

CHILDREN'S UNDERSTANDING OF DEATH

by

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TABLE OF CONTENTS

	<u>Page</u>
ACKNOWLEDGMENTS.	ii
LIST OF TABLES.	v
CHAPTER	
I. INTRODUCTION.	1
Specific Hypotheses	3
II. REVIEW OF LITERATURE.	4
Methodological Consideration.	4
Stages of Development.	8
The Four Concepts Related to Death.	11
Factors Influencing Concepts of Death	12
Age.	12
Cognitive Development.	13
Experience.	14
Parental Explanations	16
Religion.	17
Television.	17
Summary.	18
III. METHODOLOGY.	19
Subjects.	19
Instrumentation.	19
Procedure.	21
Development of Scoring Procedure.	23
Scoring.	26
Design.	29

TABLE OF CONTENTS (Cont.)

CHAPTER	<u>Page</u>
IV. RESULTS AND DISCUSSION.	31
Hypothesis 1.	31
Hypothesis 2.	34
Comparisons of Story Type x Sex	34
Comparisons of Story Type x Subscales	36
Comparisons of Age and Age x Subscale	36
V. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS.	43
Summary.	43
Conclusions.	44
Limitations and Recommendations for Future Research .	45
REFERENCES.	47
APPENDIX A: Informed Consent Letter.	50
APPENDIX B: Understanding of Death Inventory.	53
APPENDIX C: Parental Questionnaire.	62
APPENDIX D: Frequency of Responses for Subscales.	66
VITA.	69

LIST OF TABLES

<u>Table</u>		<u>Page</u>
1	Stages of Understanding Death	9
2	Correlations Among Raters for the Four Concepts of Death	28
3	Intercorrelations Among Animal and Human Scores for the Four Concepts of Death by Age	32
4	Means, and Standard Deviations for Causality, State of Death, Irreversibility and Universality by Age and Sex for Animals and Humans	35
5	Intercorrelations Among the Four Concepts of Death for Animals by Age	39
6	Intercorrelations Among the Four Concepts of Death for Humans by Age	40

CHAPTER 1

Introduction

Throughout the twentieth century increased medical knowledge, improved health conditions and control of diseases which normally spread among the population have contributed to the decrease in experiences the young child has with death (Zeligs, 1974). Death, long ago was an integral part of the growing child's day to day experiences. People lived, became ill and died in their homes. Funerals took place in the home. Children were involved with the entire process, thus, there was no mystery surrounding death. Today the subject of death is very often treated as taboo and avoided whenever possible.

The avoidance of the discussion of death with children appears to center around a fear of upsetting the child and an anxiousness on the part of many adults as to how to handle the topic (Formanek, 1974; Kavanaugh, 1972). The discussion of death has most often been thought of as detrimental to the child and thereby requiring protection of the child. The prevailing attitude has been to protect the child from any exposure to death, therefore, preventing any transfer of guilt feelings to the causality of death (McIntire, Angle, & Struempfer, 1972). Despite efforts directed at not talking with children about death, observations of their daily play and interactions with other children indicate they are aware of the topic and have learned much more than they are given credit for (Lonetto, 1980).

The death of a pet or animal is very often the young child's first direct experience with death. A substantial proportion of children's literature dealing with death involves the death of animals. Also,

adults' explanations of animal death may be less emotionally laden and more matter-of-fact than for human death. Therefore, it seems possible that the child's understanding of the death of animals may precede the understanding of human death.

The Piagetian concept of horizontal decalage suggests that the young child's reasoning is tied to specific situations (Ginsburg & Oppen, 1979). The child is unable to immediately generalize understanding of one area of thought to a similar area of thought. For example, a child at the age of six may have mastered the conservation of substance but not the conservation of weight even though the mental processes involved in both are the same. When giving explanations of death adults may rely on examples from the animal world to facilitate the child's understanding of human death. Therefore, it seems necessary to determine whether the young child is able to generalize explanations of death of animals to similar situations with humans and vice versa.

Factors thought to influence the development of an understanding of death includes experience with death (Kane, 1979; Koocher, 1973) and television viewing and religious training (Gartley & Bernasconi, 1967). However, direct investigations of these factors remains minimal. Parental explanations of death is an additional factor that may influence the child's development of an understanding of death. However, no study has been found to have investigated the content of parental explanations and the subsequent influence on the child's understanding of death.

Thus, the purpose of this study is to examine the development of the child's understanding of animal death and human death and

whether the child is able to generalize explanations of the death of animals to similar situations with humans, as well as being able to generalize explanations of human death to situations of animal death. This study will also investigate the influence of experience with death and parental explanations on the development of the child's understanding of death, as well as attempt to clarify the order and interrelationships of the development of concepts of causality, universality, irreversibility and state of death of both animals and humans.

Specific Hypotheses

- 1) There will be a significant relationship in children's understanding of causality, state of death, irreversibility, and universality for human and animal death.
- 2) Scores on the Understanding of Death Inventory subscales will increase as a function of age.
- 3) The interrelationships of the concepts of causality, state of death, irreversibility and universality will be similar for animal and human death.
- 4) There will be no difference in the frequency of children scoring above and below the median on the subscales of the Understanding of Death Inventory of those having experiences with death and those not having experience with death (animal and human).
- 5) There will be no difference in the frequency of children scoring above and below the median on the subscales of the Understanding of Death Inventory between children receiving factual, religious, or a combination of factual and religious, and no explanation of animal (human) death.

CHAPTER 2

Review of Literature

Investigation into the child's understanding of death has been sporadic over the years. The classic works of Schilder and Wechsler (1934), Anthony (1940) and Nagy (1948) are among the earliest and provide the basis of much of the current research. No critical review of the findings of these studies appeared until the late 1960's when an interest in the child's understanding of death increased.

The review of literature relevant to the present study will cover methods used to investigate the child's understanding of death, as well as stages and concepts of the child's understanding of death. The factors thought to influence the progression through the stages, such as age, cognitive development, experience with death, parental explanations, religion and television are also reviewed.

Methodological Considerations

An early study of children's attitudes toward death by Schilder and Wechsler (1934) utilized the discussion method as the principle means of obtaining responses from children. The technique of requiring the child to review eight pictures and describe them was added later to the same study. Seventy-six children between 5 and 15 years of age were interviewed. Six of the children were diagnosed hyperkinetic, three epileptic, nine mentally defective and the remaining 58 children classified as behavior problems. Three of these children were classified as probable early schizophrenic.

The findings were reported in very general statements based on responses from the younger "more normal" children, with little

attempt made at any quantitative evaluation. Schilder and Wechsler (1934) concluded that children deal with death in a very matter-of-fact and realistic way. The fear of death in young children is rare and their own death is not a probability. Death was viewed as a deprivation, e.g., cannot see, feel, eat, and as reversible. Explanations for death included "overeating," "God made them die" and death as the result of violence. The latter was the most frequent suggestion by the children (p. 422).

The sample used in the Schilder and Wechsler (1934) study makes generalizability to other groups of children questionable. Three of the eight pictures presented to each child depicted death by violent means, e.g., shooting, stabbing, and hanging. Thus, it seems reasonable to assume that the high frequency of responses indicating death was the result of violence could be attributed to the way death was portrayed in the illustrations.

One of the most comprehensive investigations of children's attitudes towards death was conducted by Sylvia Anthony (1940). The study involved children between the ages of 3 and 13 years. Several different techniques were used, including parental written reports of children's interest in death, a story completion task and an intelligence test incorporating material pertaining to death. Anthony reported death thoughts to be very frequent among children's ideas and suggested five stages of thought through which the child's understanding of death progresses. These stages, as well as the stages of other researchers will be discussed in the following section of this paper.

Another study, conducted in Budapest, investigated the child's "theories" concerning the nature of death (Nagy, 1948). Specifically, the study addressed, "What theories does the child construct of the nature of death?" and "What does the child think death to be"? (p. 3). An attempt to distinguish the course of development of the child's attitudes toward death was undertaken through the use of written compositions, drawings, and individual discussions with children between 3 and 10 years of age. Nagy reported a clear developmental progression in the child's understanding of death through three specific stages of development. Nagy's study was criticized, however, for the abstractness of her questions (White, Elsom, & Prawat, 1978) and the generalizability of her findings (Kastenbaum, 1977).

Several recent studies have attempted to improve the discussion method by using structured questions in conjunction with the interviews (Childers & Wimmer, 1971; Koocher, 1973; McIntire et al., 1972; Melear, 1975; Townley & Thornburg, 1980; White et al., 1978). In addition to the interviews, Childers and Wimmer (1971) had each child write or draw what death meant to them. Unstructured interviews are another method commonly used (Gartley & Bernasconi, 1967; Kane, 1979; Melear, 1973; Menig-Peterson & McCabe, 1977-78).

Other studies have used galvanic skin response (GSR) and word association tasks to determine the origin and extent of the fear of death in children (Adlerstein & Alexander, 1958; Melear, 1975). Weininger (1979) utilized observations of structured play situations and questioning as a means of examining the child's understanding of death.

Parents have been contacted following the child interviews to determine the child's experiences with death (Kane, 1979) and to attain background information on the child, such as religious affiliation and family status (Townley & Thornburg, 1980). Anthony (1940) asked parents to record any questions or statements made by their child pertaining to death for a period of one week in an effort to determine the frequency of death thoughts in children. It appears that no attempt has been made to investigate the explanations of death children have received and the subsequent influence on the child's understanding of death.

Research investigating children's understanding of death has dealt mainly with the understanding of human death. Few studies have mentioned the death of animals in their findings. Gartley and Bernasconi (1967) suggested children were able to distinguish between the death of animals and the death of humans, however, the method used to investigate the distinction and what that distinction involved was not evident. McIntire et al., (1972) placed responses to the question, "What happens to the body of a pet and self?" into three classes: fantasy (mummification and reincarnation), organic decomposition (rotting and putrefaction) and "religious" decomposition to dust or ashes (p. 529). Townley and Thornburg (1980) included questions pertaining to the child's pet which had died to determine the child's level of understanding of death. Menig-Peterson and McCabe (1977-78) reported no affective reactions to the death of a pet and no indication of attachment to a pet in children 5 to 8 years of age. At

about 9 years of age an understanding of the suffering of the pet and attachment to animals was evident.

