ACADEMIC ACHIEVEMENT OF BEREAVED CHILDREN: COMPARISON
WITH A NONBEREAVED POPULATION

by

Rebecca W. Valcarce

A thesis submitted in partial fulfillment
of the requirements for the degree
of
MASTER OF SCIENCE
in
Psychology

Approved:

UTAH STATE UNIVERSITY
Logan, Utah
1987
DEDICATION

In memory of Dad and Karen, whose untimely deaths led to many questions and whose loss inspired this study as a pathway to answers.
ACKNOWLEDGEMENTS

I would like to thank Dr. Michael Bertoch of my Graduate Committee for his critical review of this thesis and also my committee members for their guidance and helpful suggestions.

I would also like to thank the Cache County and Logan City School Districts for their cooperation in allowing this study to be conducted in their high schools. Thanks especially to the principals and counselors at Skyview, Mountain Crest, and Logan High for their patience during data collection and for their willingness to assist.

And finally, loving thanks to my husband, Ron, without whose patience, love, and support this research could have never been completed.

Rebecca Vulcance
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEDICATION</td>
<td>ii</td>
</tr>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>iii</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>vi</td>
</tr>
<tr>
<td>ABSTRACT</td>
<td>vii</td>
</tr>
</tbody>
</table>

**Chapter**

I. **INTRODUCTION** ........................................... 1

  - Statement of the Problem .............................. 1
  - Purpose and Objectives ............................... 2
  - Hypotheses ........................................... 3
  - Definition of Terms ................................... 3

II. **LITERATURE REVIEW** .................................. 5

  - Cross Cultural Views of Death and Reactions to Bereavement .......................... 5
  - The Occurrence Of Mourning in Young Children ........................................... 9
  - Children's Understanding of Death .............................................................. 13
  - Differences in Bereavement as Related to Life Stage ..................................... 16
  - Reactions of Children to Parental Death ...................................................... 22
  - Summary ................................................ 26

III. **METHODOLOGY** ........................................ 29

  - Population ............................................ 29
  - Procedures and Materials ............................ 29
  - Measures Used ........................................ 31
  - Data Analysis ........................................ 39

IV. **RESULTS AND DISCUSSION** .......................... 40

  - Hypothesis 1: Achievement Test Scores ............... 40
  - Hypothesis 2: Grade Point Averages ................. 43

V. **CONCLUSIONS** ........................................ 47

  - Limitations ............................................ 48
  - Recommendations ...................................... 49
LIST OF TABLES

Table | Page
--- | ---
1. Analysis of Covariance of Achievement Scores (Posttest Means) | 40
2. Pretest and Posttest Achievement Score Statistics by Group | 41
3. Summary of Multiple Regression Analysis for Bereaved Group With Posttest as Criterion Variable | 42
4. Multiple Regression Analysis Predicting the Influence of Age (at Parental Death) and Pretest Score Upon Posttest Scores of Bereaved Group | 42
5. Analysis of Covariance of Grade Point Averages | 43
6. High School Grade Point Average Statistics by Group | 44
7. Summary of Multiple Regression Analysis for Bereaved Group With Overall High School GPA as Criterion Variable | 45
8. Multiple Regression Analysis Predicting the Influence of Age (at Parental Death) and Pretest Score Upon Overall High School GPAs of Bereaved Group | 45
ABSTRACT

Academic Achievement of Bereaved Children: Comparison With a Nonbereaved Population

by

Rebecca W. Valcarce, Master of Science

Utah State University, 1987

Major Professor: Dr. Michael Bertoch
Department: Psychology

The purpose of this research was to study the effects of bereavement on the academic achievement of secondary school students who had lost a parent through death by comparing them with students attending the same schools but who were living with both natural parents. The subjects in both groups were matched on pretest scores and demographic characteristics at the beginning of the study. Achievement posttest scores and overall high school grade point averages of both groups were compared using ANCOVA and multiple regression analyses. None of the analyses were found to be statistically significant, implying that academic achievement is not adversely affected by the experience of parental death. Recommendations for further research are presented.

(62 pages)
CHAPTER I
INTRODUCTION

Within the last two decades, the study of death and dying has received increasing empirical and theoretical attention. Children's reactions to the death of a parent have been studied along with more recent investigations of children's reactions to the death of a sibling. Research in this area comes mainly from case studies of children in psychoanalysis at the time of the death and from retrospective reports by adults in treatment for psychiatric illness or depression many years after a loved one has died.

