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THE YOUNG CHILD'S CONCEPT OF HUMAN  
CONCEPTION AND BIRTH

by

Julie Ann Broberg Puzey

A thesis submitted in partial fulfillment  
of the requirements for the degree

of

MASTER OF SCIENCE

in

Family and Child Development

Approved:

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UTAH STATE UNIVERSITY  
Logan, Utah

1972

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Julie B. Puzey

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ABSTRACT

The Young Child's Concept of Human  
Conception and Birth

by

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Utah State University, 1972

Major Professor: Dr. Don C. Carter  
Department: Family and Child Development

The views held by children about the creation and birth of babies are of importance in child development and developmental psychology. However, most of the research done in this area has been of a theoretical nature rather than empirical. The research shows controversy in the child's concept of human conception and birth, and because of this controversy a study was deemed necessary to find out more of what the young child's concept is of human conception and birth.

The purpose of this study, therefore, was to attempt to determine the extent of children's awareness of the nature of human conception and birth. The objectives of this study were to investigate the nature of the child's understanding and awareness of human conception and birth, as well as to investigate the influence of such factors as the child's sex and age, and the social class of the family. The hypotheses were that young children would have a realistic awareness and understanding of human conception and birth and that there would be differences between children of different social class backgrounds, children of different sex groups, and children of different age groups in their understanding and awareness of human conception and birth. In order to

test these hypotheses, a questionnaire consisting of eleven questions was devised to explore what concepts these young children have in their awareness and understanding of human conception and birth.

The children studied were selected according to age and social class and consisted of sixty children: 20 kindergarten children, 20 nursery school children, and 20 Head Start children. Each of these groups was fairly equal in the number of boys and girls questioned. The questions were administered in the same order. A few of the questions were eliminated if the child could not answer a preceding one. The responses to questions were then recorded by the frequency of the response. Because of the nature of this study, no statistical data could be applied; rather, the three groups were compared according to their responses and the number given to each response.

The results of this study show that young children are realistically aware of human conception and birth but they do not have a full understanding of the total process. This study also reveals a great difference in the children's responses among the social classes studied, with the Head Start children being deviant from the other two groups in that they were much less well informed. Among the different age groups, the older group was better informed than were the younger children. A frequency test was done on the two sex groups, in relation to their responses, but no differences were found.

(74 pages)

## INTRODUCTION

### Origin of the Problem

The views held by children about the creation and birth of babies seem to be of importance in Child Development and Developmental Psychology. Nevertheless, very little systematic organized material about this subject has been developed. The one study using direct observation in this area was the one done by Kreitler and Kreitler (1966).

Freud (1959) wrote about children's concepts of sexuality but most of his works or hypotheses were derived from adult patients who gave information from memory concerning their childhood sexual attitudes.

Paget (1929) brought out the point that children believed babies were born limb by limb and that they were alive from the beginning of this process.

Kreitler and Kreitler tested kindergarten children in the areas of sexual awareness and in their understanding of the creation of babies. The results showed that these children did not believe that a baby was born or created limb by limb or born anally. However, the children in their study did not know the exact route of the baby during birth. Most of them believed that a baby was born through an opening in the mother's belly.

The research indicates some disagreement as to the extent of children's understanding of human conception and birth. Two of the best known theorists, Freud and Piaget, have dealt with the question of the child's concept of human conception and birth, but Freud doesn't



answer the question and Piaget describes the development of the child's concept but does not state at what age these concepts occur.

### Purpose

In view of the disagreement among researchers in the area of children's understanding of the birth process, additional study seems to be indicated. The purpose of this study is to explore the extent of children's awareness of the nature of human conception and birth.

### Objectives

1. To investigate the nature of the child's understanding and awareness of human conception and birth.
2. To investigate the influence of such factors as the child's sex and age and the social class of the family.

### Hypotheses (Null Form)

The primary hypotheses were:

1. That children do not have a realistic awareness of human conception and birth.
2. That children do not have a realistic understanding of human conception and birth.

Secondary hypotheses:

3. That there will be no differences between children of different social class backgrounds, in their understanding and awareness of human conception and birth.
4. That there will be no differences between children of different ages in their understanding and awareness of human conception and birth.

5. That there will be no differences between children of different sex groups in their understanding and awareness of human conception and birth.

## REVIEW OF LITERATURE

In reviewing the previous research in the field of concepts of human conception and birth, it is apparent that most of the studies have been more theoretical than empirical. Since this study is concerned with social class influences as well, it is necessary to review some of the studies in this area. This review of literature includes psychosexual development, literature pertaining to specific studies done on the 4-6 year old child's actual concepts of human conception and birth, and social class differences in child rearing practices and sexual attitudes.

Psychosexual Development

Gessell and Ilg (1943) outlined his stages of psychosexual development under the title of "Differentiation of Self and Others." According to Gessell and Ilg, the child at 40-52 weeks starts to handle his genitals when his clothes are removed. When a child is 18 months, he shows affection toward the mother when tired, in trouble, or when pants are wet. At 24 months the child kisses at bedtime and is unable to function in strange bathrooms. According to Gessell and Ilg, this is also the time when boys and girls are distinguished by what they wear or their style of haircut. When the child is 30 months, he becomes conscious of own sex organs, is interested in watching others in the bathroom, can distinguish his own sex by observing different postures when urinating, begins interest in physiological differences, and inquires about the mother's breasts. When a child is 36 months of age, he verbally expresses

interest in physiological differences, expresses interest in babies and asks questions as to what a baby can do when it comes, where it comes from, where it was before birth and where he was before he was born. At 48 months a child becomes extremely conscious of the naval, may play the game of "show" where he either exposes his genitals or urinates before another child out of doors. Verbal play about elimination and calling names such as "You old bowel movement" occur at this time. Interest in other people's bathrooms and interest in how babies get out of the mother's stomach also come into focus. At 60 months questions pertaining to babies go into even more detail. The child asks questions as to how babies got in as well as how they will get out of their mother's "stomachs" and the child seems to be interested in his parent's babyhood as well as in having a baby himself when he grows up. At 72 months boys may ask factual questions about their testicles. It seems that at this time factual questions about having a baby are asked and it may be the beginning of slight interest in the part of the father's role in reproduction.

At one time the child was considered to be "innocent" of sex or sexual urges until adolescence, at which period in his life the development of his sexual anatomy, being rapid and clearly evident, led writers to suppose that this was the birth of sexuality. The work of psychoanalysts and clinical psychologists has led to the conception of infant "sexuality" and has helped to clarify our understanding of the development of sex (Breckenridge and Vincent, 1960; Garrison, 1952; Ellis, 1954; Child Study Association, 1936; Gagnon, 1965).

Every age has its sexuality, as has every individual within that age (Calderone, 1966). The real sex education of the child actually begins at birth, for the way the child is held by the mother and father,

his association with the feel of their muscles, the touch of their skin, their characteristic body odor, and the sounds of their voices with their maleness or femaleness, all have an impact on the child's sexuality. These feelings of love, hate, cruelty, indifference, and rejection, are powerful in the child's education and conditioning (Calderone, 1966; Adler, 1930; Breckenridge and Vincent, 1960; Eckert, 1956; Garrison, 1952; Ferber, Sofokididis and Calderone, 1966; Thompson, Nelson and Farewell, 1965).

During the first year the child makes considerable strides in discovering his physical self through exploration with the hands. Adler (1930) said that a child should be told he is a boy or a girl at the age of two and that his particular sex will never change. In the period from one to two years there is an increase in the amount of exploration (Garrison, 1952; Bibby, 1946; and Gessell and Ilg, 1946). Almy (1955) said that the first year was when the child's self-discovery of the genitals occurred. Garrison (1952) also believed that the two year old is aware of differences between boys and girls based on the manner of dress. He felt that with the development of some knowledge of physical difference the child was likely to go through a period of "show." Stone and Church (1957) also said that the preschool child may be aware of genital differences between boys and girls but this would be secondary to dress and style in determining sex differences.

According to Calderone (1966), the following attitudes are the groundwork for the child 3-6 years of age. These attitudes include his understanding of twin roles--sexual and reproduction of men and women. These are:

1. Sex is a part of each one of us. (This is how we are made, man--female or male--woman).
2. Sex has strong pleasureable feelings associated with it.

3. Husband and wife share pleasurable emotional experiences because they are husband and wife--not because they are mother and father.

4. The sex act does not always result in a baby--science has even made it possible that becoming a mother and father is an act of responsibility and decision.

5. Men and women are, in marriage, husbands and wives first and always.

Certain factors appear as having influenced children's sexual attitudes. Conn (1939) outlines them as follows. The first of these may be discussed as the contribution made by language itself. At an early age the child becomes sensitized to certain words. The second factor is age. Think of the child in his age period. When does he understand such a formulation and how much of it should one give? The third factor is specific sexual experiences. The fourth factor which begins to determine children's sexual attitudes and awareness can be designated by genital sensations which he can describe as tickling, tingling, itching, or stinging. Children report that these sensations are so gratifying that their attention is repeatedly directed to the anatomic structures involved. Children pass from one experience to another assimilating and synthesizing their sexual experiences as they do with other issues of everyday living.

There is some variance as to the age at which children take the genital differences more seriously and begin to be aware of the personality differences. Stone and Church (1957) believe that this happens when the child is five years of age. Jersild (1954) indicated that by the time the child was four to five, he had noticed differences in genital organs of the two sexes. Balint (1954) mentioned the genitals as

taking a leading part in the child's development during the time when a child was four to five and often earlier. She claimed this age was when sexuality became more unified from two points of view:

1. Object--choice. The child wishes to become connected with the parents.

2. Sexual organization. The genitals play a leading part in the child's sexual life.

No matter at what age genital discovery and play occur, it is the general assumption from the authors mentioned that this period is a natural process and should be considered as such.