The research dealing with children's understanding of the death of animals is limited. Very often, however, the child's first experience with death involves the death of an animal and a substantial proportion of children's literature dealing with death involves the death of animals. Also, when giving explanations of death adults' may rely on examples from the animal world to facilitate the child's understanding of death. Therefore, it seems reasonable to suggest that the investigation into the child's understanding of animal death is desirable to examine the relationship between a child's understanding of animal death, as compared with human death.

Stages of Development

Several authors have suggested that the child's understanding of death progresses through a series of states (Anthony, 1940; Kane, 1979; Koocher, 1973; Melear, 1973; Nagy, 1948). As summarized in Table 1, the categories suggested progress from a relative ignorance of the meaning of the word dead (Anthony, 1940; Melear, 1973; Nagy, 1948) or fantasy and magical thoughts marked by egocentric reasoning (Kane, 1979; Koocher, 1973) as the lowest level to the recognition of death as final with the cessation of all life functions, as the highest level. Between these two levels various degrees or levels of understanding are reported with limited agreement between the findings. Anthony (1940) reports three additional stages with increasing reference to the biological and logical aspects of death in each. Nagy

Table 1
Stages of Understanding Death

Anthony (1940)	Nagy (1948)	Koocher (1973)
Class A: Child expresses ignorance of meaning of the word dead or fails to respond. (prior to 5 years)	Stage 1: There is no definitive death. Children less than 5 years do not know death as such. Often death is seen as a long period of sleep. Death viewed as temporary or gradual. (prior to 5 years)	Class 1: (Relatively egocentric responses). Includes fantasy reasoning, magical thinking and/or realistic causes of death, which are marked by egocentric reasoning. Symbolism closely tied to the child's experiences and may require extended explanations. Example: "You die when God reads your name in a book." or "If you go swimming alone."
Class B: Limited evidence of some meaning attached to word dead. No explicit association of meaning with a functioning subject in the response itself. Ignorance may be expressed. Example: "To go asleep." (4-6 years)	Stage 2: Death equals a man. Personification of death evident. Death imagined as distinct personality or thought of as a person and death is identified with person. (5-9 years)	Class 2: (Specific or concrete reasons). Includes specific means of inflicting death with or without intent. Naming specific weapons, poisons or assaultive acts are included. Example: "Guns, bows and arrows, rat poison and getting up."
Class C: Child is sure of concept; application to human beings; frequent further elaborations refer to aspects of death not logically or biologically essential. Example: "Somebody's dead" or "When you're in your coffin and you're lying in it." (5-13 years)	Stage 3: Cessation of corporal activities. After the age of 9 years children recognize death in the cessation of life. When the child reaches this stage death seen as a process within us. (9 years and up)	Class 3: (Abstract or generalized reasons). Group includes relatively abstract clusters of more specific possibilities. Child states or implies death is a natural process. Idea of physical deterioration or naming classes of potential causes belongs here. Example: "Old age, illness or worn out body."
Class D: Reference to humanity exclusively may be combined with reference to logical or biological essentials. Insufficient generalizations of logical or biological aspects to warrant Class E. Example: "When you're dead you can't come alive again." (8-13 years)		
Class E: Reference is made to biological and logical essentials. Example: "When you have no pulse, and no temperature and can't breathe." (8-11 years)		

Table 1 (Cont.)

Melear (1973)	Kane (1979)
<p><u>Category 1:</u> Relative ignorance of meaning of word death. Scarcity of ideas about death. Equate dying with an accident of illness may report they themselves have died. View death not as separate and distinct state, but as another phase of life. (prior to 4 years)</p>	<p><u>Stage 1:</u> Death thought of in terms of structure, realized in obvious, immediate, here and now. Realization, separation and immobility held concurrently but not interrelatedly. Thinking egocentric, and magical, can make someone dead by own behavior, wish or label. Death seen as a position; getting into position makes deadness. Deaths dysfunction seen as a lying down position. Death is a description.</p>
<p><u>Category 2:</u> Death is a temporary state. Children deny the finality of death insisting the dead can be restored to life or they revive spontaneously. Assign biological functions such as feelings to the dead. Believe in degrees of death; a person may become more and more dead as time goes on. (4-7 years)</p>	<p><u>Stage 2:</u> Death is specific and concrete. Death is an explanation for dysfunction, death induced by dysfunction. Thinking marked by reality and beginnings of logical thought. Causality, dysfunction, irrevocability, universality insensitivity and appearance components held concurrently, not inter-relatedly. Progression from external causes of death to internal causes. Except for violence, death part of old age and very far away. Dead cannot eat, speak, later drink and hear, finally, feel cold, smell; dream or know they are dead.</p>
<p><u>Category 3:</u> Death is final, but dead function biologically. Death viewed as irreversible but assign life functions to the dead. Report the dead can see, feel, hear, become hungry, etc. Inability of the corpse to move seems most important characteristic. (5-10 years)</p>	<p><u>Stage 3:</u> Children able to think in abstract. Although thinking logical and recognized in reality, tend to speculate in somewhat uncommitted fashion. Some considered existential issues of life and death. Death seen as state of internality caused by dysfunction. Death is a definition. Inactivity, dysfunction, insensitivity a condition for death, i.e., responsiveness a requirement for life.</p>
<p><u>Category 4:</u> Death is final with the cessation of all life functions. (5 years and up)</p>	

(1948) indicates a single additional stage in which death is personified. Koocher (1973) suggests that prior to the recognition of the cessation of life functions, the child's reasonings include very specific or concrete reasons of death, e.g., naming specific weapons and assaultive acts. Kane (1979) also proposes a single additional stage and like Koocher suggests very specific and concrete ideas of death at this stage. However, Kane also includes the understanding of death by old age as part of this category. The development of the understanding of the finality of death is most apparent in Melear's (1973) stages. Beyond the relative ignorance of the word death, the child begins to view death as temporary and accompanied by the ability to function biologically. The child then progresses to the realization of the finality of death, yet still assigns biological functions such as seeing, hearing and feeling to the dead.

It is possible that the discrepancies among the stages may be due, in part, to the ages of the children involved in the studies, possible cultural differences, as well as the various methods used to investigate the child's understanding of death.

The Four Concepts Related to Death

In review of the developmental progressions of the child's understanding of death suggested by Anthony (1940), Kane (1979), Koocher (1973), Melear (1973), and Nagy (1948), four concepts of death became evident: causality, state of death, irreversibility and universality. Each concept has been investigated individually or in combination with another concept, but it appears that only one study has dealt with all four concepts. Kane (1979) suggests immobility (state of death)

as the earliest concept understood (stage 1) followed by irrevocability (irreversibility), causality and universality (stage 2). No distinction was made as to the order in which these three concepts are understood.

Generally, the stages are discussed in very descriptive terms and reports of which stage a particular concept develops are conflicting. It is not clear in what order, if any, the child develops an understanding of causality, state of death, irreversibility and universality and whether these concepts are held concurrently and/or inter-relatedly. A pattern that is suggested by the stages is the idea that the concepts develop from specific to general. Responses are very concrete in the early stages and become more abstract as the child progresses through the stages.

Factors Influencing Concepts of Death

Age. The early studies of Anthony (1940), Nagy (1948), and Schilder and Wechsler (1934) suggested that the child's understanding of death developed as a function of age. More recent reports confirming that the child's understanding of death increases as a function of age include, Gartley and Bernasconi (1967), Kane (1979), McIntire et al., (1972) Menig-Peterson and McCabe (1977-78), Townley and Thornburg (1980) and Weininger (1979).

Menig-Peterson and McCabe (1977-78) used narratives about death with children 3 to 9 years of age. Their results indicated a measurable increase in the number of death narratives offered by the children as age increased. Kane (1979) reported three stages of development which reflect an increase in understanding as a function of age, and that

parallel Piaget's (1951) preoperational, concrete operational and formal operational stages of development. Townley and Thornburg (1980) indicated an increased understanding of death as grade level increased.

Childers and Wimmer (1971) attempted to show that a child can be measurably aware of death as universal and irrevocable, independent of age. Children 4 to 10 years of age were interviewed and asked to draw and write about death. The findings indicate that children understand death as universal as age increases, although the progression is sporadic. The age of 9 years was suggested as the cognitive point for understanding death as universal. The understanding of death as irrevocable did not appear to be a function of age level. Responses varied through the age levels and no cognitive point was established for understanding of death as irrevocable through the age of 10 years.

White et al., (1978) concluded from their study of children 5 to 10 years of age that the child's understanding of death as irrevocable and as a total cessation of bodily functions developed as a function of age. However, the understanding of the universality of death was a function of cognitive development.

Cognitive development. The suggestion that the child's understanding of death develops as a function of cognitive development was first introduced by Koocher (1973). Seventy-five children between the ages of 6 and 15 years were interviewed, individually. Each child was tested for conservation of mass, number and volume. Responses to the question, "What makes things die?" were then classified into three categories as noted in Table 1. The findings indicated that children

at higher levels of cognitive functioning are more likely to produce more abstract answers, while lower levels of cognitive functioning are more likely to produce concrete than abstract responses. Koocher, emphasized that age alone does not appear to provide a sufficient basis for categorizing the responses. Melear (1973) reported similar findings involving children between 3 and 12 years of age. The child's understanding of death was associated with the level of cognitive functioning. Age alone was not an adequate indication of the child's level of understanding of death.

A second study by Melear (1975) investigated the origin of the fear of death in children. The findings indicated that while the child's misunderstanding of death is associated with lower levels of cognitive functioning, the fear of death is associated with higher levels of cognitive development. Children who cannot conceptualize the idea of death as final and irreversible also cannot comprehend a state where life cannot be restored. Consequently, a child who believes death is curable or reversible is not fearful of death, as it presents no threat to the child.