Statement of the Problem

Researchers, while giving attention to children's development after a parental or sibling death, have failed to consider functioning prior to bereavement. It is not possible to assess the impact of a familial death upon the child's subsequent development unless something is known about how the child functioned before bereavement. Most of the recent research is based on parental reports rather than observation of or interviews with the bereaved children themselves. Because of the different, non-generalizable populations as well as poor methodology in some cases, inconclusive and contradictory findings have been reported regarding the child's ability to mourn, the child's evolving concept and understanding of death, and the impact of the loss upon the overall development of the child. In addition to the problems regarding generalizability, few studies exist which compare the development of "normal" bereaved children; that is, children who are not part of a psychiatric population with children who have not experienced a death.
It is clear that a need exists for more research about childhood bereavement. In the past, emphasis has been limited to grief reactions of children in psychoanalysis, the retrospective recollections of adults, the reports of parents rather than the children themselves, and vague generalizations about the child's subsequent development.

Purpose and Objectives

This research was designed to study the effects of bereavement on the academic achievement of secondary school students who had lost a parent through death any time between third and eleventh grade and to compare those students with a sample of pupils attending the same schools, but who had not experienced the death of a parent. It was felt that if differences in academic achievement exist between bereaved and nonbereaved children, it would be advantageous to study these differences and determine how school personnel, especially teachers and counselors, could help bereaved children cope.

The objectives of this study were:

1. To examine possible differences in achievement scores of secondary school children who have experienced the death of a parent between the third and eleventh grade and a comparable sample of children who have not had such an experience.

2. To examine possible differences in high school grade point averages of secondary school children who have experienced the death of a parent between the third and eleventh grade and a comparable sample of children who have not had such an experience.
Hypotheses

The following null hypotheses were posed for this study:

1. No difference in achievement scores will exist between secondary school students who have lost a parent through death any time between third and eleventh grade and similar students who have not experienced parental death.

2. No difference in overall high school grade point averages will exist between secondary school students who have lost a parent through death any time between third and eleventh grade and similar students who have not experienced parental death.

Definition of Terms

The following terms are defined as they were used in this study:

1. Academic Achievement: the knowledge, understanding, and skills that students have acquired as a result of educational experiences in specified content areas of reading, language, and mathematics as measured by Total Battery scaled scores received on the Comprehensive Tests of Basic Skills and by high school grade point averages based on performance in courses emphasizing reading, language, and mathematics skills as well as social studies, science, and humanities.

2. Bereavement: the subjective state and objective reactions of an individual who has suffered the loss of a loved one through death.

4. **Mourning**: the intrapsychic response to loss, consisting primarily of the gradual and painful detachment from the internal representation of the dead person.

5. **Rural**: consists of an incorporated or unincorporated place and adjacent settled surrounding area that together have a population of less than 50,000 with a population density of less than 1,000 persons per square mile (1980 Census of Population).
CHAPTER II
LITERATURE REVIEW

The research in this chapter pertaining to childhood bereavement will be discussed in the following five areas: (a) cross-cultural views of death and reactions to bereavement, (b) the occurrence of mourning in young children, (c) children's understanding of death, (d) differences in bereavement as related to life stage, and (e) reactions of children to parental death.

Cross Cultural Views of Death and Reactions to Bereavement

The cultural context in which death is experienced in the United States and the general response to it have changed over the last several decades. Death in the United States is no longer exclusively a religious matter, but has moved into the realm of scientific exploration. According to Fulton and Geis (1965) modern studies of death seem to reveal the emergence of more secular attitudes toward the subject. Along with these secular attitudes, death has also become a forbidden subject and must be suppressed, avoided, or somehow covered up among the majority of persons in the United States. This is especially true regarding children. The idea that children should be protected from death as long as possible is fostered by parents, school personnel, and other adults (Kastenbaum, 1974; Giacalone & McGrath, 1980).