The initial interest in seeing the genitalia of the opposite sex is usually part of the same desire to find out something about the differences which exist between the child's own body and the bodies of others (Kanner, 1939).

Conn (1940a) did a study of 200 children as to their attitudes about the discovery of genital differences and found that there is no universal reaction to the discovery of genital differences. There exist varying degrees of acceptance each to be understood in its own individual setting.

By four to six years of age the child has an increased awareness of his instinctual drive for which he finds gratification in genital identification and manipulation (masturbation). This marks the beginning awareness of sexual identification and its place in the self and in other relationships (Wilson, 1935).

Sometime between the ages of three to five a child usually will start asking his first questions concerning sex, birth, and reproduction (Levine, 1966; Calderone, 1966; Garrison, 1952; Hymes, 1968;

Eckert, 1956; Sherbon, 1941; Lerrigo and Southard, 1956; Bro-Donald, 1940; Gessell and Ilg, 1943; Gruenberg, 1928; Bibby, 1946; Elatz and Bott, 1929).

Questions about where babies come from are natural if a new baby appears in the family or neighborhood, or may stem from normally inquiring minds of "Where did I come from?" These questions are an expression of the child's need to know facts (Breckenridge and Vincent, 1960; Conn, 1940b).

A small child who asks where babies come from does not need a lecture. Parents should remember that the small child's questions are to be taken at face value--no more--and that they should give plain and direct answers. Answers must be based on a clear understanding not only of the physical aspect of sex but also of the child's level of development and his emotional needs. To the infant, no question is indecent. Falsehood should have no place in answering a child's question concerning birth, but also truth needs no heroic doses (Bro-Donald, 1940; Eckert, 1956; Hymes, 1968; Child Study Association, 1936; Bibby, 1946; Ellis, 1954).

The wholesome and natural development of the child from one period to the next is evident of emotional sanity in sex life. Children are helped by enlightenment, especially the growing out of everyday experiences and natural curiosity. The everyday experiences of home life are the most telling influences for good sexual development (Eckert, 1956).

Questions about birth and pregnancy tend to be the first questions asked in the area of sexuality. It is usually later that the child inquires about the role of the father, and thus elicits explanations of fertilization (Bibby, 1946). Eckert (1956) said that between the ages



of 6-7, the child wanted to know the role of the father and the process involved between the two parents.

According to Calderone (1966) it is generally conceded that attitudes concerned with sex are molded at home by parents in a more permanent and deeply rooted manner than can be achieved by any other person or agency in the child's life. Parents are the ones who are with the child at this age level and usually are the ones to whom the child proposes his first questions in regard to birth and conception. Words convey facts but attitudes are built by exposure to the examples of people we love and admire.

When sex information is given, many parents give too much information too soon or don't give enough information or give incorrect information leading to misunderstanding on the part of the child (Keppus, 1956; Whitman, 1961).

Upon examining the interaction of parents and children, one is struck by the frequency of both negative injunctions and what appears to be--at least to adults--unambiguous instructions given to children in their early years.

Gagnon (1965) pointed out that in addition to parent's incapacities to deal with the indirect elements which effect sexuality, they are also unable to deal with the problem of the supply of specifically sexual information. This includes mislabeling--nonlabeling--negative response. Out of this non-labeling phenomenon comes two major consequences:

1. The primary negative and dichotomous informational inputs to the child are never revised.
2. The second consequence of non-labeling is that of "spillover" from one training experience to another.

Some parents would be better to be quiet than say anything at all, due to their own attitudes.

The phenomenon of non-labeling or mislabeling leaves the young child without vocabulary with which to describe his physical or psychic experiences. The results are:

1. A tendency for fantasy to overrun the sexual life of the child.
2. Children identify their organs as bad or dirty, having to do with excretory functions only.

### Studies Done Concerning the Child's Actual

#### Concept of Conception and Birth

Freud (1959) and Piaget (1929) have written on the subject of the child's concept of conception and birth. Their philosophies are based on their own observations.

Freud's theories are based on observations of what children say and do, what adult neurotics have consciously remembered of their childhood, and from what influences and constructions have resulted from psychoanalysis of neurosis.

It is my conviction that no child, none, at least, who is mentally normal and still less one who is intellectually gifted--can avoid being occupied with the problems of sex in the years before puberty. (Freud, 1959, p. 205)

Freud's observations apply chiefly to the sexual development of one sex only--males.

According to Freud (1959), at the instigation of feelings and worries the child comes to be occupied with the first grand problem of life and asks himself the question "Where do babies come from?" Where

a child is not already too much intimidated he persists in a direct answer and usually receives a very evasive one from his parents.

Freud maintained that children on the whole do not believe the stork story when parents give it to them, even though some children do not show it. He said this because of the freeness of animal sex life and also because a child's sharp eyes can connect the increase in a mother's stoutness with the appearance of a new baby in the home. He came to this conclusion through direct observation of a five-year-old boy.

These following theories are what Freud believes children maintain through their growing up. The theories are presented in the order of their sequence.

The first theory consists in attributing to everyone, including females, the possession of a penis. According to Freud, boys up to the age of six believe in the universality of the penis, namely, they attribute the possession of a penis to women also. This infantile conviction is assumed to be so powerful that boys either ignore their contrary observations concerning mothers and sisters or assume that in the case of the small girl the penis has not yet grown, and in the case of the grown-up woman that it has been lost, cut off as a punishment, or injured. Elsewhere in his writings, Freud hints that small girls as well, after having seen a penis, consider themselves--and later other women too--as having been castrated, which means that they too believe in the universality of the penis.

The second theory has to do with the birth process. Freud pointed out that due to the child's theory that a mother possesses a penis just as a father, the child is in perplexity when he learns that

the father's penis and mother's vagina are the act by which a baby is conceived.

Because of the child's ignorance of the vagina, Freud said that the child believes a baby is born through the anal region. Freud's theory of the child's concept is that the baby is evacuated like a piece of excrement, such as a stool. Freud said that in later childhood when children are talking between themselves, the explanations probably arrived at, pertaining to the birth of a baby, are that the baby emerges from the naval, which comes open, or that the abdomen is slit open and the baby is taken out. Freud said that when a child is in his later childhood and has the concept of birth through the naval, the child has completely forgotten his earlier theory about the anal process because this has been obstructed by the repression of the anal sexual components which have meanwhile occurred.

Another theory arises in a child if by some chance he views sexual intercourse between the parents (i.e., sharing the same bedroom). The child's perceptions, according to Freud, are bound to be only very incomplete. They adopt a view known as the "Sadistic view of coition." (1959, p. 220)

The child views sexual intercourse as something that the stronger participant is forcibly inflicting on the weaker, and they (especially boys) compare it to the romping familiar to them from their childhood experiences. Freud pointed out that he had not been able to ascertain that children recognize this behavior which they have witnessed between their parents as the missing link needed for solving the problem of babies. He felt that it appeared more often that the connection is overlooked by the child for the very reason that he has interpreted the act of love as an act of violence.

Another question which bears indirectly with where babies come from but also engages the child is the question of what it means to "be married." The child will answer this according to his perceptions in relation to his parents and instincts of his own. All that these answers seem to have in common is that the child promises himself pleasureable satisfaction from being married and supposes that it involves a disregard of modesty.

Some children believe that a baby is obtained by a kiss. According to Freud, this theory is exclusively feminine.

As the child gets older (10-11) and learns more about sexual matters, he experiences confusion and ignorance in understanding that a father discharges a substance known as semen. A child cannot understand that another substance besides urine is released from the male organ.

However widely children's later reactions to the satisfaction of their sexual curiosity may vary, we may assume that in the first years of childhood their attitude was absolutely uniform, and we may feel certain that at that time all of them tried most eagerly to discover what it was that their parents did with each other so as to produce babies. (Freud, 1959, p. 226)

According to Piaget (1929) the child seems to believe or consider a baby as having existed fully alive before it came into relation with the parents. Piaget classes this concept as "pre-artificialist." The concept which is formed in subsequent developmental phases represents a combination of artificialism and animism. Children believe that babies are reproduced limb by limb, but that in spite of this artificial mode of creation they are alive. Somewhat later, but often even at the same time, children come to grasp that babies are created in their parents' bodies and out of the material of their parents' bodies (e.g.,

flesh, blood), which means that children attain rather early a quite realistic understanding of the process.

In the earlier stages, the child seems to experience no difficulty in conceiving beings as living and as being artificially made. Piaget pointed out that it would be well to know children's ideas on birth of babies but that there seems to be grave moral and pedagogic reasons for not pursuing such an investigation directly. Piaget, therefore, rested on the content of children's talk to build or formulate his theories. According to him, two types of questions are to be distinguished relating to birth. The first type of questions do not touch on the how of birth. The baby is assumed to have existed prior to birth and the child simply asks where it was before that event and how the parents have contrived to introduce it into the family. The relation between parents and children is a simple bond and not one of cause and effect; the baby is held to belong to the parents and its arrival is considered as having been wished and arranged by the parents, but no questions are raised as to how the baby has been able to come into existence. Questions of the second type, on the contrary, show that a child wonders how babies are made and is spontaneously led to consider the parents as the cause of its creation.

According to Piaget (1929), questions of the first type reveal that the child thinks babies pre-existed. Behind what the child asks must be sought what he does not express because it seems evident that the parents make the baby come, that it is arranged, whatever be the manner of arrival.

