testing sessions at the university.

2. Social reciprocity with mother - How positive, reciprocal, cooperative, and empathic the child's interactions with mother were in our testing sessions (which included periods of free play and specific tasks meant to measure mother-child interaction.)

3. Social knowledge - How well the child could take the perspective of another person (e.g., to know what the other person is thinking or what a picture looks like to another person), and how much the child knew about emotional words and situations, and about what is gender appropriate behavior for boys and girls.

4. Sociability with adult stranger - How friendly, cooperative, sympathetic, helpful, trusting, and likeable, the child was with an unfamiliar adult examiner.

5. Sociability with an unfamiliar peer - How much positive interaction - talking, playing, cooperating - the child engaged in with an unfamiliar child of the same age, sex, and in same form of day care, during the testing session at the university.

6. Negative behavior to the peer - How much the child engaged in negative behavior with this unfamiliar child - taking away his toys, controlling his actions, insulting him, refusing to cooperate, withdrawing from or avoiding him (hitting did not occur).

7. Social competence at home - How obedient, self confident, sociable, autonomous, assertive, playful, and cheerful the child was at home at dinnertime.
8. Cognitive ability - How well the child did on standard tests of language comprehension, verbal fluency, knowledge of concepts, and memory span. On all these measures (except negative to peer), we found, older children scored higher than younger children.

To find out how day care affects children’s performance, we first analyzed the differences on these measures for children in different forms of care. The results showed strong differences related to the form of day care. Children attending nursery school programs scored consistently higher across the board, but especially higher on assessments of cognitive ability, social knowledge, and sociability with the adult stranger. (In terms of developmental differences, these children were 6 to 9 months advanced over children in home care.) Least advanced were children with sitters in their own homes. These children never scored highest on a test and they were significantly more likely than children in day care centers to behave negatively toward the peer.

Children in day care homes had the distinction of scoring highest on sociability with the unfamiliar peer but lowest on independence from mother. Children from full-time day care centers were the most independent of their mothers in terms of physical distance, but highest in social reciprocity.

Thus we see that the four forms of day care we observed were associated with sensible patterns of competence in the children attending them: The educational orientation of the nursery school was reflected in advanced cognition and adult-oriented competence. The lengthier separation of mothers and children using full-time day care centers was reflected in their greater physical independence from mother coupled with more involved social interactions with her. Children from day care homes, who had less familiarity than day care center children with an "institutional" setting, stayed closer to their mothers in our institutional university setting, but, going along with their opportunity for intimate social interaction with agemates played more comfortably, cooperatively, and actively with an unfamiliar peer than children with in-home sitters.
Children with untrained sitters in their own home, with, at most, one other child, who was usually younger, and with no educational program, did not excel in any domain of competence.

Such relationships as these were tested in more detail, next, by analyzing correlationally how the behavior of individual children was related to features of their particular day care setting. This was done separately for children in home programs and center programs.

In the home settings, significant differences in children's development were found to be related to who was present, what they did with the child, and how the physical environment was arranged. First the caregiver: There was no relation between children's competence and the amount of formal training in child development the caregiver had - probably because only two of the home caregivers had had substantial training. But children generally did better when the day care provider or sitter was more highly educated, knew more about child development, and interacted more frequently with the child. Positive relations were found between children's intellectual and social competence with peers and adult strangers and the frequency of 1:1 conversation with the caregiver and with how much she helped, taught, read to, offered choices to, made demands of, and gave directions to the children. Children were also more competent when the quality of these interactions with the caregiver was more responsive, didactic, positive and accepting. There were pros and cons for older vs. younger caregivers and for having a man present: Older caregivers seemed to promote children's social knowledge while younger ones promoted their social interactions with an adult stranger; having a man present (during our observation) was related to children's being more socially outgoing and cooperative with an unfamiliar peer - but less compliant and cooperative at home at dinnertime. The number and kinds of other children who were present in the home daycare setting also made a difference in how children performed in the laboratory. Children generally did better on our assessments of social knowledge and
social competence when neither too few (no other children) nor too many (more than five) children were present, and when these children did not include infants and younger toddlers. The ratio of children to adults did not affect children's performance, but children did better if they spent less time alone and less time interacting with, imitating, or simply watching the other children. The negative relations between interaction with children in the day care setting and performance in our standard assessments was particularly strong for assessments of the child's social interactions with mother and with the unfamiliar peer. Surprisingly, perhaps, children who interacted more with peers in their day care home behaved less competently (less positively and more negatively) with a child they were just meeting for the first time. This could be accounted for in several ways (stronger friendship with daily playmates; or, more likely, less interaction with/attention from the caregiver) but it serves to make the point that day care "effects" are not always simple, obvious, predictable.