Prompted by Freud's theory of universal death instinct called thanatos, investigations by psychologists, psychiatrists, and others into the phenomenon of death continue to emerge. Wass, Guenther, and Towry (1979) contrasted and compared 215 United States and 188 Brazilian children's concepts of death.
to determine if any cultural differences existed. The children, aged 10 to 11, completed a four-item questionnaire which consisted of the following questions about death: (a) What is death? (b) Why do people and animals die? (c) Can dead people and animals ever come back to life? (d) What happens to people and animals when they die? Ninety-three percent of the United States children and ninety-seven percent of the Brazilian children reported having had a personal experience with death involving either a family member, a pet, or both. Results indicated that the majority of United States children viewed death as a physical-naturalistic phenomenon while only about one-third of the Brazilian children held this view. Nevertheless, a high proportion of the United States children mentioned "heaven or hell" which was inconsistent with their physical-naturalistic view of death. Approximately 25 percent of the Brazilian children held a metaphysical view of death compared to less than one percent of the United States children. The idea of physical causation of death and death being a law of nature appeared to be closely linked in the minds of Brazilian children, however. Another difference was apparent in the definition of death as the "loss of loved ones." Such a definition appeared in 10 percent of the Brazilian group's answers, while it was virtually absent from the answers of the United States children. Results also showed Brazilian boys to be less religiously oriented than United States boys and girls. Brazilian girls were found to have a strong religious conceptualization of death. Although many differences in death concepts between the two cultures emerged, numerous similarities such as viewing death as the cessation of bodily functions and belief in spiritual immortality and reincarnation were also apparent.
A similar study comparing different ethnic groups in the United States was conducted by Wass and Towry (1980). A group of 73 black and 85 white lower-middle-class elementary school children ages nine through twelve living in a small southern city were asked to complete the same four-item questionnaire about death. Results showed more of the white boys defining death as the end of living, while most of the black boys defined death as the cessation of bodily functions. White boys tended to respond in a more abstract manner than white girls or black boys and girls. Black girls listed physical causes or explanations for death more frequently. Also, differences in responses tended to be smaller between black and white boys. The authors state that additional research of children of other ethnic backgrounds, ages, socioeconomic status, and residence areas is needed before a definitive answer can be made regarding ethnic similarities or differences in children's death concepts.

Regarding bereavement reactions and customs, culture appears to strongly influence how individuals deal with loss. According to Osterweis, Solomon, and Green (1984) the personal experience of grief, as well as public expression of mourning is considerably different depending on the social and cultural setting. For example, in Puerto Rico, bereaved women are expected to express their grief through dramatic exhibitions of "seizure-like" attacks and uncontrollable emotions. Several southeast Asian-American groups publicly display wailing and sadness when bereaved but are expected to be composed and impassive in private as a demonstration of endurance and tolerance. Greek and Portuguese widows of traditional orientation are expected to establish a lifetime role of grieving thus demonstrating loyalty to the dead loved one's memory. Among middle class, college-educated
Americans, however, grief is increasingly considered as a severe but temporal state to be experienced and resolved as quickly as possible with favorable outcome measured by development of new relationships and the breaking of ties to the dead (Osterweis et al., 1984).

In contrast, Reid (1979) conducted a study in which the patterns and processes of mourning among the Yolngu of Australia were assessed over a period of 12 months and then again during two short return visits. The Yolngu are Australian Aborigines who live in Northeastern Arnhem Land, Northern Territory. While studying the Yolngu in the field, Reid found them to display elaborate and extended mortuary rites such as singing sacred songs, self-mutilation by women, dancing, and purification ceremonies involving the burning or painting of anything which was touched by the dead body. Mourning was structured by rituals, taking place within clearly delineated time periods and social contexts. According to Reid, the promotion and structure of the mourning process helped to facilitate the full reintigation of the bereaved into the social life of the community.

In a study conducted by Rosenblatt, Walsh, and Jackson (1977), the expression of emotion by bereaved persons was assessed cross-culturally. These researchers compared the manifestation of emotions such as crying, anger, and fear among 78 societies, including the United States. They found crying to be the "best-described" type of emotional behavior exhibited by bereaved persons since it was observed in 72 of the societies studied. Anger and aggression were rated as present in 50 of the societies but not with great frequency in those societies without ritual specialists such as funeral directors and clergymen. Fear, as an emotion associated with bereavement and grief, has not been well documented in the literature in the United
States (Rosenblatt et al., 1977). Nevertheless, the researchers examined fear of corpses and fear of ghosts and found such fears to be present in eight and thirty-seven of the societies respectively. The researchers also reported that Americans seemed to be much more in need of an elaborate death ceremony or funeral than were most other cultures.

These studies illustrate that conventional bereavement behavior varies widely from culture to culture. Cross cultural differences in bereavement reactions are now beginning to be developed as an area of research, but more studies are needed regarding the influence of cultural factors such as ethnic background, social class, and religion upon the child's comprehension of and reaction to loss, as well as upon adult bereavement reactions.