On the other hand, questions of the second type reveal the desire to understand the nature of the bond between parents and children on the how of birth. Birth is conceived by the child as being an artificial process of production and, at the same time, a process bearing

on matter endowed with life and either on the one hand, independent of the parents or, on the other, the fruit of the bodies of the parents themselves. (Piaget, 1929, p. 363)

Piaget felt children believed babies were born anally:

We have found ourselves in those recollections of childhood we have been able to collect, the ideas well known to psychoanalysis that the baby came out of the anus and is made from excrement, or that it is in the urine, or that the birth is due to a special food that mothers consume for that purpose. (p. 365)

What is interesting, as Piaget points out, is that when the child knows quite well that a baby comes out of the mother's body, he continues to wonder as to the manner in which each particular limb was made, as if there were a separate and special process for each organ.

The succession of interests seems to be as follows: first an interest in birth, then in the origin of the race, and at last the origin of things in general.

Children's ideas on the birth of babies or on the origins of men follow the same laws as their ideas on nature in general . . . it seems that the questions they ask about birth are the source of those on general origin and not the inverse. . . . A baby being considered as at the same time artificially made and living, the child has the tendency to consider all things as possessing the same characteristics. (Piaget, 1929, p. 369)

Conn (1940b) did a study of the child's concept of the origin of babies as obtained through the use of play procedures. He received reports from 100 children whose ages ranged from four to eleven. Twenty-five of the 100 children were preschool children of the ages 4-6. Their ideas about the source of babies were mostly in reference to God, but they spoke also of babies as being bought from stores. In about one-third of the cases they mentioned the hospital as the place where babies are obtained. The idea of the doctor as a person who helps the mother was introduced by only two children. There was no reference to the

mother's role in the coming of the baby, and the concept of the birth process was foreign to the children of this group.

Kreitler and Kreitler (1966) interviewed 185 children: 95 boys and 90 girls in the age range of 4-5½ years. The children studied were all born in Israel. The children were asked questions directly related to birth and conception by an interviewer who had a questionnaire as a guideline. The results reveal that children between 4 to 6 years of age are well informed about sexual differences and speak freely about what they know. They explain the creation of babies as resulting by eating particular types of food, through the swallowing of a ready-made baby, or through the permanent existence of the baby in the mother's belly. The function of the father consists, according to them, mainly in helping the mother, or in some other form of social help. The fetus is envisioned as sleeping, playing, or suffering, and birth is explained mostly through the concept of opening the belly.

Hattendorf (1932) obtained information from 981 mothers about the type of questions young children ask concerning sex at a given age level. She found that the preschool child's interests were in the area of the origin of babies, physical sex differences, organs and functions of the body, and the coming of another baby. The questions of interest to the early school-aged children were those dealing with the origin of babies, the coming of new babies, the organs and functions of the body with added interest in the birth process.

#### Social Class

Sociologists have often resorted to tests calling upon members of a group or community to rate one another according to their individual ideas of social class standing. Interestingly enough, the ideas of



social class standing are fairly consistent; more often than not they agree on the basis for the classification. According to Hodge, Siegal, and Rossi (1964), the upper middle class is identifiable by being made up largely of professional persons (doctors, lawyers, professors, etc.); are career-oriented; consider a college degree a necessity; are moderate television fans, and raise and control their children firmly following a democratic approach to family life. The lower middle class is made up largely of small business men; are not avid joiners but are active in fraternal, religious and veterans organizations; have 12 to 13 years of schooling; are moralistic, and are devoutly family-centered and are proud of home, town, and nation. The upper-lower class is made up mostly of blue-collar workers; like their neighbors; consider themselves "hard-working;" hold no sympathy for "shiftless no accounts;" are members in good standing of trade unions; are fervent radio, television, and motion picture fans, and are traditionally democratic. The lower-lower class has been described as unskilled in an occupational sense; are school dropouts who quit before the 8th grade; marry in their teens; have many broken homes; live in cramped, dilapidated quarters; have chronic indebtedness; are hostile and suspicious toward strangers; have no hope for the future; blame others for their plight; are seldom religious; are looked upon as innately deprived, lazy, and slovenly; the men are very authoritarian, the husbands rule with an iron hand and the children must be obedient, quiet, and subservient. The citizens of the typical small town in the United States are in Hodge's words, ". . . inextricably and overwhelmingly class-bound."

Child rearing practices

Class has become a social reality through its influence on human behavior. An individual's class position establishes important conditions for his existence and sets the style for much spectrum of his personal horizon. According to Reissman (1959), class has been found to influence child rearing practices, political attitudes, political activity, sexual patterns, consumer behavior, social participation in the community, social ideology, physical and mental health, and fertility. Accordingly, class begins with childhood. The traces of class can now be discerned because this is when the personality begins in seriousness to take on the outlines of its later mold. The parents' class concepts and class-influenced values determine a good deal of the ways in which the parents will raise their children. These parental values are unconsciously or consciously implanted. Some examples of adult attitudes which could have direct influence on the child's are the following done by Jeffers (1967). Mrs. Jeffers acted as a participant observer in a public housing project as a working mother and household head. She spent 15 months doing this study. The following statements are part of the report done on these lower class ladies' sex attitudes. One lady thought herself frigid because she couldn't kiss her husband at the door and said: "I just can't be affectionate. I never was and never will be." Another lady said she didn't know why she loved her husband so much because he didn't give her any money and she was not interested in sex. She said: "It's the same with my husband--he's just not too interested." She thought of sex more as an obligation than as a pleasure and their love was more a "brother-sister kind." This same lady was five months pregnant before she knew she was and she said that she wouldn't have known if her father hadn't told her. Like

many mothers observed by the Child Rearing Study, this one mother's discovery of sex was traumatic and many of her subsequent experiences were distasteful. Her mother had told her nothing of sex and her father said, "All a man wants is what's between your legs; all they want is to give you a baby." Another lady described her conflict: "Take me, for instance, I might have a desire for a man once in three months and I don't see why I shouldn't go ahead and have one. But you know, I still think it's nasty. I feel so ashamed when it is over." A final statement by a lady in her seventies was: "The trouble with men is that they are like animals. They want everything they can get. They don't know what they want or who they want, but they want it when they want it." According to Jeffers, the above observations indicate a lack of knowledge and a need for better understanding of the sex life of low-income groups.

Littman, Moore, and Pierce (1957) did a study on permissiveness. Permissiveness meant parents' response and attitudes regarding modesty training, masturbation, and sexual play between children. He found in a comparison between the lower and middle-class that the middle-class parent is more permissive. He also found that lower-class and middle-class fathers differed significantly from their wives in their permissiveness.

#### Sex attitudes

Rabbon (1950) pointed out that to lower-class (and to most primitive) children, the awareness of sexuality and sex roles comes earlier than it does to the middle-class child. Not only does the lower-class child tend to lead a less sheltered life, but masculine and feminine roles are more clearly defined for him than in our middle-class society with its many overlapping activities for men and women.

Rainwater (1960) did a study of 409 individuals. One hundred fifty-two were couples and 50 men and 55 women were single. These people were chosen in such a way as to represent various social classes, ranging from upper-middle to lower-lower class levels. Men and women were asked to discuss their feelings about sexual relations and the dissatisfactions they had, the meaning of sex to them, and the importance of it in their marriage. The results showed that as one moves from higher to lower social status the proportion of men and women who show strong interest and enjoyment of sex declines. Among men the proportion showing only mild interest and enjoyment tends to increase as one moves to the lower-lower class level. Among women the proportion who are slightly negative or rejecting in their attitudes toward sexual relations increases systematically from the middle to the lower-lower class. Also in this study, Rainwater suggested that the lower socioeconomic class have difficulty in talking with each other about sex. This is simply not a subject about which they communicate freely.

Rainwater (1964) also did another study of the "Marital Sexuality in Four Cultures of Poverty" and found the central sex norm in the "culture of the poor" is that sex is a man's pleasure and a woman's duty. He also found that the lower class view sex as not being important; parents feel it is not of value to give children sex education. The mothers in all four cultures studied do not discuss sex or menstruation with their daughters; the girls are rather taught to fear sex.

Schofield (1965) found that middle-class children tended to obtain sex education earlier than lower-class children, and more of their sex education came from the home. This was especially true for middle-class girls who may menstruate earlier. Boys who were "early starters" in intercourse were more likely to come from middle-class homes and

were also more promiscuous. The common stereotype of the lower-class home with free and easy attitudes toward sex was not supported; rather, the reverse was true.

## PROCEDURE

Setting

Utah State University operates a Child Development Laboratory in which there are seven nursery school groups, each containing ten girls and ten boys. There are three separate laboratories in which the groups meet at various times during the day. Classes are operated on different time schedules, with each class running  $2\frac{1}{2}$  hours in length. The laboratories are located in the basement of the family life building at Utah State University and are supplemented by a kitchen, library, parents' room, and a supply room. The library is a separate room where materials are stored for the teachers' use in the program. Along one wall are shelves of books, along another wall are shelves of records, and along another wall are shelves for musical instruments. Files are provided to be used for checking out materials.

Each lab is arranged to provide various activity areas. Basically these areas consist of the block area, the doll house area, the rug area, and a climbing area. Other media and equipment are brought in at various times as needed to accomplish specific goals. There is a long table with 20 chairs around it in each room. The table is used for individual play with manipulative toys or for small group activities which, on occasion, involve all the children.

Each lab has an observation booth where students from various classes can come and observe the groups while they are in session. The observation booths have a one-way mirror, with apertures for sound above and below the mirrors. Observers can sit comfortably on stools

and see what is happening. The booths are large enough so that an observer can move to different positions in order to follow a child as he moves about the room in the various play areas.