Experience. The role of experience in the child's formation of an understanding of death has been discussed by numerous researchers (Childers & Wimmer, 1971; Gartley & Bernasconi, 1967; Kane, 1979; Koocher, 1973; Melear, 1975; Menig-Peterson & McCabe, 1977-78; Townley & Thornburg, 1980). However, the findings tend to be contradictory. Several researchers suggest that experience has very little, if any influence on the child's understanding of death (Melear, 1975; Menig-Peterson & McCabe, 1977-78; Townley & Thornburg, 1980). A

major change in the child's concern with death at about 5 years of age was reported by Menig-Peterson and McCabe (1977-78). Children under 5 years were likely to have had less experience with death but the sudden increase in number of narratives about death at this age suggested experience alone was not a sufficient explanation. Townley and Thornburg's (1980) investigation with elementary school age subjects found the children who had no experience with death of a close relative scored at a lower level of understanding as compared with those subjects who had experience with the death of a close relative. Gartley and Bernasconi (1967) reported those who had experience with death in the family or with an animal that died were especially verbal and matter-of-fact about the subject.

Childers and Wimmer (1971) found no consistent pattern of relationship with regards to children's experiences and their concept of death. Yet, suggested that their own results did not deny a relationship. Kane (1979) reported experience with death accelerated an understanding of death only in children 6 years of age and younger. Koocher (1973) acknowledges the role of experience in more general terms. Children at different levels of cognitive development have varying abilities to utilize the experiences of others to formulate an understanding of death. As children develop the cognitive ability to note that others are different from themselves and have different experiences, they should begin to understand the permanence of death, even though they had never experienced death or had direct contact with it.

A major problem with the research dealing with the effects of experience is that the measures used to determine experiences of the child are rarely indicated. Townley and Thornburg (1980) and Kane (1979) relied on parental responses for background information on the child's experiences with death. Childers and Wimmer (1971), Gartley and Bernasconi (1967), Melear (1973) and Menig-Peterson and McCabe (1977-78) appear to have used the child's responses to questions or spontaneous comments to establish experience with death.

Parental explanations. An area which appears to be overlooked when investigating children's understanding of death is the influence of parental explanations of death. Contact with parents in an attempt to investigate children's understanding of death has been used to determine experience level (Kane, 1979) and provide background information on the child (Townley & Thornburg, 1980). However, researchers have not explored what parents have told their children about death.

Adults often find it difficult to explain death to children. Fear of upsetting the child or anxiousness on the part of the parent may cause the parent to say more than the child is able to understand or to avoid the topic altogether (Formanek, 1974). The use of euphemisms in referring to death, e.g., "passing on" and "put to sleep," as well as abstract explanations such as, "Mommy went on a long journey" and "God took Daddy away because he loves him," may contribute to the child's misunderstanding of death (Grollman, 1967). Therefore, it seems reasonable to assume that parental explanations of death which are factual would result in raising the child's understanding of death as compared with euphemisms and/or abstract religious parental explanations.

Religion. The influence of religion on the development of an understanding of death has been investigated by Gartley and Bernasconi (1967), Melear (1973) and Townley and Thornburg (1980). Contrary to Nagy's (1948) findings that children between the ages of 5 and 9 years personified death, Gartley and Bernasconi (1967) interviewed 60 Roman Catholic school children and found no personification of death. Every child understood the concepts of heaven and hell and by the age of 7 spoke of purgatory in a clear, understandable manner. The authors attribute their findings to a difference in religious training. Townley and Thornburg (1980) reported no difference in the child's understanding of death for children from religious families and those from non-religious families. Religious affiliation was assumed if a family attended church regularly and/or used religious customs and instruction in the home and considered themselves of a specific religion. Frequency of church attendance was used as a measure of influence of religion on children's understanding of death by Melear (1975). No difference in concept of death, nor in the child's fear of death, was reported.

Television. The influence of television in relation to the child's understanding of death has been reported in two studies. Gartley and Bernasconi (1967) interviewed children between the ages of 5 and 14 years-of-age. They suggested television has played an important role in educating children on the complexities of death. This conclusion was not formally tested but appears to have been based on the children's mention of popular television programs as sources of information throughout the interviews. McIntire et al., (1972), however,

reported no correlation between hours per week of television viewing, favorite type of program and concepts of death.

Summary

Investigations into the child's understanding of the concept of death have become more frequent in recent years. However, the research dealing with children's understanding of the death of animals is limited. Children's literature dealing with the topic of death involves the death of animals and adult explanations of death often rely on examples from the animal world. Yet, no attempt has been made to investigate the relationship between children's understanding of animal death, as compared with human death.

The suggestion that the child's understanding of death progresses through a series of stages has received much support. The concepts of causality, state of death, irreversibility and universality have been assessed to determine the developmental progression of the child's understanding of death. However, only one study has included all four concepts. Therefore, many conflicting findings appear in the literature. Also, an understanding of the relative importance of the factors thought to influence this developmental progression is still not clear. Findings in several areas, particularly the influence of experience, parental explanations, religion and television remain contradictory and warrant additional investigations.

CHAPTER 3

Methodology

Subjects

The sample for this study was composed of 20 children at each of three age groups; 3-4 years, 6-7 years and 9-10 years with a mean age of 49.9 months, 77.1 months and 112.1 months, respectively. Each group consisted of 10 boys and 10 girls. The children in the 3-4 year age group were selected from the Virginia Polytechnic Institute and State University Child Development Laboratory School in Blacksburg, Virginia and the Louisiana State University Laboratory School in Baton Rouge, Louisiana. Children in the 6-7 year and 9-10 year-age-groups were drawn from the Blacksburg, Virginia area. Children who had previously attended the VPI & SU Laboratory School were contacted and asked for their participation in the study (Appendix A). Additional names were obtained through numerous faculty, staff and students at Virginia Tech. Subjects in all three age groups ranged from lower to upper middle socioeconomic groups.

Instrumentation

For this study, the child's understanding of death was defined as the child's level of understanding of the concepts of causality (what brought about the state of death), state of death (immobility of dead and cessation of mental, sensory and bodily functions), irreversibility (permanency of death) and universality (inevitability of death).

To assess the development of the child's understanding of death an instrument referred to as the Understanding of Death Inventory (UDI) was developed (see Appendix B). The UDI consisted of five stories, two involving the death of a person, two involving the death of an animal and a single story not dealing with the topic of death. This was done to break the set of responses from the first set of animal and human death stories to the second set of animal and human death stories. Each of the death related stories was approximately 95 words in length and was accompanied by black and white drawings with two panels to facilitate comprehension and recall of the story. Two animal and two human stories were included to control for single story effects. A series of seven questions were developed to be asked following the reading of the stories. Two questions were designed to determine the child's understanding of what happened in the story. The questions pertaining to state of death, irreversibility and universality were adapted from a study conducted by Childers and Wimmer (1971). A question to assess the understanding of causality was added.

Each child received one of eight random story orders with the restrictions that the order of presentation alternate between the death of an animal and the death of a human. The short story not dealing with the topic of death was read as the third story in all cases.

A questionnaire was presented to the parents of the children interviewed. It was designed to gain background information on the child's experiences with animal and human death, as well as any explanations of death the child had received (see Appendix C).

A pilot research project was conducted. Children at each age level to be studied were interviewed. Based on responses of the children modifications were made in the probing techniques used following the presentation of each question. For example, when asked, "Can anything be done to bring (character name) back to life?" the child was given time to respond and then asked, "Why?" or "Why not?" This was done to insure that the child's answer of "yes" or "no" was not simply a guess. It also provided responses that could be used to assess children's understanding of death.

Procedure

Each child was interviewed individually at their school or home. It was explained to each child that five short stories would be read to them and then several questions asked. Approximately 30 minutes were required to administer the UDI to each child. Responses were tape recorded and later transcribed.

Each story was read aloud by the examiner one time as the child looked at the pictures. In order to determine the child's understanding of the story and to control for memory effects the child was asked, "What happened in the story?" If the child was unable to recall story details the story was reread and the child questioned again. If the child was, again, unable to answer the questions correctly, the examiner read the story a third time and asked the question, "What happened to (character name) in the story?" If the child could not answer the question the examiner noted this information, explained the character had died and proceeded with the questioning.

Following the reading of each of the first two stories (one animal and one human) and establishment of the understanding that the character in the story had died the question dealing with causality was presented, i.e., "How do you think _____ died?" Probes such as "Anything else?" or "Are there any other ways?" were used with this question.

The short story not dealing with the topic of death was read to each child as the third story. Following the presentation of the story each child was asked, "What happened in the story?" and a brief discussion about the story took place. The responses to this story were not used in the analysis.

The second animal and human death stories were presented in the same manner as the first set. In addition to the causality question, questions dealing with state of death, irreversibility and universality were also asked. To assess the understanding of state of death, each child was asked, "Are there some things _____ could do when he was alive?" When the child did not mention some type of sensory function, such as eat, see or hear the examiner suggested that the character could probably "see" when he was alive. The child was then asked why the character could do those things. This question was presented as a prelude to the question, "Are there some things _____ can do now that he is dead?" If a child responded with "I don't know." or "No." the response was probed with one of the sensory functions mentioned by the child in the previous question or the suggested function of

"see" by the examiner, e.g., "Can _____ see (eat, hear) now that he is dead?" Again, the child was asked "Why?" or "Why not?", following the answer.

Next, the child was asked the question dealing with irreversibility, "Can anything be done to bring _____ back to life? Why? Why not?" The final question asked dealt with the universality of death, "Do all people (animals) die? Why? Why not?"

If a child's response to any question was unclear or seemed ambiguous probing questions such as, "Tell me more about that." or "Anything else?" were asked in an effort to get the child to elaborate on his or her answers.

The parents were asked to respond to a questionnaire consisting of questions pertaining to the child's experiences with animal death and human death, as well as explanations the child had received about each. The parents were given the questionnaire at the time of the interview with each child and asked to complete the questionnaire as accurately as possible.

Development of Scoring Procedure

Independent scales for causality, state of death, irreversibility and universality were developed prior to data collection. Categories of typical responses were assigned a score reflecting the developmental progression of understanding death as indicated by findings reported by Anthony (1940), Kane (1979), Koocher (1973), Melear (1973) and Nagy (1948).