Finally, how the physical environment was organized was related to children's performance. Children were developmentally advanced when the home was organized around their activities, was neat and orderly, but contained fewer adult-oriented decorative items (with perhaps less need for restrictions - "Stay away from that plant," "Don't touch that vase!") Just providing more different toys was not in itself helpful, however - and, in fact, when children spent more time playing with toys and focused on objects rather than interacting with the caregiver they did more poorly in our assessments of competence. How much time children spent watching TV during our observations was not related to their competence.

In center settings also there were links between children's development and features of their physical and social environments. In general, children in large classes and in large centers with heterogeneous mixes of children, including larger numbers of younger children in their classes (like children in day care homes), did more poorly on our tests of competence. The only advantage of size was that these children were less likely
to behave negatively toward the unfamiliar peer - perhaps because such behavior was not allowed in more crowded classrooms. A parallel advantage was related to having a large number of children per teacher. Children in classes with more children per teacher were more cooperative with peers and adults in our assessments. On the other hand, when men were present in the center, children behaved more negatively toward the peer - perhaps because male teachers tolerate this kind of interaction more readily than women do. As in the home day care arrangements, children in center programs who spent more of their time playing with their classmates were less sociable with the unfamiliar peer. But if their classmates were responsive and older, and set a mature model that children could watch or played at a more sophisticated level, then children were advanced in cognitive and social competence. Not surprisingly, children who participated in more aggressive interchanges with their peers and children whose day care milieu was high in the expression of negative emotion were less competent in our tests.

As far as the qualifications and training of the caregivers went, results were mixed. When the teacher was older, had been in the center longer, was more highly trained in child development and more knowledgeable about child development, children scored higher on tests of cognitive abilities; but were less independent of their mothers and less sociable with peers, parents, and adult strangers. Being more competent with peers and parents was related to the teacher's having a higher level of overall education - but less academic training specifically in child development - a provocative finding, suggesting that a narrowly focused academic training may be facilitative of youngster's academic intellectual skills at the expense of their social skills. Children's cognitive skills were advanced in day care centers in which the teacher read to the child, offered him choices, and encouraged him to manipulate materials on his own. The number of didactic utterances by the teacher was not related to the child's cognitive skills but was related to how he behaved with an unfamiliar peer in the laboratory. Children who heard more instruction from the teacher acted less negative with the peer - suggesting that
the instruction the child got in their day care classes was about how to get along with peers more than about what comes after 7. The time the child spent in individual lessons with the teacher and the amount of discipline the teacher meted out to the child, similarly, was related to better behavior with peers. The effects of authoritarian discipline were not uniformly positive, however. The more the teacher directed, demanded, and controlled and punished the child the worse he performed on our tests of cognition, and sociability and cooperation with adult strangers. Children who were more competent in our assessments attended programs where they were given freedom to learn from peers and objects in a safe, orderly environment, with stimulating toys, decorations, and educational materials, appropriately organized into activity areas and where teachers did not interfere with their independent activities by hugging, holding, or helping them.

In short, there were some consistent and sensible links between children's experiences in their day care settings and how they performed in standard situations that reflected their abilities outside the day care setting. Day care quality did seem to affect children's lives in important ways. But before you conclude that putting children in a well-equipped center with a well-educated teacher and a small class of mature, responsive children will automatically promote their development, I must point out one critical constraint on these findings. That is, children were not randomly assigned to the day care programs where we observed them. Their parents had deliberately selected these programs for them. And parents, it turns out, who put their children in nursery schools and day care centers were both likely to choose these programs because they offered the children educational opportunities and to come from more highly educated backgrounds themselves. What this means is that children in this study whose development was advanced not only had the advantage of being in high quality day care programs but also came from families that gave them support, stimulation, education—and good genes.

There was evidence in the study that day care programs had some direct effects on
development but clearly they were not operating alone. Day care is simply part of the child's total milieu. Children do not live by day care alone - no matter how fitting its form or how fine its features.