The curriculum for the nursery school labs is centered around cognitive as well as social skills. Each teacher is expected to plan a series of goals, and develop suitable activities related to those goals during her two weeks of teaching. These activities include food experiences, science experiences, music experiences, visitor experiences, and an excursion experience. Each of these activities is supplemented by manipulative toys and other equipment which are chosen according to their various purposes and placed in the room according to the children's needs and teacher's planned goals. The manipulative toys can be used for teaching such concepts as color, shape, form, numbers, etc., and are large in number so that there is something new for the child most all of the time. Of course, many toys and equipment may be brought back into use several times for reinforcement and for other purposes, as planned by the teachers. Every week the teachers change the environment of the room by moving the different areas (such as the doll area) to another setting, and by changing the bulletin boards, books and puzzles and the manipulative toys. Each lab has an open toilet situation with three toilets per lab, and are available to be used by the children as they need to do so. The labs also have sinks for the children, and individual lockers where each child has his own name on his locker so he can find his locker as well as visually see his name on display.

Each nursery school group is headed by one head teacher and four student teachers. The head teachers all have the M.S. degree in child development, except one who holds the Ed.D. degree and is supervisor of

the child development laboratory, and one who is a graduate assistant in the department. The student teachers are students who usually are majoring in child development, or in early childhood education. These teachers must apply ahead of time to student teach in the labs and are selected on a priority basis according to date of application and year in school. The head teachers are members of the faculty in the Department of Family and Child Development. Each class changes every quarter because of new children and new student teachers. The children who come to these classes can stay two quarters, or about five months, unless there are special reasons why they need to remain for a longer time. These needs will vary with each individual child but consist of things such as more social help, more cognitive help, etc. The children are mainly local residents but there are children of foreign students from various countries throughout the world. In order for a child to come to nursery school, parents must fill out an application for their child and his name is then put on a waiting list. Most of the children are accepted, after the age of three, on a priority basis of the earliest date of application. There is, however, a special list, which has to do with children in special situations, from which one group of children is selected. Most of the children in the nursery school classes come from middle class homes in which parents are interested in education. Fees, however, are kept low in order to promote participation by children with a variety of backgrounds. One class, or group, consists of a rather different population from the other six classes. The children in this group are from parents who are students at Utah State University and who live in the USU Student Housing. After any child has been accepted according to age and priority on the list, he is assigned to



a particular group or class on an arbitrary basis, except for the placement of siblings and time convenience of parents.

The university also operates an elementary school known as the Edith Bowen School located on the Utah State University campus. This school is comprised of seven classes which range from kindergarten through the sixth grade, two classes for the emotionally disturbed (intermediate and primary), and one class for the hard of hearing. The children in attendance at Edith Bowen come from not only local residents but also from foreign people as well. However, the majority of these children are white and come from middle class homes. Selection of these children who attend Edith Bowen is also based on application and the application is not accepted previous to the year in which the child will attend school. An admission committee reviews all applications, and preference is given in the following order: siblings of children presently enrolled at Edith Bowen; siblings or children of former students, and children living in the area which would normally be served by Edith Bowen. Also in reviewing applications attempt is made to keep the groups balanced as evenly as possible between boys and girls. Edith Bowen has been set up in order to handle student teachers from Utah State University and in order for the students of various classes to get first hand experience in observing the classes while in session. The kindergarten has two sessions, each  $2\frac{1}{2}$  hours in length. In order for a child to be admitted in kindergarten, besides acceptance of application, he must be five years of age by October 31 of the year of his entry. School begins at 9 a.m. and ends at 3:25 p.m. for all children except the kindergarten and first grade with the first grade letting out at 2:30 p.m. The teachers at Edith Bowen all have M.S. degrees and are chosen according to individual characteristics. The curriculum

of this school is also centered around social as well as cognitive skills, with each child being viewed as an individual in his own right. Cognitive skills, in arithmetic, reading, writing, spelling, speaking and listening, are emphasized as well as skills in music, art, science, and social studies. The school facilities include a kitchen, multi-purpose room, library, supply room, office, and separate restrooms for the boys and girls. The kindergarten room has a separate rest room of its own, as well as a fountain and a sink for the children's use. The kindergarten room is one large room which is kind of divided into a doll house area, rug area, table area, and a free play area. There are two big tables with chairs around them for the children. There are also some shelves for manipulative toys where, during free play, the children are permitted to choose what they like and work with it in the allotted time.

In a small town, Millville, located on the outskirts of Logan, is a school called Millville Head Start Child Development Center. This was previously known as the Millville Elementary School but due to consolidation the building became vacant, and is now in use as a Head Start school which serves children from Cache County and Logan City. The school itself has a nice large playground of cement and grass and is facilitated with outside equipment for the children's use. The valley in which it is located is clean and very inviting. There are three separate classrooms, a multi-purpose room equipped with tricycles, ropes, and other large muscle equipment, a kitchen, a nurse's room, and restrooms--one for the boys and one for the girls. The children which comprise the population of this school are different from the Edith Bowen and nursery school children in that they are chosen not only on date of application but also are chosen according to their parents'

income. These parents must qualify on an income level in order for their children to attend Head Start. There are three separate classes with a maximum of 20 children in each class. Their ages range from four to six years. Each classroom is painted in bright colors and has individual lockers with the child's name displayed. There are tables and chairs where the children work, as well as a doll house area and a rug area. These children stay a period of three hours and eat lunch at school. A bus takes them home to their various destinations. A nurse is there three of the five days and assists with children who are ill and who become hurt. Most of these children are Caucasian and range from 4 to 6 years of age. There are three teachers and three aides, one aide per teacher. The teachers all have B.S. degrees and the aides are hired from the community by Head Start and help the teachers in their planning and teaching of the children. Parents also come and help in working with the children. The curriculum is set up to emphasize helping the child in his cognitive and social skills. It is much the same as the nursery school in that it is geared to meet the individual needs of each child. But in a Head Start situation, more basic concepts are presented at a more elementary level.

#### Selection of Sample

The sample of this study consisted of 60 children: 20 were selected from the laboratory nursery school of the College of Family Life at Utah State University, 10 of these children were boys and 10 were girls; 20 kindergarten children were selected from the laboratory Edith Bowen School at Utah State University, 8 were boys and 12 were girls; the other 20 children were selected from the Millville Head Start school, of whom 10 were boys and 10 were girls. These children

were selected because of availability, age, and social class. The criteria used to measure social class was that of the school attended by the child. Kindergarten and nursery school children are assumed to represent the middle class of the area. The kindergarten children were in the morning session and were chosen because of their age ranging from 5.6 to 6.7 years. The nursery school children were chosen on the basis of their age being in range of 4 to 4.5 years. If a nursery school child was beyond 4.5 years, the examiner did not accept him as a subject. The Head Start children were chosen to represent the lower social class group and were selected on the basis of their age. The examiner went through the Head Start file for Millville Head Start school to choose her subjects and found very few who were close to 4 years of age. Most of these children ranged from 4.5 to 6 years. However, the examiner chose the younger ones whose ages ranged from 4.5 to 5.1 years. They were, therefore, slightly older than the children in the nursery school group.

#### Questionnaire

The questionnaire used in this study consisted of eleven questions. This questionnaire was derived from one used by Hans and Shul-smith Kreitler described in a study reported in Kreitler and Kreitler (1966). (See Appendix.) It was used only to guide the interview. At the present time, the examiner cannot prove the validity of this questionnaire other than its usage in the previous study mentioned. It has not been validated. The questionnaire used in this study differed from Kreitler and Kreitler's instrument in that many questions were eliminated because they went beyond what the writer was attempting to study. During the interviewing for this study it became necessary

to add one question and eliminate another in order to deal with problems posed by some children as described in the methods of procedure. The questions used from Kreitler and Kreitler were reworded and changed to promote clarity.

#### Pilot Study

A pilot study was done during the week preceding the one in which this study took place. Pilot work was conducted with the questionnaire seen in the appendix with the exception of question number 8. The examiner interviewed a total of 6 children, 3 kindergarten and 3 nursery school. The kindergarten children consisted of two girls and one boy as did the nursery school children. The kindergarten children were interviewed in the teacher's office and the same procedure was used as mentioned in the methods of procedure. The nursery school children were interviewed in the nursery school library and were also interviewed in the same way as were those in the kindergarten. All of these children were interviewed individually in a separate room from the other children and the teachers.

An interesting thing happened during the pilot study of the kindergarten children. The examiner discovered, when she started talking to these children, that they had witnessed a cow giving birth to a calf on an excursion the previous day. Because of the uniqueness and correlation of this event, the examiner decided to ask all the kindergarten children being interviewed about this experience, inasmuch as they had all observed the event. These kindergarten children used in the pilot study were also used in the actual study. They were interviewed two times but the second time only about the experience of the cow. This was done by telling them how interested the examiner had

become in their experience of seeing a cow give birth to a calf and she wanted them to tell her more about it. During the pilot study, however, these children were asked the questions from the questionnaire. The nursery school children were also used in the actual study and were interviewed only once. Everything went well during the pilot study and the writer found no problems or complications. The only difference in the methods of procedure between the pilot study and the present one was the problem which occurred during the actual interviewing and is mentioned in the methods of procedure.