The before mentioned categories were used by the researcher and a second person familiar with the nature of the study to group the subjects' responses to human stories for each of the concepts. It was determined that the categories on the original scales did not adequately represent the responses given by the subjects in this study. Frequency distributions (Appendix D) prepared for each of the three age groups also revealed a different developmental progression than reported in the literature. Therefore, the original scales were modified to reflect the range of response categories, as well as the developmental progression found in this study. The revised subscales, examples of responses and scores given at each level follow.

Causality Scale and Scores

- 1.0 I don't know or no response
- 1.5 Magical, Fantasy, Bizarre (slept too long, didn't like it under the dirt)
- 2.0 Religious (God makes dead, wanted to be with God)
- 2.5 Eating, Swallowing (ate too much, ate too little, ate a rock)
- 3.5 Accidental (broken leg, car accident, falls, shot, stabbed, suicide, choking)
- 4.5 Old Age (includes lived too long, alive a long time)
- 4.5 Illness, Sickness, Disease
- 4.5 Specific diseases (cancer, stroke, heart attack)
- 5.0 Recognition of Body Malfunctions (heart stops beating, stop breathing)

State of Death Scale and Scores

- 1.0 I don't know or no responses
- 1.5 Yes and No: Answer and reason contradictory
- 2.0 No: Insufficient explanation (just can't, don't know why, cause they are in a box)
- 2.5 No: Reason suggests some control of body while dead (all they can do is lie, be still, shut their eyes, sleep)
- 2.5 No: Explanation reflects religious beliefs (they are not there any more, they are gone)

State of Death (Cont.)

- 3.5 No: Recognition of cessation of bodily functions (heart stops beating, lungs not working, body parts stop working)
- 4.0 No: Recognition of both science and religious explanations

Irreversibility Scale and Scores

- 1.0 I don't know or no response
- 1.5 Yes: No explanation
- 2.0 Yes: Someone or something can bring the dead back to life (magic, doctors, hospitals)
- 3.0 No: Insufficient explanation (don't know why, nothing can, no reason given)
- 3.5 No: Reasoning reflects religious beliefs (only a miracle, only God can)
- 4.5 No: Reasoning includes recognition that all body functions cease

Universality Scale and Scores

- 1.0 I don't know or no response
- 1.5 No: With or without reason (don't know why, some people do, some people don't, not all people)
- 2.0 Yes: Insufficient reason (just do, don't know why, no reason given, bizarre)
- 2.5 Yes: Reasoning reflects religious beliefs (have to have time to be with God, something we were made to do, God makes us)
- 3.5 Yes: Reasoning includes specific causes (when shot, old, sick, heart attack).
- 4.5 Yes: Reasoning that death is inevitable (natural, the world would be overcrowded, make room for others, part of the lifecycle)

The parental questionnaires were used to determine prior experience with animal and human death and the nature of explanations of death the child had received. The questionnaires were evaluated by the examiner and the following information was coded. A child was given credit for experience with human death if the parent indicated a child

had had experience in question set I (see Appendix C). Credit for experience with animal death was given for responses to question set II.

Often parents noted that a child had not actually been involved with the death of a person or animal but had overheard conversation about death or had experienced death through television (set III). These types of experiences were classified as discussion rather than experiences with death.

The explanations reported on question 4 in sets I and II were categorized as either factual, religious or combination of both factual and religious. The same procedure was used to code experiences described as discussion. Responses were credited as religious when explanations involved mention of soul, heaven or an afterlife. Factual explanations were coded when explanations focused on decomposition of the body, the natural process of death or uncertainty as to what happens to the body after it is buried. Thus, it was possible for a child to have received credit for both experience with death (animal and human) and discussion about death (animal and human).

Scoring

Two trained raters independently scored each child's responses on the Understanding of Death Inventory using the revised scales. Responses to the human and animal stories were scored separately for each of the four concepts. Thus, each subject was given eight scores.

In order to obtain a single causality score for humans and a single causality score for animals the causes of death mentioned were combined for the two human stories and also combined for the two animal stories. Each subject was assigned a score for every cause of death mentioned, provided it was not a repeated response. For example, if "heart attack" was given as a cause of death in the first human story and again in the second human story, credit was given for a single cause of death. An average causality score for humans and an average causality score for animals was obtained by summing the scores assigned for each cause of death mentioned (animals and humans separately) and dividing by the total number of causes of death given.

For the concepts of state of death, irreversibility and universality the categories of responses within each scale were mutually exclusive. Therefore, each subject received one score for humans and one score for animals for each concept.

The Pearson r statistic was used to determine the correlation between the two raters for scores on the subscales of the UDI, for animals and humans (see Table 2). For the total sample, a significant correlation was found for human subscale scores, causality, $r = .8347$, $p < .001$, state of death, $r = .7520$, $p < .001$, irreversibility, $r = .7130$, $p < .001$ and universality, $r = .9054$, $p < .001$. Significant correlations were also found for the animal subscale scores between the two raters, causality, $r = .8289$, $p < .001$, state of death, $r = .7634$, $p < .001$, irreversibility, $r = .7127$, $p < .001$

Table 2
Correlations Among Raters for the
Four Concepts of Death

	Causality	State of Death	Irreversibility	Universality
<u>Age 4 (n=20)</u>				
Animal	.8283****	.6202***	.7854****	.9376****
Human	.7480****	.5189**	.8283****	.9550****
<u>Age 6 (n=20)</u>				
Animal	.5967***	.6484****	.9426****	.6752****
Human	.5353**	.7770****	.7848****	.6594****
<u>Age 9 (n=20)</u>				
Animal	.7205****	.7662****	.4942*	.7995****
Human	.7659****	.4852*	.4688*	.9436****
<u>Total Sample (n = 60)</u>				
Animal	.8289****	.7634****	.7127****	.8739****
Human	.8347****	.7520****	.7130****	.9054****

*indicates significance at .05 level

**indicates significance at .01 level

***indicates significance at .005 level

****indicates significance at .001 level

and universality, $r = .8739$, $p < .001$. Correlation coefficients calculated between raters indicated adequate agreement between the raters to consider the scale reliable. For, all further analyses an average of the two raters' scores was used.

Design

The final design for this study was 3 (age) x 2 (sex) x 2 (story type) x 4 (scores on the UDI scales). Analysis of variance with repeated measures was used to determine the interactions between children's understanding of death of animals, humans, age and sex. The independent variables were age, sex and story type and the dependent variables were scores on the causality, state of death, irreversibility and universality subscales of the UDI.

Analysis of variance with repeated measures (subscales scores) were also used to measure the effects of story order presentation for both story types at each age level. The design was 3 (age) x 2 (story order) x 2 (story type) x 4 (scores on the UDI scales). A significant main effect for story order was found only for 4-year-olds, $F(1, 18) = 5.84$, $p < .05$. Subjects who received an animal story first, scored higher on the animal subscales than those who received a human story first. No other significant story order effects were found. Since story order was randomized at each age level, the story order was disregarded in further analyses.

Correlations were used to investigate the interrelationships of the understanding of the four concepts of the UDI, i.e. causality,

state of death, irreversibility and universality. Chi-square analyses were used to test differences in frequencies of children scoring above and below the median on the subscales of the UDI and level of experience for both animal and human death. The same statistic was used to test differences in the frequency of subjects scoring above and below the median on the subscales of the UDI and type of parental explanations received.

CHAPTER 4

Results and Discussion

The purpose of this study was to examine the development of children's understanding of animal death as compared with human death, as well as to clarify the order and interrelationships of the concepts of causality, state of death, irreversibility and universality at three age levels. This study also investigated the influence of experience with death and parental explanations on the development of children's understanding of death. Four stories dealing with the topic of death (two animal and two human) accompanied by black and white illustrations and a series of questions designed to assess the understanding of the concepts of causality, state of death, irreversibility and universality comprised the Understanding of Death Inventory. A parental questionnaire was designed to assess the influence of experience with death and parental explanations on the development of the child's understanding of death.

The hypotheses tested are discussed below.

Hypothesis 1

There will be a significant relationship in the children's understanding of causality, universality, irreversibility and state of death for human and animal death.

Pearson product-moment correlations comparing scores on causality, universality, irreversibility, and state of death for animal and human stories reveal a developmental progression in the interrelationship of human and animal death concepts. As shown in Table 3 the only significant comparison at the 4-year-old level was causality, $r = .45$, $p < .05$;

Table 3
Intercorrelations Among Animal and Human Scores
for the Four Concepts of Death by Age

Measures	4 (n=20)	6 (n=20)	9 (n=20)	Total (n=60)
H ^a /CAUS and A ^b /CAUS ^c	.45*	.07	.38	.63**
H/SOD and A/SOD ^d	.09	.64**	.79**	.74**
H/IRR and A/IRR ^e	.03	.23	.73**	.52**
H/UNI and A/UNI ^f	.28	.03	.60**	.73**

* $p < .05$

** $p < .01$

^aH = Human

^bA = Animal

^cCAUS = Causality

^dSOD = State of Death

^eIRR = Irreversibility

^fUNI = Universality

state of death, $r = .65$, $p < .01$; comparisons were statistically significant for the 6-year-olds whereas, the concepts of state of death, $r = .79$, $p < .01$; irreversibility, $r = .73$, $p < .01$; and universality, $r = .60$, $p < .01$, were significantly related for the 9-year-olds.

The hypothesis was partially supported by the developmental progression found. The failure to find significant correlations between the animal and human scores at the younger age levels may be explained by Piaget's concept of horizontal decalage (Ginsburg & Oppen, 1979). Horizontal decalage refers to inconsistencies in performance on tasks requiring similar mental operations. Different levels of understanding of state of death, irreversibility and universality revealed for animals and humans at 4-years-of-age suggests that children at this age are not able to generalize the understanding of the death of humans to animals nor the death of animals to humans.