#### Methods of Procedure

Questions were administered to each child individually and in a separate room from the teacher and other children. The kindergarten children were tested in their teacher's office which was actually part of the kindergarten area but was a completely separate room. The door was closed during testing so there would be no disturbances. Testing of the kindergarten children took two separate morning periods within the same week. This was arranged for the examiner's convenience because of class schedules. The testing was concentrated in the morning as this was when these children were in school. Testing of the nursery school children took place in a separate room, the library, in the Child Development Laboratory. Interviewing of the nursery school children took two mornings and one afternoon and was mainly concentrated in the morning because the majority of the children were from the two morning groups. The examiner selected all but four of the children from the two morning sessions and the other four were selected from one of the afternoon labs and were tested during the same two days already mentioned. The testing of the Head Start children was done in

the same manner but in various classrooms according to the availability of a private room where the research was carried out at a convenient time. The examiner had already chosen her sample by age and started in one class and went to another as children were being used from all three groups. This was done in a period of two days, also, and was concentrated in the morning as this was the time these children attended school.

The subject was seated at a table/desk with the examiner and told that he was going to be asked some questions pertaining directly to four pictures which the interviewer held. The examiner said: "I'm going to ask you some questions about these pictures and I want you to answer them the best way that you can. If you do not know the answer then you may tell me you don't know." The examiner proceeded by holding up a picture of a baby and had the subject tell her what it was. The examiner went on to ask the subject introductory questions about the picture of the baby such as what does a baby eat, what does a baby play with, etc., mainly for the reason of setting a comfortable atmosphere for the main questions to be asked. After these introductory questions, the examiner led right into the questionnaire and asked the questions as seen in the appendix. After the last question, the examiner held up each of the other four pictures in turn. The four pictures consisted of a baby, two horses, two cows, and a monkey. These pictures were chosen only as a conversational piece. After the last question on the questionnaire, the examiner would ask the child about one of these other pictures and would ask things such as what do horses eat, how do they move, etc. The same procedure was carried out on the last three pictures. In all but two cases which dealt only with Head Start children, the picture of the baby was shown first. These two children were

cases where the examiner had a hard time getting the subject to be verbal and by showing him one of the animals first, she was successful in getting the child to be more verbal and in getting him to respond to the picture of the baby and to the questions being asked. The teachers of these two children explained that they were also two of the more non-verbal children in their classrooms.

The examiner had no difficulty with the questionnaire in interviewing the kindergarten children. They responded satisfactorily to all the questions. However, as the examiner began her interviewing with the nursery school children she had problems beginning with question number 3, "Who has babies?" As the examiner asked this question to the first few nursery school children, she found the answers to be directly related to someone whom they knew who had just had a baby. The interviewer decided that the question should be more concrete and so she eliminated this question and asked question number 4, "Can only a mother have a baby." Most of the kindergarten children answered question number 3 by answering, "mothers," so the examiner didn't feel it was a problem, but the nursery school child didn't and according to how the question was previously set up, the examiner felt she would or was feeding the answer to question number 3 by asking question number 4 as "Can only a mother have a baby?" As the interviewing proceeded with the nursery school children the examiner found another problem as she came to question number 9, "How did the baby get out of the mother's body?" Because most of the first few nursery school children being interviewed did not mention the baby as being in the mother's body, the examiner found it necessary to insert question number 8, "Can a baby be in a mother's body?" If the nursery school child did not know the answer or said, "I don't know," to question number 8, then questions number



9 and 10 were eliminated. Accordingly, if a child did not answer question number 9 or said, "I don't know," then question number 10 was eliminated. The examiner did this because otherwise she was feeding the answers to the child. The procedure just mentioned was also carried out with the Head Start children.

The whole interview was carried out in such a way that there were no right or wrong answers and it was perfectly fine if the subject didn't know an answer. The examiner tried to make the interview as friendly and pleasant as she could.

When the interview was over the subject was thanked for his help and was told he could join the rest of his classmates.

The children's answers were recorded on tape. The interviewer tried to camouflage the microphone and tape recorder as much as possible so it would not distract from the interview. More of the kindergarten children than nursery school and Head Start children asked what the microphone was for mainly because the examiner couldn't camouflage it as well for the kindergarten children due to the small area in which the interviewing took place. In answering the children's questions, the examiner explained that she was using this tape recorder so she could compare all the children's answers. The children accepted this answer and the interviews were carried out without further interruptions.

## RESULTS

The hypotheses were that children do have a realistic understanding of the nature of conception and childbirth and that there would be a difference between children of different social class backgrounds, different ages and different sex groups, and different family circumstances in their awareness and understanding of sexuality.

The first hypothesis, the children do not have a realistic awareness of human conception and birth, was rejected. The findings show that children are realistically aware of the nature of human conception and birth.

The second hypothesis, that children do not have a realistic understanding of human conception and birth was accepted. The results show that although the young child is realistically aware of the nature of human conception and birth his understanding is faulty.

The third hypothesis, that there would be no differences between children of different social class backgrounds in their understanding of human conception and birth, was rejected. In viewing the results, it is revealed that the middle class children were much better informed than were the Head Start children.

The fourth hypothesis that there would be no differences between children of different ages in their understanding and awareness of human conception and birth was rejected. It was found that the kindergarten children were better informed and were more detailed in their responses than were the other two groups.

The fifth hypothesis, that there would be no differences between children of different sex groups in their understanding and awareness of human conception and birth, was accepted. A frequency test was done on the influence of the different sex groups in the children's responses but the sex of the child showed no influence on the kind of response which was given.

The data in this study appear to support these results, in relation to the hypotheses, but it must be mentioned that no statistical analysis has been made, rather the results are shown in the number of children's responses to the given question.

In order to test the hypotheses it was necessary to devise a questionnaire which would meet the needs of the various age groups and social groups. The various questions are first discussed separately, then treated as a whole in their relation to the given hypothesis.

For the interviewed children not to obtain hints or information through questions which mention the process of having a baby directly, the following questions were used with the aim of finding out the source of the children's responses and in finding out which of the children grasped the idea of the baby being in the mother's body and the subsequent birth of the baby.

The first question asked was, "Where does a baby come from?" As can be seen from Table 1, the kindergarten children have a more realistic concept of where a baby comes from than do the nursery school or Head Start children. However, the kindergarten and nursery school children are better informed than are the Head Start children. Seventy-five percent of the kindergarten children and 50 percent of the nursery school children stated that "mother" was the source of where baby comes from, whereas only 5 percent of the Head Start children did so. Of

Table 1. Responses to the question: "Where does a baby come from?"

Response	Kinder- garten		Nursery School		Head Start		Total	
	#	%	#	%	#	%	#	%
Mothers	5	25	4	20	0	0	9	17
Mother's Stomach	10	50	6	30	1	5	17	28
Heaven or Heavenly Being	3	15	5	25	4	20	12	20
I don't know	1	5	1	5	3	14	5	8
Hospital	0	0	2	10	7	35	9	15
People	0	0	1	5	1	5	2	3
"From hospitals, from stomachs"	1	5	0	0	0	0	1	2
From Doctor	0	0	0	0	4	20	4	7
"When people get fat"	0	0	1	5	0	0	1	2
Total N = 60 20 per group								

these children, 50 percent of the kindergarten and 30 percent of the nursery school children went even further in giving the location of the baby as being "in the mother's stomach." The most predominant answer for the Head Start children, however, was the "hospital." Thirty-five percent of these children made claim as to the hospital being the source of the baby. Secondly, the Head Start children gave the "doctor" and "Heaven" an equal amount of response. It is interesting to note that the nursery school children ran parallel to the Head Start children in their second most frequent response which was "Heaven" or a "Heavenly Being." However, not one of the kindergarten or nursery school children mentioned the "doctor" as the source, whereas 20 percent of the Head Start children did. It is interesting to note a dual

concept given by one kindergarten child wherein he claimed the hospital and the stomach as the source. Of notation also is a response given by one of the nursery school children wherein the enlargement of the person was mentioned. This response, which was "when people get fat," seems to mean that anyone can have a baby when he gets fat.

The question, "Who told you where a baby comes from?" was asked to provide information as to the source of the children's information. The results are given in Table 2. In viewing these answers, the most common one is "mother." Equally, 45 percent of each group claimed "mother" as the source of their knowledge. Second, for the kindergarten and the nursery school child, was the claim of the child himself as the source. However, for the Head Start child the second most common answer was "I don't know." One response which was singular in nature and is listed under "others" was unique in character in that it gives some insight into how willing and proud these children are in answering the given questions. When asked, "Who told you where a baby comes from?" one nursery school child answered, "I know a lot about babies." Another nursery school child couldn't quite make up his mind as to the source of his knowledge and laid claim to himself, or his mother, or his father.

The question, "Who has babies?" was only administered to the kindergarten group. An explanation of this is found in the section on procedure. The results from this question are listed in Table 3.

The most frequent answer to the given question was "mothers." Fifty percent of this group attributed mother as the source of who has babies. Second in frequency was "no answer." The reason for this is not known. However, more concrete questions follow this one and the results there are of value. When asked the above question, two children

Table 2. Responses to the question: "Who told you where a baby comes from?"

Response	Kinder- garten		Nursery School		Head Start		Total	
	#	%	#	%	#	%	#	%
"No one--I just knew"	9	45	5	25	2	10	16	27
Mother	9	45	9	45	9	45	27	45
Dad	1	5	1	5	1	5	3	5
"I told myself or either my mom or dad"	0	0	1	5	0	0	1	2
No answer	1	5	0	0	1	5	2	3
Teachers	0	0	1	5	1	5	2	3
"Others"	0	0	2	10	2	10	4	7

N = 60 20 per group

Table 3. Responses to the question: "Who has babies?"

Response	Kinder- garten		Nursery School		Head Start		Total	
	#	%	#	%	#	%	#	%
Mothers	10	50	0	0	0	0	10	17
No answer	4	20	0	0	0	0	4	7
Mothers and fathers	2	10	0	0	0	0	2	3
I don't know	1	5	0	0	0	0	1	2
"Others"	3	15	0	0	0	0	3	5

N = 20 20 per K group

made identification with someone with whom they were acquainted who had just had a baby. Two example answers of this are: "My aunt has a baby cousin," and "One of my friends has three babies--a new baby lives near our house." Another interesting answer which was attributed to mother but which gave a rather unique concept was, "My mother--I'm her baby." Of realism is the concept, "People that are married."

The following two questions whose purpose was also finding out the source of babies were, "Can only mothers have babies?" and "Can a father have a baby?" These questions are more concrete in nature than was the preceding question and was meant to be for the purpose of meeting the needs of the younger children. However, it can be seen from the results given in Tables 4 and 5 and comparing them with the results in Table 3 that the needs of the kindergarten children were also met. The results of the question, "Can only mothers have babies?" can be seen in Table 4. The data in this table are fascinating because of the extreme awareness of the nursery school group. One hundred percent of the nursery school group said "yes" to the question, whereas only 60 percent of the Head Start group did so. Very close to the nursery school group was the kindergarten group with 95 percent of the answers being "yes." The only group which said "no" to the given question was the Head Start group with a total of 35 percent.

The question, "Can a father have a baby?" is rather a supportive question to the one preceding it. It is interesting to note that the kindergarten children were more consistent in their answers to the preceding question and the present question than were the nursery school children or the Head Start children. However, the majority of the kindergarten and nursery school children said the father couldn't have a baby, whereas the majority of the Head Start children said he could.

Table 4. Responses to the question: "Can only mothers have babies?"

Response	Kinder- garten		Nursery School		Head Start		Total	
	#	%	#	%	#	%	#	%
Yes	19	95	20	100	12	60	51	85
No	0	0	0	0	7	35	7	11
I don't know	1	5	0	0	1	5	2	3

N = 60 20 per group

Table 5. Responses to the question: "Can a father have a baby?"

Response	Kinder- garten		Nursery School		Head Start		Total	
	#	%	#	%	#	%	#	%
Yes	1	5	3	15	12	60	16	27
No	18	90	17	85	7	35	42	80
"Sometimes"	1	5	0	0	0	0	1	2

N = 60 20 per group

A summary of the children's answers, based upon the question "How does a baby come into the world?" reveals the existence of several concepts. These results are given in Table 6.

Two answers are prevalent for the kindergarten group. Forty percent of the kindergarten children knew that the stomach had a correlation with a baby coming into the world. Of this 40 percent, 20 percent of these children went further in explaining that it came out of the stomach; most of these explanations were given by the use of some surgical means. Examples of these types of answers are as follows: "He operates out of your stomach," and "They cut open the stomach." Another



Table 6. Responses to the question: "How does a baby come into the world?"

Response	Kinder- garten		Nursery School		Head Start		Total	
	#	%	#	%	#	%	#	%
In the stomach	4	20	0	0	1	5	5	8
Out of the stomach	4	20	2	10	0	0	6	10
By Heaven or a Heavenly Being	2	10	4	20	4	20	10	17
I don't know	3	15	6	30	12	60	21	35
From mothers	1	5	5	25	1	5	7	11
From a seed	2	10	0	0	0	0	2	3
No answer	2	10	1	5	1	5	4	7
"Be born"	0	0	1	5	0	0	1	2
"Fantastic theories"	2	10	1	5	1	5	4	7

N = 60 20 per group

means of the baby coming out of the stomach was given by a kindergarten subject as, "It comes out of your stomach. It's little as your finger and grows and grows and comes into your stomach and comes out here (pointed to the stomach)." With a somewhat lesser frequency appears the concept of a baby coming from a seed. Ten percent of this same group mentioned the seed as being the source of how a baby comes into the world with one saying, "By God and you swallow a seed." Other responses from this group were rather singular in nature but of interest nonetheless. One singular response given was, "By living."

The most common response to this question from the nursery school and Head Start group was, "I don't know." However, twice as many or 60 percent of the Head Start children gave this answer, whereas 30

percent of the nursery school group did. "Mothers" were second in frequency for the nursery school group, and "Heaven or a Heavenly Being" came third in degree of frequency. For the Head Start group "Heaven or a Heavenly Being" was second in frequency. Supporters of this theory mention that "Heavenly Father" or "Jesus" brings them here but they do not mention the means of transportation or how they bring them. Not directly related but of interest is a response given by one of the nursery school children: "Play--they come in a car." Another response from this same group, being realistic in character, was: "Be born."

The question which was asked to find out the child's concept of the location of the baby before its birth was "Where was the baby before it was born?" As can be seen from Table 7, the most predominant theory for the kindergarten and nursery school group was ascribed as being in the mother's stomach. Forty-five percent of the kindergarten and 35 percent of the nursery school group mentioned this particular theory. Different from these groups, however, is the Head Start group whose most predominant answer was "I don't know." With a somewhat lesser frequency appears the theory "In Heaven or from a Heavenly Being." This was second in degree of frequency for all three groups. In terms of "Heaven," some of the responses viewed the baby as being "In Jesus' home," and "Up in Heavenly Father's," and "Up in Heaven." Two of the Head Start children viewed the baby as being just "In a house," and "home." In terms of third degree of frequency, each group varied with "I don't know," "In the hospital," and "In a house." Of note is another theory which was singular in nature but of a unique character and that was that of the baby being "In an egg" before birth.

The following question which was administered only to the nursery school and Head Start children was to provide information as to whether

Table 7. Responses to the question: "Where was the baby before it was born?"

Response	Kinder- garten		Nursery School		Head Start		Total	
	#	%	#	%	#	%	#	%
In Heaven or from a Heavenly Being	5	25	5	25	4	20	14	23
"In an egg"	1	5	0	0	0	0	1	2
In mother's stomach	9	45	7	35	0	0	16	27
In the mother	1	5	1	5	1	5	3	5
In the hospital	1	5	3	15	2	10	6	10
I don't know	3	15	3	15	10	50	16	27
At the doctor's	0	0	1	5	1	5	2	3
In a house	0	0	0	0	2	10	2	3

N = 60 20 per group

these two groups actually felt that a baby could be in a mother's body. The results to the question "Can a baby be in a mother's body?" are rather surprising, and are given in Table 8. Thirty percent of the Head Start children said "No," whereas 10 percent of the nursery school children said "No." However, 70 percent of the nursery school children felt a baby could be in the mother's body, whereas 45 percent of the Head Start children felt it could. The other responses were given as "I don't know." If the answer was "No," or "I don't know," questions 9 and 10 were not given to these subjects.

The follow-up questions to Tables 7 and 8 were: "How did the baby get out of the mother's body?" and "Where does it come out?" The answers to the first question can be seen in Table 9. The most common answer for the kindergarten group is the one referring to the mother as

Table 8. Responses to the question: "Can a baby be in the mother's body?"

Response	Kindergarten		Nursery School		Head Start		Total	
	#	%	#	%	#	%	#	%
Yes	0	0	14	70	9	45	23	57
No	0	0	2	10	6	30	8	20
I don't know	0	0	4	20	5	25	9	23

N = 40 20 per NS; 20 per HS

Table 9. Responses to the question: "How did the baby get out of the mother's body?"

Response	Kindergarten		Nursery School		Head Start		Total	
	#	%	#	%	#	#	#	%
By having an operation	9	45	3	15	0	0	12	20
"Go to the hospital"	2	10	1	5	1	5	4	7
"Out of her bottom"	1	5	0	0	0	0	1	2
"A special opening"	1	5	0	0	0	0	1	2
Doctor took it out	1	5	1	5	0	0	2	3
I don't know	6	30	5	25	3	15	14	23
Not questioned	0	0	10	50	16	80	26	43

N = 60 20 per group

having to have an operation such as "By having operations," or was in terms of the doctor cutting her open to get the baby out. One child's response was: "Cuts a part of her open and gets the baby out." However, the part of her to which he was referring was not mentioned.

Two very realistic concepts from this group were: "Out of her bottom," and "A special opening." The latter response was not given any more detail than that and could be either realistic or non-realistic, depending upon the location and where the child claims this this location to be. In terms of greater frequency for the nursery school group and the Head Start group was the answer "I don't know." For the nursery school group the other response being second in frequency was that of the mother having to have an operation. As for the Head Start group, the mentioning of "Heaven or a Heavenly Being" was second in frequency. Other theories which were listed under "fantastic theories" gave leeway to the concept of the baby itself having something to do with its getting out of the mother's body. Such concepts were: "She wiggles," "Crawl out under their arms," and "When it gets bigger." One mentioned the baby as just having to "stay in there" and "then go to the (he stopped)." These concepts give action to the baby itself in terms of its getting out, whereas others mentioned the mother as having to do some action in helping the baby get out. Some examples of these are "The mother pushes it out," and "The mother has to take a shot."