No significant findings for causality at 6- and 9-years-of-age may be explained by the manner in which the subscales of the UDI were developed. Frequency distributions were prepared for all human responses. The levels of understanding for each concept were based on these frequencies. It is possible that the subscale for causality for humans does not adequately represent the responses generated for animals. The 4-year-olds may give similar responses as causes for the death of an animal and human (i.e. accidental) while 6- and 9-year-olds give increasingly varied and higher level responses for human death but continue to attribute animal death to lower level causes (i.e.

accidental) as it is more difficult to discern the age (i.e. old age) of an animal and more unusual to speak of specific causes of animal death (heart attack, cancer) which were scored as higher level responses.

Hypothesis 2

Scores on the UDI subscales will increase as a function of age.

Repeated measures analysis of variance was performed on the subscales of the UDI, i.e., causality, state of death, irreversibility, and universality. The influence of age, sex, and story type (animal, human) and the interactions of these factors was examined. Significant main effects were found for age, $F(2, 54) = 58.39, p < .001$, and subscales, $F(3, 162) = 33.39, p < .0001$. The main effects for sex and story type were not significant.

Significant interactions were found for story type x sex, $F(1, 54) = 5.73, p < .02$; subscales x age, $F(6, 162) = 4.82, p < .0001$ and story type x subscale, $F(3, 162) = 3.67, p < .014$. No other interactions were significant. To determine the basis for the significant effects indicated by the analysis of variance, individual comparison of the means (see Table 4) using the Tukey test (Kirk, 1968) were performed. The results of the statistically significant comparisons are summarized below.

Comparisons of story type x sex. Although males scored higher than females on both animal and human scales, the difference was significant only for human scores, $q(2, 162) = 2.83, p < .05$. No significant sex differences have been reported in any of the previous

Table 4

Means and Standard Deviations^a for Causality, State of Death, Irreversibility,
and Universality by Age and Sex for Animals and Humans

Sex and Age	Causality	State of Death	Irreversibility	Universality
<u>Males</u>		<u>Humans</u>		
4 ^b	3.04(.934)	2.28(.30)	2.80(.44)	2.10(.99)
6	3.86(.49)	2.78(.45)	3.20(.63)	3.30(.75)
9	4.15(.23)	3.23(.48)	3.45(.93)	3.75(.92)
<u>Females</u>				
4	2.85(.77)	2.03(.36)	2.00(.62)	1.70(.26)
6	4.08(.29)	2.63(.49)	3.03(.51)	2.63(.83)
9	4.18(.25)	3.05(.45)	3.25(.54)	3.58(1.04)
<u>Males</u>		<u>Animals</u>		
4	2.64(1.13)	2.33(.37)	2.68(.47)	1.83(.91)
6	3.67(.40)	2.75(.49)	3.05(.98)	3.05(.95)
9	3.69(.34)	3.05(.64)	3.60(.72)	3.58(.65)
<u>Females</u>				
4	2.79(.88)	2.28(.36)	2.60(.52)	1.93(.76)
6	3.68(.63)	3.75(.42)	3.03(.18)	2.53(.98)
9	3.92(.34)	3.00(.47)	3.18(.68)	3.95(.69)

^a shown in parentheses

^b n = 10 for each sex at every age level

research dealing with children's understanding of death. Equal numbers of males and females had experienced human death. The finding in this study that males scored significantly higher than females on the human subscales may be explained by the fact that for the human stories, both characters had died were female. The nature of the topic did not appear to cause anxiety for any of the subjects, yet, males may have found it easier to discuss the death of someone who could not be represented as themselves.

Comparisons of story type x subscales. Scores for causality and universality were higher whereas irreversibility and state of death were lower for human stories than for animal stories. The only significant mean difference was found for causality, $q(4, 162) = 4.61, p < .01$. As discussed elsewhere this finding may be an artifact of the applicability of the scales which were based on the frequencies calculated for humans.

Comparison of age and age x subscale. Mean scores on the UDI increased with age. They were $\bar{X} = 2.37$, for 4-year-olds; $\bar{X} = 3.12$, for 6-year-olds and $\bar{X} = 3.54$ for 9-year-olds. Comparisons of mean causality scores across age levels revealed a significant increase from 4- to 6-years-of-age and 4- to 9-years-of-age $q(12, 162) = 10.29, p < .01$ and $q(12, 162) = 12.06, p < .01$, respectively. For state of death, the 6-year-olds scored significantly higher than the 4-year-olds, $q(12, 162) = 5.20, p < .05$, as did the 9-year-olds, $q(12, 162) = 8.84, p < .01$. The 6- and 9-year-olds scored significantly higher than the 4-year-olds, for irreversibility, $q(12, 162) = 5.82, p < .01$ and

$q(12, 162) = 8.84, p < .01$, respectively. For universality, both the 6- and 9-year old scores were significantly higher than the 4-year-olds, $q(12, 162) = 10.29, p < .01$ and $q(12, 162) = 19.03, p < .01$. Also, the 9-year-olds scored significantly higher than the 6-year-olds, $q(12, 162) = 8.73, p < .01$.

The increase in mean scores on the four concepts with age indicated a developmental progression of the understanding of death and supports the hypothesis. These findings are in agreement with the results of other research dealing with various aspects of childrens' understanding of death (Anthony, 1940; Gartley & Bernasconi, 1967; Kane, 1979; McIntire et al., 1972; Menig-Peterson & McCabe, 1977-78; Nagy, 1948; Schilder & Wechsler, 1934; Townley & Thornburg, 1980; Weininger, 1979). In all of these studies, the child's understanding of death developed as a function of age.

Kane (1979) investigated four concepts of death similar to causality, state of death, irreversibility, and universality as a function of age. The data from the present study are congruent with Kane's findings which indicated that the development of the understanding of causality, state of death, and irreversibility was most rapid before 6-years-of-age. The data are also in agreement with the findings of White et al. (1978), which indicated that the understanding of irreversibility developed as a function of age.

Kane's (1979) data suggested the understanding of universality by age six. The data from this study did not support this, because significant differences were found between 6- and 9-year-olds on this

scale, but the findings are in agreement with Childers and Wimmer (1977) who found children's understanding of concept of universality of death continued to increase through 9-years-of-age.

Hypothesis 3

The interrelationships of the concepts of causality, universality, irreversibility and state of death will be similar for animal and human death.

Product-moment correlations between the concepts of causality, state of death, irreversibility, and universality were calculated by age group and the total group for both animal and human scores. As Tables 5 and 6 indicate, none of the comparisons for the animal scores and human scores were significant for the 4- and 6-year-old groups. Significant correlations were found for the 9-year-olds on the human scores for state of death and causality, $r = .47$, $p < .05$, and state of death and irreversibility, $r = .75$, $p < .01$. For animal scores, significant correlations were found for universality and causality, $r = .50$, $p < .05$, state of death and irreversibility, $r = .61$, $p < .01$ and state of death and universality, $r = .42$, $p < .05$.

The human findings are consistent with Kane's (1979) data which indicate the subscale concepts are unrelated until after the age of six.

Hypothesis 4

There will be no difference in the frequency of children scoring above and below the median on the subscales of the Understanding of Death Inventory of those having experience with death and those not having experience with death (animal, human).

Table 5
 Intercorrelations Among the Four Concepts
 of Death For Animals by Age

Measures	4 (n=20)	6 (n=20)	9 (n=20)	Total (n=60)
CAUS ^a and SOD ^b	.12	.08	.26	.40**
CAUS and IRR ^c	-.10	-.02	.22	.24*
CAUS and UNI ^d	.35	.09	.50*	.53**
SOD and IRR	.02	.08	.61**	.47**
SOD and UNI	.00	.07	.42*	.48**
SOD and IRR	.00	-.03	.17	.33**

* $p < .05$

** $p < .01$

^aCAUS = Causality

^bSOD = State of Death

^cIRR = Irreversibility

^dUNI = Universality

Table 6

Intercorrelations Among the Four Concepts of
Death for Humans by Age

Measures	4 (n=20)	6 (n=20)	9 (n=20)	Total (n=60)
CAUS ^a and SOD ^b	.26	.05	.47*	.56**
CAUS and IRR ^c	.02	.07	.40	.42**
CAUS and UNI ^d	.27	-.21	.10	.49**
SOD and IRR	.38	-.29	.76*	.56**
SOD and UNI	.16	-.03	-.23	.53**
IRR and UNI	.30	.40	.20	.52**

* $p < .05$

** $p < .01$

^aCAUS = Causality

^bSOD = State of Death

^cIRR = Irreversibility

^dUNI = Universality

A median split was computed for scores on the subscales of the UDI for humans and animals across age groups. Subjects who scored above the median were classified as high and subjects who scored below the median were classified as low. Separate Chi-Square analyses for animals and humans on each subscale, i.e., causality, state of death, irreversibility and universality were computed. For human only, the scores on the subscales for causality, state of death and irreversibility were higher for children who had experience with the death of a person, $\chi^2 = 4.31$, $df = 1$, $p < .05$, $\chi^2 = 4.62$, $df = 1$, $p < .05$, $\chi^2 = 3.71$, $df = 1$, $p < .05$, respectively. The analyses for human universality and animal subscales failed to reach statistical significance.

Kane (1979) found experience accelerated an understanding of death only for children 6-years-of-age and younger. While cell frequencies did not permit analysis of the effect of experience by age group in the present study, the findings do support the significance of experience with human death on children's understanding of human death, for the total sample. However, experience with animal death did not facilitate the children's understanding of the concepts of animal death. Very often when a pet dies it is replaced within a short period of time, minimizing the full impact of the death of the pet. Short of giving the child no explanation it would seem unlikely that an experience with human death could be significantly minimized.

Further consideration of the finding that experience has little effect on children's understanding of universality in conjunction with the finding that the development of the understanding of universality proceeds through 9-years-of-age seems to suggest that the concept is one that cannot be taught or learned from others, but is acquired at a point in time when the child is cognitively capable of doing so. Or it may be that of all the concepts of death investigated in this study, universality is the most sensitive and thus not explained to children as frequently as causes of death, state of death, and irreversibility of death.

Hypothesis 5

There will be no difference in the frequency of children scoring above and below the median on the subscales of the UDI between children receiving factual, religious, a combination of factual and religious, and no explanation of animal (human) death.