The question "Where does it come out?" was given only to those children who gave answers to the preceding question. If the answer was "I don't know," the following question was not posed to the subject. The most striking feature of the data of Table 10 is the concept, "Somewhere out of the tummy." Of these answers, most of the children stated the baby as coming "out of the stomach," but did not give the location as to where it came out. This concept was most prevalent for the kindergarten and the nursery school group. Two of the responses being the same concept as the previous one mentioned but more precise in detail was "From the belly button." These responses mentioned the

Table 10. Responses to the question: "Where does it come out?"  
(Answers of reduced experimental group)

Responses	Kinder- garten		Nursery School		Head Start		Total	
	#	%	#	%	#	%	#	%
Somewhere out of the tummy	10	50	6	30	0	0	16	27
No answer	3	15	0	0	1	5	4	7
I don't know	2	10	1	5	3	5	6	10
"At the doctor's office"	0	0	1	5	0	0	1	2
"Out of the bottom"	2	10	1	5	0	0	3	5
No	2	10	0	0	0	0	2	3
"From the belly button"	1	5	0	0	1	5	2	3
"Out of Mama's laps"	0	0	0	0	1	5	1	2
Not questioned	0	0	11	55	14	70	25	42

N = 60 20 per group

location of where a baby came out in relation to the stomach. Most of the Head Start children said "I don't know," or refrained by giving no answer. One did say that a baby came "out of Mama's laps." This could be realistic or unrealistic, depending again upon the location. Three realistic concepts which came from the kindergarten and nursery school groups were "Out of the bottom." Of these three responses, two came from the kindergarten group and one from the nursery school group.

Of importance in the process of a mother having a baby is the consideration of the father and what his role is in connection with this process. The last question asked was "What does a father do to help the mother to get a baby?" The results are shown in Table 11.

Table 11. Responses to the question: "What does a father do to help the mother get a baby?"

Response	Kinder- garten		Nursery School		Head Start		Total	
	#	%	#	%	#	%	#	%
I don't know	7	35	8	40	6	35	21	35
Takes her to the hospital	1	5	3	15	1	5	5	8
Takes her to the doctor	2	10	0	0	3	15	5	8
"Put the seed into her"	1	5	0	0	0	0	1	2
"He doesn't do anything"	2	10	0	0	1	5	3	5
"He puts something from his bottom into her stomach"	1	5	0	0	0	0	1	2
"Fertilizing something"	1	5	0	0	0	0	1	2
Mentioning of various routine activities which are not related to baby or the mother	2	10	2	10	0	0	4	7
"They wait outside because they get born with no clothes"	1	5	0	0	0	0	1	2
"Gives her an aspirin and when he has other big kids, he takes care of them"	1	5	0	0	0	0	1	2
"He has to visit her and stuff like that"	1	5	0	0	0	0	1	2
Cares for the baby	0	0	1	5	2	10	3	5
"Finds her a baby"	0	0	0	0	1	5	1	2
"Get married"	0	0	0	0	1	5	1	2
"He goes to the hospital and gets one"	0	0	0	0	2	10	2	3
No answer	0	0	1	5	3	15	4	7
"He buys one"	0	0	1	5	0	0	1	2
"Helps them to get it out"	0	0	1	5	0	0	1	2

Table 11. Continued

Response	Kinder- garten		Nursery School		Head Start		Total	
	#	%	#	%	#	%	#	%
"Get them born"	0	0	1	5	0	0	1	2
"Get it down from the doctor's"	0	0	1	5	0	0	1	2
"Helps them bring home one"	0	0	1	5	0	0	1	2
N = 60 20 per group								

The most predominant answer for all three groups was "I don't know." These children apparently saw no correlation between the father on one hand and pregnancy and birth on the other hand. The remaining majority of responses referred to the father's task as being after the birth of the baby. These are listed under the responsibilities of the father such as transportation of the mother, care for the baby, care for the mother and the remaining children, and visiting the mother while in the hospital. With lesser frequency appears the role of the father during the process of having them born. Such an example is "Get them born." Other responses having to do with the father's role in relation to the baby are ones such as "Finds her a baby," "He goes to the hospital and gets one," and "Get it down from the doctor's." As can be seen, the following concepts show the father's role before the birth of the baby and are very realistic in nature. All of these responses came from the kindergarten group and are as follows: "Fertilizing something," "He puts something from his bottom into her stomach," and "Put the seed into her."



In comparing the three different groups and their responses to the given questions, it becomes evident that the kindergarten children are better informed than are the nursery school and Head Start children. Not only are they better informed, but their responses were given in greater detail than were the responses given by the nursery school children or the Head Start children. An example of this is question number 1. When the children were asked, "Where does a baby come from?" one of the concepts was "Mother's stomach." In comparing the type of answers the Head Start and nursery school children would say in connection with this concept were "mothers" or "mommy's stomach," whereas the kindergarten children went further in their responses with answers such as "Doctor's cut the mother's stomach open and get the babies out," and "Sometimes out of an egg in your mother's stomach." The nursery school children were fairly parallel in their answers with the kindergarten group, although their number was not as great nor were their answers in as much detail. However, these children were much more aware and better informed than were the Head Start group. In viewing the Head Start group, most of their predominant answers were in conflict with the ones given by the kindergarten and nursery school groups in terms of their awareness and knowledge about the given questions. As far as the total groups' understanding of human conception and birth, the results reveal that the children questioned don't understand the total process of human conception and birth, and in relating these results to the given hypotheses it can be seen that there were substantial differences between the different age levels and social groups in their awareness and in their understanding of sexuality. A frequency test was run on the girls' vs. the boys' responses but no differences were found.

## DISCUSSION

Several theories were mentioned in the review of literature about the creation and birth of babies. Indirectly some of these theories were tested and it is of importance to mention them and their application to the present study.

It is the opinion of this writer that the so called "infantile theories" which Freud claims children have about "sex" or about the "creation and birth of babies" need not be if parents give correct answers to children when the children pose these questions to them. The results of this study show a great difference between the kindergarten, nursery school, and Head Start groups. The greatest deviant is the Head Start group because of their lack of knowledge and their hesitance to respond. It is the investigator's opinion that part of the reason for this lack of knowledge and hesitance to respond is because of the lack of communication and response on the part of the parent who, according to the literature, finds the area of sexuality not to be one for comfortable discussion.

The nursery school and kindergarten children were much more knowledgeable and much more free in their responses than were the Head Start group and this seems to have bearing on the interrelation between the parent and the child. Of course the kindergarten children were even more aware than were the nursery school children, but this may be so because of the difference in age.

The results of this study show that children are aware of the birth of babies; that they do have a realistic concept of where a baby

is located before birth and they do have a rather realistic concept of how it is born. However, as to their understanding of how a mother gets pregnant and the question of what a father's role is in the process of getting a baby, these seem unclear and vague to the groups as a whole. However, the kindergarten group just seem to be coming aware of the role of the father and of his role in the birth of a baby. This finding support Eckert (1956) in revealing that the age 6-7 is the time when the father's role in the process of birth and conception become of interest to children. It may be of interest to note the fact that most of these kindergarten children were 6 years of age during the time of questioning. One writer's opinion is that even though some of these kindergarten children gave realistic responses to the question of the father's role and the question of the location of where a baby comes out, it is questioned by the writer as to whether they really understand what they are saying. These responses seemed to be in the "parent's language" rather than the child's, and even though the answers were of a realistic nature there leaves some doubt as to whether the child understands the answers given by the parents.

The foregoing finding reveals another opinion of the writers which is that only a certain amount of information needs to be given at each age level but this information should be realistic and of the right amount to satisfy the needs of the children. During the time of Freud's and Piaget's early writings it was rather "immoral" to discuss "sex" and the phases related thereto. Because of this general attitude, attitudes of parents and their reactions to their children's questions about birth and conception were apparently false or evasive in comparison with the general attitude of parents today. According to Freud, it seemed that most parents gave the child the "stork story" when asked

the question "Where do babies come from?" From the results of this study, this is not true today. Not one subject mentioned the stork as a means of where a baby comes from and it can be assumed that parents do not give this as an answer to their children with as much frequency as perhaps they once did. One more idea to consider here is whether or not the parents even give a response to the child's questions. According to Freud (1959), most of the children during his writings didn't believe the "stork story" and so formed these "infantile theories" on their own. To this writer, this again shows the importance of the need of parents to react to their children's questions and to give them the needed information they desire.

This study did not measure the parents' reactions to their children's questions or measure whether or not these children posed these questions to them, but it did ask the source of the child's information and in order of frequency the parent was listed as the main source with the child himself as the second; others followed in less frequency. Therefore, it is assumed by this writer that the results do show a more clear understanding in the responses given by the children, and it is assumed that this is directly related to the responses given by the parents to their children's questions.

The Freudian theories about the creation and birth of babies describe several phases according to the age of the person. The writer would assume that this first phase would be directly related to the nursery school and Head Start group. However, Freud didn't mention age so it is really not known. Accordingly, Freud felt that the child in this phase believed that a baby was born through the anal region. Freud claimed that the child believed this because of his ignorance of the differences in sex organs. Although the differences in sex organs

and the child's awareness of them was not directly tested in this study, it is this writer's opinion that most of these children are aware of these differences and would say so had they been asked. In applying this theory of the baby being born anally with the present study, this theory was not supported. The nursery school and kindergarten groups did, however, support Freud's second phase, age being unknown but assumed older than the first phase, where he claimed that the child believed a baby to come out of the naval or out of an opening made in the abdomen. This may have several implications, but one which this writer is aware of is that the children tested in this study are either more advanced in their knowledge about the creation and birth of babies than were the children during Freud's time, or else the concept of the birth of the baby through the anal region is resolved.

A couple of children did mention the birth of the baby to come from "out of the bottom," but there is confusion as to the terminology of "bottom" and what it means. This was not the most frequent response of the answers mentioned. The most frequent response about the birth of the baby from the nursery school and kindergarten group was "out of the stomach," usually by some surgical means, whereas the Head Start group claimed "Heaven or a Heavenly Being" as the most frequent.

The concept of "Heaven or a Heavenly Being" was mentioned rather frequently throughout the study and does lend some support to Conn's (1940b) study in which the most common concept of the 4-6 year old was that babies come from God or from the hospital. This concept, however, has more support with the Head Start group than the other groups.

As to the creation of babies, this writer did not find support for Kreidler and Kreidler's (1966) and Freud's (1959) claim that a baby was created in an oral manner. Not one subject mentioned a baby

to be created from the food which the mother eats. This may be because of the type of question asked. Maybe more specific questions could have been applied and a more clear answer to this concept could have been attained. However, it would seem that this theory could have been mentioned in this study through the questions given, but it was not.

Another theory which Freud postulated but is indirectly related to where babies come from, is that of the child viewing his parents as being married and deriving from that a pleasurable experience and a disregard of modesty. One subject in this study when asked what a father must do in order to get a baby stated that he must wait outside because the baby was born without any clothes. Another response to the same question was that the father must "get married." Whether or not this is seen by the child as a pleasurable experience and a disregard of modesty is not known. The theory of a child being formed (or started) by a kiss was not supported by this study.

In comparing this study with Piaget's theory about the artificialistic concept, there is no confirmation or relation shown in this study to support this idea. Like Freud, Piaget felt that children believed babies to be born anally and that they were made from special food which the mother ate, or from the urine or excrement. These theories were not supported in this study and have already been discussed in comparison with Freud.

The results of this study suggest that children are interested in "where babies come from," and they do have some realistic concepts as to how they are born and who has them. These results lend support to Hymes (1968) in that parents should give correct information in the answering of children's questions about sexuality and should give them with discretion and according to age.

The kindergarten group had an unusual experience just prior to the time of their questioning. Unknown to this writer beforehand, the group had been on an excursion to a dairy farm and had witnessed a cow giving birth to a calf. When this incident was related to her, it was decided that one of the pictures used after the actual questioning would be of a cow and a calf. The procedure for this is explained in the procedure section. When this picture was shown, all of the children tested told the investigator about the excursion to the dairy farm and the experience they had while there.

The questions asked of these children about the experience they had seemed to follow a certain pattern. The investigator first asked them if they had ever seen a calf, where they had seen one, and what events took place during this experience. Further questions were asked during the relation of the experience as it was given by the child. These questions were rather general and consisted of asking about the enlargement of the cow's stomach, the movement of the stomach during the birth of the calf, where the calf came out, and the reaction of the mother cow to her calf after delivery. The responses to the questioning was rather general and a main story was told by all the children. However, the responses varied in detail and in degree and is assumed to be because of differences in personalities and needs and because of some children having a better view than other children.

The story was that when the children arrived at the dairy farm, a mother cow was about to give birth to her calf and a man explained to the children what was taking place. The children on the whole related the feet of the calf as coming out of the mother first and then after the baby was out the children related the mother licking the blood off her baby so it would be "nice and clean." Again, some went into

more detail than others and it is of interest to mention some of these reactions. A small number of the children in relating the movements of the mother cow told of the contractions she was having during her delivery; one even demonstrated to the interviewer what the stomach did during this time. A larger number of children told of the stomach as being enlarged when the baby was in its mother and told of how this enlargement decreased as the mother gave birth to her baby. A few children related the baby as being in a water sac and related their concepts to the investigator. Some examples of these are as follows:

"What did you see at the dairy?"

"When we first got there by the cows, a man told us about a cow giving life to a baby calf. Before we left a baby calf came out. The man told us the cow was in a sac."

Another response was:

"What did you see at the dairy farm?"

"We went to the Buttercup Dairy and saw a cow having a baby. The baby was in a water sac. As the water runs down the baby comes out."

A final response:

"What did you see at the farm?"

"There was a little bag full of water and when it popped the baby will be born."

"Do you know what that little bag was called?"

"It is a water bag. I know what that is for. If the mother bumps into something it won't hurt the baby calf."

One child referred to the water sac as a "plastic bag."

In asking them where the baby came out, several ideas or places were mentioned. Some referred to the baby as coming out of the back of the mother; others referred to the baby as coming from underneath her



tail, out of her stomach, and from her bottom. A number of children said they didn't see the baby come out. Again, the children seemed to gather different things from this experience, being more impressed with things which related more to their own interests. However, this experience as a whole was of great interest to the investigator because of the questioning she was doing about a human baby. It was interesting to note that after these children had had this experience there appeared to be no direct association with the birth of the calf on one hand, and the birth of the human baby on the other. This writer was surprised that not one kindergarten child in the questioning of the human baby related the baby as being in a sac nor did they relate the baby as coming from "out the bottom" with as much frequency as they had done with the birth of the calf. It is this writer's opinion that these children as a whole did not relate this experience of seeing a calf born to the birth of a baby. Most of these children mentioned the cleaning of the calf after birth and what the mother had to do to clean up the calf. The questions asked of the children about the birth of a baby did not lend a response as to what the function of the mother was after the birth of the baby. This may have proved interesting, but it is this writer's opinion that from the results of the other questions that this would not have been related had these children been questioned, rather a more social role would have been given as to the function of the mother after the birth of her baby.

Another interesting fact was the frequency with which the enlargement of the mother's "belly" was mentioned with the pregnancy of the cow, whereas this concept was not mentioned with hardly any frequency in relation to the pregnancy of the mother. Perhaps a more direct question would have been necessary to get this response. However, it

is this writer's opinion that there was room for mentioning it in the questions given but the response of the enlargement of the stomach was only mentioned by one of these subjects in the questioning of the birth of a baby. This leads us to believe that these children are not at an age where they can associate two of the same kinds of experiences with each other, rather they are still more concrete in their experiences and can only view them as a single event.

During the preparatory questioning of the nursery school and Head Start groups an interesting event took place in the terminology used by some of these children. In asking some of them how a baby eats, a few mentioned out of a "ba ba." It was interesting to the investigator when asking some of these questions, that a few subjects seemed to use "baby talk" in their descriptions of taking care of babies and what was used in the taking care of them. Another result showed the differences among the groups in their sentence structure and in the details given pertaining to the questions. This again was dependent upon age and social class.

## SUMMARY AND CONCLUSIONS

In summary, the views held by children about the creation and birth of babies seem to be of importance in the field of child development and developmental psychology. However, very little direct observation or questioning has been done in interviewing the children about their concepts of human conception and birth. Most of the studies up to the present time have been of a theoretical nature rather than of an empirical one. Because of this lack of study and because of the curiosity of this writer to find out just what children's concepts of human conception and birth are, a study was deemed necessary.

The objectives of the study were to investigate the nature of the child's understanding of human conception and birth and to investigate the influence of such factors as the child's sex, age, and the social class to which he belonged. In relation to these objectives, the hypotheses were that children would have a realistic awareness and understanding of conception and childbirth and that factors such as sex, age, and social class would be of influence on their concepts.

The groups to be studied were chosen because of age and social class. They consisted of a kindergarten group, a nursery school group, and a Head Start group. In each of these groups there were 20 children questioned--10 boys and 10 girls per group, except the kindergarten group which had 12 girls and 8 boys. A questionnaire was devised to meet the needs of the three groups in their awareness and understanding of conception and birth and consisted of eleven questions. These questions were administered in the same order and given according to

the child's response. If a child couldn't answer a couple of questions or did not know the answer, then a few following questions were not asked of him. Each subject's answer was recorded on a tape and then accordingly these responses were put on a form so the responses could be compared and the results could be shown.

#### Conclusions

From the results of this study it may be concluded that children between the ages of 4 and 6 years do tend to have a realistic awareness of human conception and birth, at least to the extent that the stork myth is not part of their thinking, and that age and social class are powerful influences on children's awareness. It can also be concluded that few young children have accurate or realistic information or understanding about human conception and birth and that the sex of the child seems to make no difference on the child's concept.

#### Recommendations for Further Study

Several possibilities lend themselves to further research from this study. They are:

1. Because the results of this study differ from others which assert that children believe a baby to be conceived in an oral manner, further specific questions may be of value in testing some of these theories and in giving support in favor of or against that which has already been tested. Examples of these questions may be what a mother must do in order to get a baby, what activities go on inside the mother's stomach while the baby is in there, and what the mother's role is after the birth of the baby. All of these would seem of value in relation to

the present study but would have to be given to an older group such as kindergarten age.

2. A study to test Freud's theory on the universality of the penis would be of worth in revealing children's awareness of sex differences and their attitudes toward them.

3. A further study could be done on the questioning of parents as to what their children ask about "conception and birth" and their reactions and responses to these questions particularly, explore the practices of lower class parents in providing education in this area, and explore their attitudes as well in an attempt to gain an understanding of the lack of awareness among lower class children. Also of value would be the results obtained from the same questionnaire given to a parent and child and comparing their responses.

4. A future study which may be of worth would be that of testing the terminology used by these children in relating some of their own baby experiences or in relating what needs to be done in caring for a baby.

5. Because of the results of Genan Anderson's (1969) study, a final study which would be of value would be one which would test the influence of a baby in the home, the size of family, the absence of one parent, and the education of parents on the child's concept of human conception and birth.

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## APPENDIX

Questionnaire

Child:

Age:

Male or Female:

Sex:

Social Class:

Questions:

1. Where does a baby come from?
2. Who told you where a baby comes from?
3. Who has babies?
4. Can only mothers have babies?
5. Can a father have a baby?
6. How does a baby come into the world?
7. Where was the baby before it was born?
8. Can a baby be in a mother's body?
9. How did the baby get out of the mother's body?
10. Where does it come out?
11. What does a father do to help the mother get a baby?

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