Chi-square analyses were used to determine whether the frequencies of children scoring above and below the median split differed according to the type of explanations given for animal or human death. Examination of the data indicated insufficient cell frequencies to adequately test this hypothesis.

CHAPTER 5

Summary, Conclusions and Recommendations

The purpose of this study was to examine the development of children's understanding of animal death as compared with human death, as well as to clarify the order and interrelationships of the concepts of causality, state of death, irreversibility and universality. The study also investigated the influence of experience and parental explanations on the development of children's understanding of death.

Summary

Analysis of variance with repeated measures indicated a significant main effect for age. Children's understanding of concept of death increased with age. The story type x sex interaction was significant as was the scale score x age and story type x subscale scores interaction. Tukey comparisons showed that males scores significantly higher than females on the human subscales. The most rapid development of the concepts of causality, state of death and irreversibility was indicated between 4- to 6-years-of-age with continued development of the understanding of universality through 9-years-of age. Additional comparisons indicated scores on the causality subscales for humans were higher than for animals.

Results from the simple correlation matrix for the subscales of the UDI indicated that the concepts of causality, state of death, irreversibility and universality are unrelated until after 6-years-of age. Comparisons of animal concepts on the subscales of the UDI with human concepts indicated a significant correlation for causality

at 4-years-of-age, state of death and universality at 6-years-of-age and state of death, irreversibility and universality at 9-years-of-age.

No significant correlations were found between the concepts of causality, state of death, irreversibility and universality for either animal or human for 4- or 6-year-olds. Significant correlations between state of death and causality and irreversibility for humans and state of death and irreversibility and state of death and universality, for animals at 9-years-of-age, were found.

Results from the chi-square analyses indicated experience with human death influences the scores on the causality, irreversibility and state of death subscales, for humans, of the UDI. Scores for universality were not influenced by experience, nor were animal scores influenced by experience with animal death.

Conclusions

Children's understanding of the concepts of causality, state of death, irreversibility and universality for animals and humans increased with age. The development of the understanding of the concepts of causality, state of death and irreversibility appears to be most rapid prior to 6-years-of-age with the development of the understanding of universality progressing through 9-years-of-age.

The 4-year-olds appear unable to generalize the understanding of animal death to the understanding of human death and vice versa. By 6-years-of-age children seem to be able to generalize the concepts of state of death and universality from animals and humans and humans to animals. At 9-years-of-age children are able to generalize between

animal and human death on state of death, irreversibility and universality. This information may be useful to parents and practitioners when attempting to explain death to young children.

Children's experiences with death appear to influence their understanding of death for humans only as experience with the death of animals did not alter the children's understanding of concepts of animal death.

Limitations and Recommendations for Future Research

1) Modification of the question dealing with universality seems necessary to prevent misinterpretation. For example, when asked, "Do all people (animals) die?" Often the response was "no" or "some do or some don't," with the reasoning that if all people or animals die there would not be any left. When probed with "Do all people (animals) have to die someday?" responses appeared to indicate that the question was referring to the inevitability of death. Rephrasing of the question would aide in the assessment of the understanding of this concept.

2) Extend the research to include children between 4-and 12-years-of-age to further clarify the development of the concepts of causality, irreversibility, state of death and universality of death.

3) Include questions on the parental questionnaire that deal specifically with the concepts of causality, state of death, irreversibility and universality. The use of open ended questions to assess the understanding of these concepts for animals and humans made it difficult to evaluate the types of explanations children were receiving

and the influence of these explanations on their understanding of causality, state of death, irreversibility and universality.

4) Refinement of the animal and human stories and pictures on the Understanding of Death Inventory. The character in story 5 was wearing glasses which may have contributed to the state of death responses that indicated she could "see" when she was dead. Also, the animal in story 1 was confined to a cage which may have limited the causes of death given.

5) Reassignment of scores at each level on the subscales seems necessary to better reflect the developmental progression indicated by the frequencies. For the causality and irreversibility subscales a one point spread between levels is used when a clear developmental progression is indicated by the frequencies. However, for the state of death and universality subscales the point spread and ordering does not appear to reflect this progression.

References

- Alderstein, M. A., & Alexander, I. E. Affective responses to the concept of death in a population of children of children and early adolescents. The Journal of Genetic Psychology, 1958, 93, 167-177.
- Anthony, S. The child's discovery of death. New York: Harcourt, Brace, Jovanovich, 1940.
- Childers, P., & Wimmer, M. The conception of death in early childhood. Child Development, 1971, 42, 1299-1301.
- Formanek, R. When children ask about death. Elementary School Journal, 1974, 75, 92-97.
- Gartley, W., & Bernasconi, M. The concept of death in children. The Journal of Genetic Psychology, 1967, 110, 71-85.
- Ginsburg, H., & Oppen, S. Piaget's theory of intellectual development, (2nd ed.). Englewood Cliffs, N.J.: Prentice-Hall, 1979.
- Grollman, E. A. Prologue. In E. Grollman (Ed.), Explaining death to children. Boston: Beacon Press, 1967.
- Kane, B. Children's concepts of death. The Journal of Genetic Psychology, 1979, 134, 141-153.
- Kastenbaum, R. Death, society and human experience. St. Louis: C. V. Mosby Co., 1977.
- Kavanaugh, R. E. Facing death. Baltimore, Md.: Penguin Books, 1972.
- Kirk, R. E. Experimental design: Procedures for the behavioral sciences. Belmont, California: Wadsworth Publishing Co., 1968.
- Koocher, G. P. Childhood death and cognitive development. Developmental Psychology, 1973, 9, 369-375.

- Lonetto, R. Children's conceptions of death. New York: Springer Publishing Co., 1980.
- McIntire, M. S., Angle, C. R., & Struempler, B. J. The concept of death in midwestern children and youth. American Journal of Diseases of Children, 1972, 123, 527-532.
- Melear, J. D. Children's conceptions of death. The Journal of Genetic Psychology, 1973, 123, 359-360.
- Melear, J. D. An investigation of the origin of the fear of death in children. Colorado Journal of Educational Research, 1975, 15, 10-14.
- Menig-Peterson, C., & McCabe, A. Children talk about death. Omega, 1977-78, 8, 305-317.
- Nagy, M. The child's theories concerning death. The Journal of Genetic Psychology, 1948, 73, 3-27.
- Piaget, J. The child's conception of the world. London: Routledge & Kegan Paul, 1951.
- Schilder, P., & Wechsler, D. The attitudes of children towards death. The Journal of Genetic Psychology, 1934, 45, 406-45.
- Townley, K., & Thornburg, K. R. Maturation of the concept of death in elementary school children. Educational Research Quarterly, 1980, 5, 17-24.
- Weininger, O. Young children's concepts of dying and dead. Psychological Reports, 1979, 44, 395-407.

White, E., Elsom, B., & Prawat, R. Children's conceptions of death.

Child Development, 1978, 49, 307-310.

Zeligs, R. Children's experiences with death. Springfield: Charles
C. Thomas, 1974.

APPENDIX A
Informed Consent Letter



COLLEGE OF HOME ECONOMICS

VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Blacksburg, Virginia 24061 - 8299

DEPARTMENT OF MANAGEMENT, HOUSING AND FAMILY DEVELOPMENT (703) 961-4794 or 4795

Dear Parents:

I am a graduate student in child development conducting a research study on children's understanding of death. I will be reading your child five short stories and then asking some questions about the stories. Each child will be interviewed individually and responses will be treated to assure anonymity.

Your assistance will also be needed to complete a short questionnaire pertaining to your child's experiences with death. Please return the form to Dr. Janet Sawyers, 140 Wallace Hall, VPI & SU.

Participation in this study is entirely voluntary and may be terminated at any time by the request of you or your child. However, I would greatly appreciate your and your child's contributions to this study.

If you have any questions or need additional information please feel free to contact me (or) or Dr. Janet Sawyers ().

Thank you for your cooperation.

Sincerely,

Megan P. Goodwin

Dr. Janet K. Sawyers

INFORMED CONSENT FORM

My child, _____ has my permission
to participate in the research project concerned with children's under-
standing of death. I have been informed of the nature of this study.

Child's Birthdate: _____

Parent's Signature: _____

APPENDIX B
Understanding of Death Inventory

STORIES

Story 1

Kris listened carefully but he did not hear the usual "rattle-rattle" of C.T. in his cage. He climbed out of bed and walked over to the cage, still no noise. He looked inside and saw C.T. lying in the corner.

Kris found a very small box, reached inside the cage and lifted C.T. out. He placed C.T. in the box and put the lid on. Kris dug a hole, laid the box in it and covered it with dirt. He picked up three rocks and pressed them, one at a time on top of the mound of dirt.

Story 2

When we walked through the door a man led us into a very quiet room. At the end of the room I saw Anne lying in a box. A man said many nice things about Anne. Some other men came in, closed the box and carried it out to a big car. The same men carried Anne's box over to a big tent. Lots of people were standing under the tent. My brother and I laid a flower on Anne's box. We walked to the car with Mommy and Daddy and drove home.

Story 3

Linda and Marsha were making picture-books. Linda had a magazine with lots of pictures but Marsha didn't. Linda ripped out some of her pages and gave them to Marsha. They both made books with many colorful pictures.

Story 4

When we arrived at the vets Mom told my sister and me to wait in the car. After about 15 minutes Mom came out carrying CoCo wrapped in a blanket.

When we got home Mom sent me for a shovel while she got CoCo out of the car. I dug a hole as big as CoCo and we laid him in it. Mom helped me push the dirt back over the hole. My sister found two sticks and laid them across the dirt in the shape of an "X" to mark the place CoCo was buried.

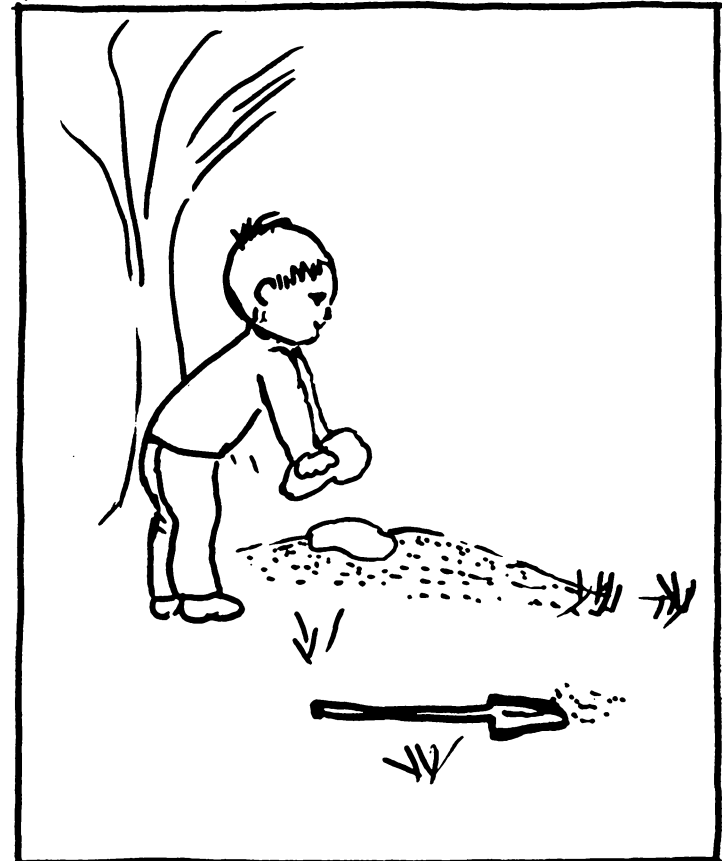
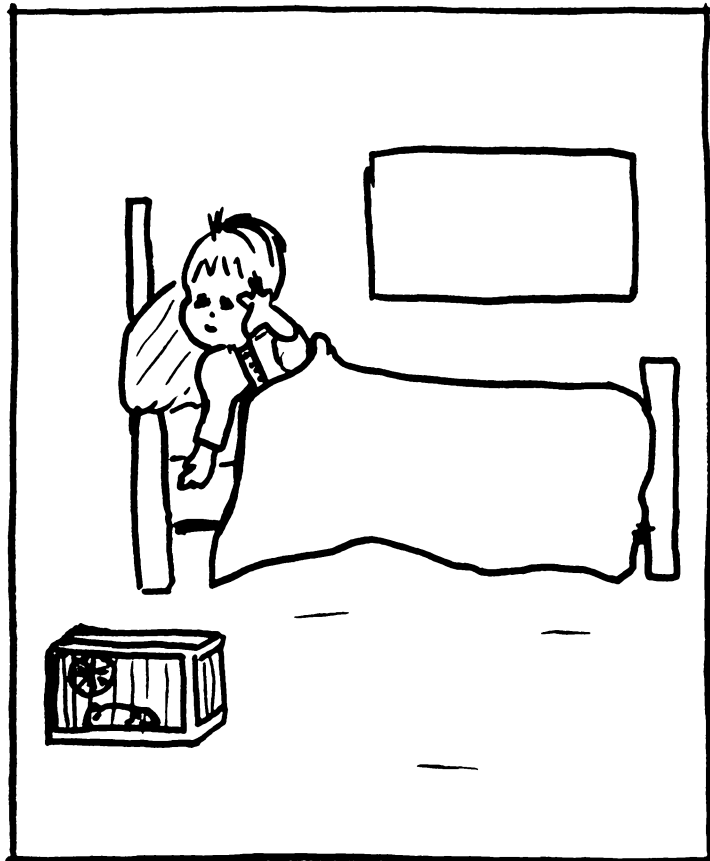
STORIES (Cont.)

Story 5

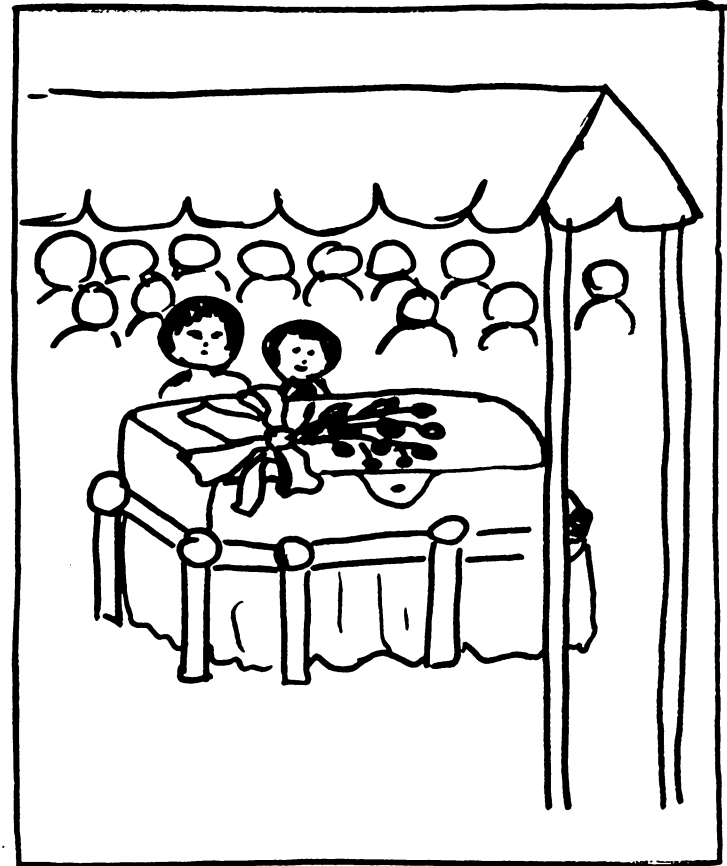
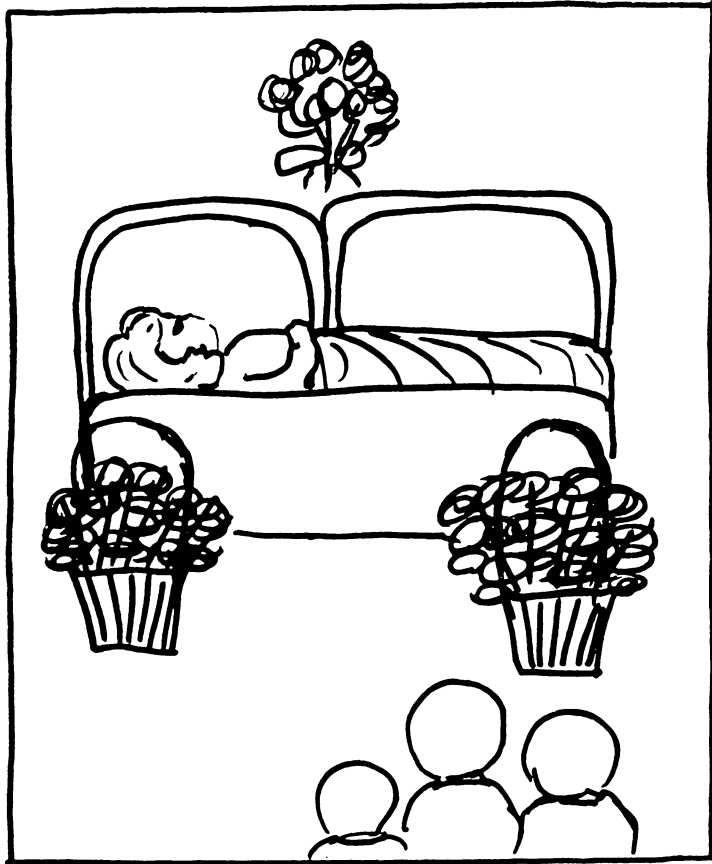
I ran into Grandma's room and it was very still and quiet. My daddy called the doctor and some men came and took Grandma away in a car with a siren. That night everyone was very quiet. My big brother helped Mom fix dinner, while I set the table. I did not put a plate on for Grandma.

Several days later Daddy took me for a ride. We brought some flowers I had picked from the garden. He showed me a big stone with Grandma's name on it and I put the flowers beside it.

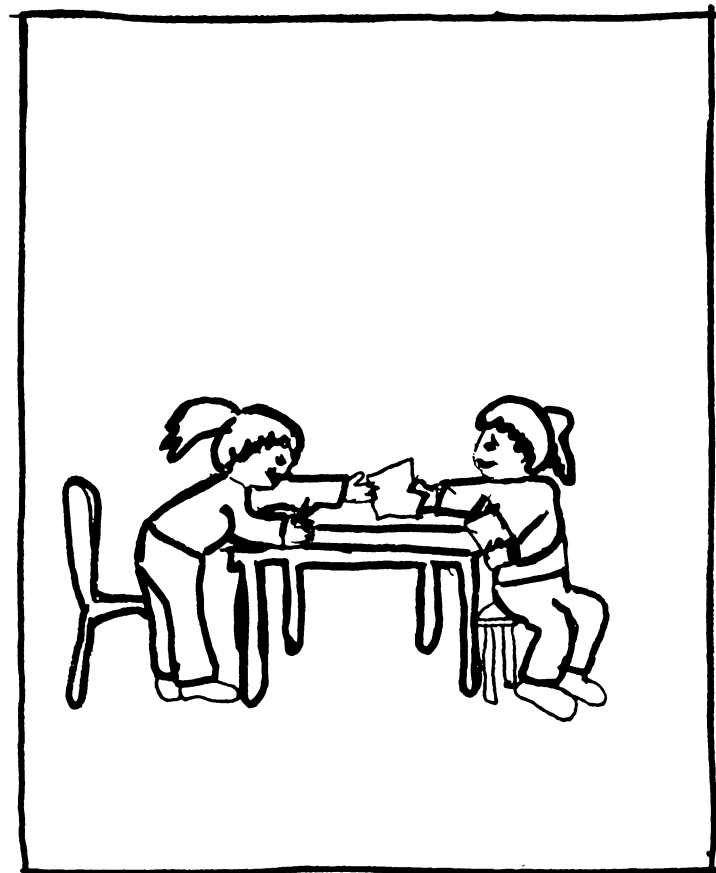
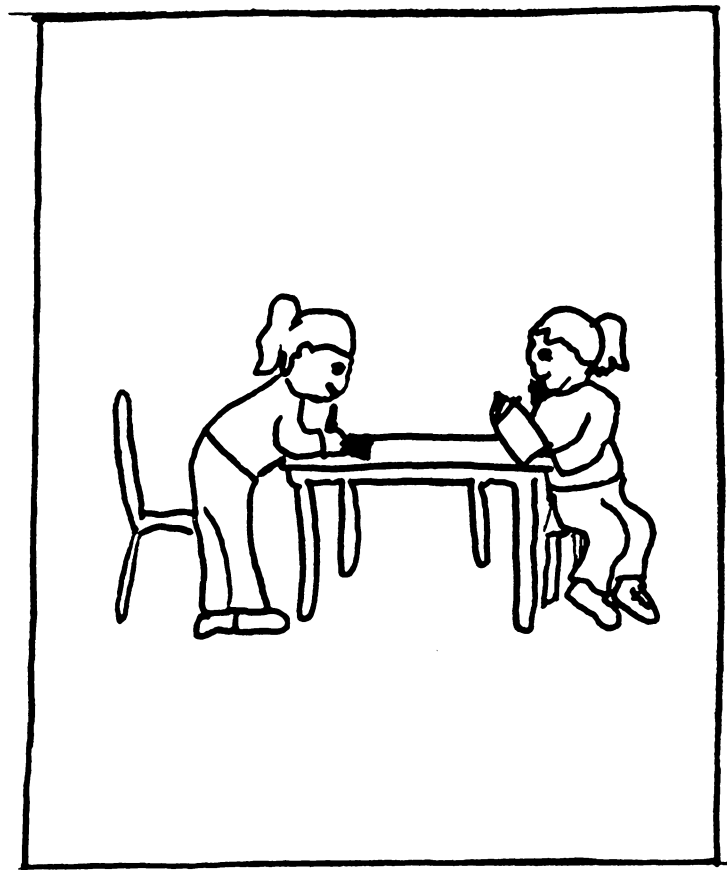
Pictures for Story 1



Pictures for Story 2



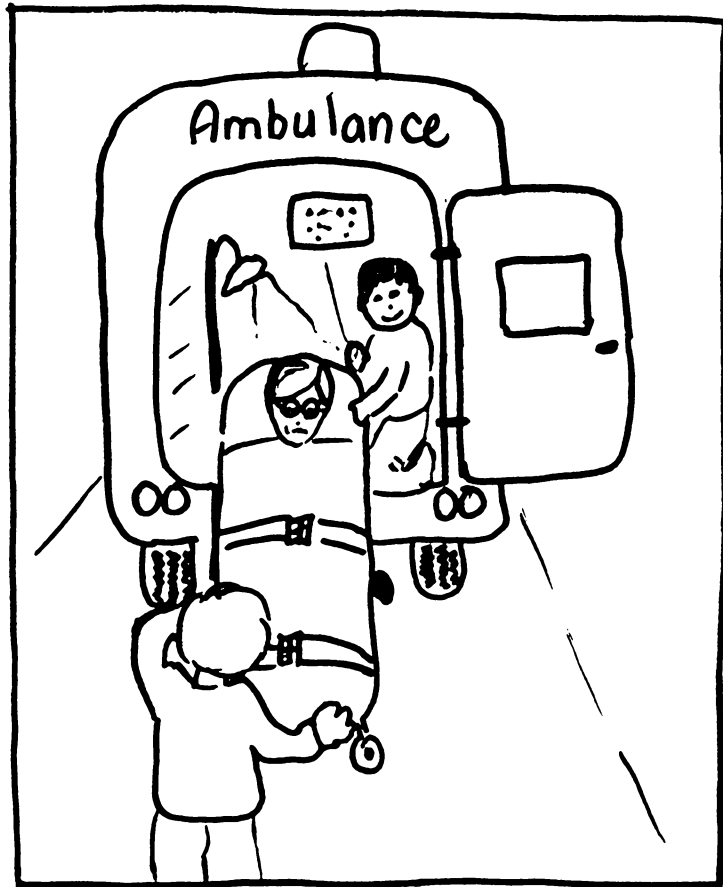
Pictures for Story 3



Pictures for Story 4



Pictures for Story 5



QUESTIONS

1. What happened to _____ in the story?
(character name)
2. How do you know _____ died (is dead)?
(character name)
3. How do you think _____ died?
(character name)

(Questions 1-3 used in stories 1, 2, 4, 5)

4. Are there some things _____ could do when she/he was living? (No, I don't know or no biological responses - probe using see....). (Also, probe - How do you know? Why or why not?)
5. Are there some things _____ can do now that she/he is dead? (No - probe using their responses to #4 - Yes, ask What? and Why or why not? or How do you know?)
6. Can anything be done to bring _____ back to life?
(Probe - How do you know? and Why or why not?)
7. Do all animals (people) die?
(Probe - Why or why not? and How do you know?)

(Questions 4, 5, 6, 7 used in stories 4 and 5 only)

APPENDIX C
Parental Questionnaire

PARENTAL QUESTIONNAIRE

Parents: Your help in answering the following questions is very important to the outcome of this study. Please be as thorough as possible in your responses. If you need additional space for answering questions, please feel free to use the backs of the sheets. Thank you for your time and cooperation in completing the questionnaire.

- I. 1. Has your child ever experienced the death of a person? If yes, at what age(s)? _____ If no, proceed to section II. Describe this experience.
2. Did any discussion with your child follow this experience?
yes no
3. What questions did your child ask about the death of the person?
4. What explanations were given to the child?
5. Who initiated the discussion? child _____ parent _____ other _____
- II. 1. Has your child ever experienced the death of a pet or animal? If yes, at what age(s)? _____ If no, proceed to Section III. Describe the experience.
2. Did any discussion with your child follow this experience?
yes no
3. What questions did your child ask about the death of the animal?

4. What explanations were given to your child?

5. Who initiated the discussion? child_____ parent_____
other_____

- III. 1. Have you ever discussed the topic of death with your child other than in response to personal experience of the child (e.g., seeing a dead wild animal along the road, television news, etc.)? yes no
2. How old was your child at the time of the discussion(s)? _____ (If discussed several times, indicate age at first discussion_____ and at most recent discussion_____).
3. What prompted the discussion?

4. What questions did your child ask concerning death?

5. What explanations were given to your child?

6. Who initiated the discussion(s)? child_____ parent_____
other_____

- IV. 1. Has the topic of death ever been discussed with your child in a setting outside of the family (e.g., church, school, etc.)
2. If so, what explanations were given to the child?

V. 1. How many hours per day does your child watch television?

Monday_____

Friday_____

Tuesday_____

Saturday_____

Wednesday_____

Sunday_____

Thursday_____

APPENDIX D

Frequencies of Responses for Subscales

Frequencies of Responses for Subscales *

as a Function of Age (n = 20)

<u>Causality Score</u>		<u>4's</u>	<u>6's</u>	<u>9's</u>
1.0	I don't know or no response	7	4	0
1.5	Magical, Fantasy, Bizarre	7	0	2
2.0	Religious	2	0	0
2.5	Eating, Swallowing	7	4	0
3.5	Accidental	27	24	51
4.5	Old age	5	16	20
4.5	Illness, sickness, disease	2	10	17
4.5	Specific diseases	2	15	38
5.0	Recognition of Body Malfunctions	<u>1</u>	<u>2</u>	<u>4</u>
	Total	60	75	132
<u>State of Death Score</u>				
1.0	I don't know or no response	1	0	0
1.5	Yes and No: Answer and reason contradictory	3	0	0
2.0	No: Insufficient explanation	7	2	0
2.5	No: Reason suggests some control of body while dead	8	13	5
2.5	No: Explanation reflects religious beliefs	1	1	2
3.5	No: Recognition of cessation of bodily functions	0	4	12
4.0	No: Recognition of both science and religious explanations	<u>0</u>	<u>0</u>	<u>1</u>
	Total	20	20	20

<u>Irreversibility Score</u>		4's	6's	9's
1.0	I don't know or no response	2	0	0
1.5	Yes: No explanation	2	0	0
2.0	Yes: Someone or something can bring the dead back to life	7	2	2
3.0	No: Insufficient explanations	7	10	1
3.5	No: Reasoning reflects religious beliefs	2	5	2
4.5	No: Reasoning includes recognition of cessation of bodily functions	<u>0</u>	<u>3</u>	<u>15</u>
Total		20	20	20

Universality Score

1.0	I don't know or no response	3	0	0
1.5	No: With or without reason	9	0	0
2.0	Yes: Insufficient reason	3	4	2
2.5	Yes: Reflects religious beliefs	0	1	4
3.5	Yes: Reasoning includes specific causes	5	13	5
4.5	Yes: Reasoning that death is inevitable	<u>0</u>	<u>2</u>	<u>9</u>
Total		20	20	20

*The point spreads between levels were chosen to reflect an apparent increased understanding of the concept involved on each subscale. An attempt was made to assign comparable scores to responses which were similar on all subscales (i.e. religious).

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CHILDREN'S UNDERSTANDING OF DEATH

by

Megan Pauline Goodwin

(ABSTRACT)

The purpose of this study was to examine the development of children's understanding of animal death as compared with human death, clarify the order and interrelationships of the concepts of causality, state of death, irreversibility and universality of death, as well as to examine the influence of experience with death and parental explanations on children's understanding of death. Twenty children at each of three age groups (4, 6, and 9 years) were read two animal and two human stories dealing with the topic of death and asked a series of questions designed to assess their understanding of the four concepts. Experience with death and parental explanations were assessed through the use of parental questionnaires.

Results indicated children's understanding of the concepts of death increased with age. The most rapid development of the understanding of causality, state of death and irreversibility was indicated between 4- and 6-years-of-age, with universality continuing through 9-years-of-age. Correlations between the UDI subscales for both animal and human death indicated the concepts were unrelated until after six years of age.

A developmental progression in the interrelationships of animal with human concepts of death was found. Correlations were significant for causality at 4-years, state of death and universality at 6-years and state of death, irreversibility and universality at 9-years-of age.

Experience with human death influenced the human scores for the concepts of causality, state of death and irreversibility. No significant correlations for universality or animals was found.