The Occurrence of Mourning in Young Children

In his paper entitled "Mourning and Melancholia", Freud (1917/1957) outlined a distinct psychological process exhibited by persons experiencing the death of a significant other. Freud called this process "mourning" and described it as occurring under conditions of object loss, most typically in relation to the death of close relatives and friends. Freud explained the process through which the work of mourning is accomplished as follows:

Each single one of the memories and expectations in which the libido is bound to the object is brought up and hypercathected, and detachment of the libido is accomplished in respect of it . . . when the work of mourning is completed the ego becomes free and uninhibited again. (p. 245)

Many psychoanalytic researchers have written about childhood mourning. Most believe that mourning does not occur in children before
adolescence. Their conclusions are based largely upon clinical experience with children and adults who have lost a parent through death in childhood. Deutsch (1937/1965) found such "absence of grief" to occur in four cases of individuals who had experienced childhood and adolescent parental death. According to Deutsch, these patients displayed a lack of appropriate emotion at the time of the parent's death. Denial, idealization, identification, and depression were noted in the behavior of these patients. Deutsch concluded that "the ego of the child is not sufficiently developed to bear the strain of the work of mourning and that it therefore utilizes some mechanisms of... self-protection to circumvent the process" (p. 228).

Wolfenstein (1966), in a study of 42 children ranging in age from three-and-one-half to nineteen years found similar results. All of the subjects came under observation and treatment with the Division of Child Psychiatry at the Albert Einstein College of Medicine within one to fourteen years after the parent's death. The process of mourning as delineated by Freud (1917/1957) was not found to occur among these children. Sadness and crying at the time of the death were reduced in these children when compared with mourning reactions observed in adults. The children continued their everyday, routine activities with no withdrawal or preoccupation regarding the dead parent. According to Wolfenstein (1966) the children were clearly denying the finality of the death. Nevertheless, they still consciously acknowledged circumstances related to the death, such as the funeral. There appeared to be a defensive splitting of the ego allowing the death to be denied and the attachment to the dead parent maintained.

A group of patients in psychoanalysis who had lost a parent in childhood was also studied by Altschul (1968). He found that even in
adulthood these patients denied the finality of the loss and maintained fantasies centering around the dead parent until the mourning process was facilitated through treatment.

Bowlby (1961), however, takes a dissenting position regarding mourning in children. He studied young children and infants separated from their mothers and observed anger, demand for the mother's return, withdrawal and apathy—evidence that children go through a grieving process somewhat similar to that of adults. R. Furman (1973) also believes that mourning does take place in children under certain conditions, the first being a concept of death and whether the child can comprehend the meaning of death. The child also needs a consistent, reliable adult to satisfy his or her reality needs and to help facilitate expression of feelings regarding the dead person. Barnes (1964) presented clinical evidence in support of R. Furman's (1973) views. Her case report was based on the mourning reactions of two sisters aged two-and-one-half and four years to the death of their mother. The two children displayed denial, reunion fantasies, and identifications clearly related to their mother's death. R. Furman (1964) also presented a case in which mourning, with the help of psychoanalytic treatment, occurred in a six-year-old boy whose mother died.

Recently, E. Furman (1983) and a group of psychoanalysts studied 23 children who had lost a parent through death. These children came from various socioeconomic, religious, racial, and ethnic backgrounds. The parental death occurred at different points in the children's development, ranging from a few weeks of age to thirteen years of age. The majority of these children were seen in individual psychoanalysis. The researchers found that the mental work of coping with the death consisted of
understanding and accepting the reality of the death, going through the
mourning process, and resuming functioning according to the child's life
stage. E. Furman (1983) and her colleagues found that mourning occurred in
children who were developmentally three to four years of age or older with
one two-year-old also experiencing mourning.

This review of psychoanalytic literature dealing with childhood
bereavement reactions has focused on two contradictory positions regarding
whether children experience mourning upon the death of a loved one.
Mourning, as reviewed here, includes the gradual and painful emotional
detachment from the internal representation of the dead person. All of the
studies reviewed have based their conclusions on clinical populations, and
some of the research is based on single case studies. These results are
therefore questionable in application to the general population of children
experiencing the death of a parent.

Whether or not mourning occurs in children is important to the
present study in that the inability to mourn could conceivably affect a child's
adjustment and achievement at the time of the death as well as into the
future. According to R. Furman (1973):

A loss in childhood that is unmourned, unmastered
stays active in the personality and, through the
defenses utilized to ward off its awareness, influences
all aspects of dealing with feelings and the making of
lasting object relationships. In addition, if the feelings
stay invested and attached to a deceased parent or sibling,
they are unavailable for growth and maturation and this
will inevitably lead to varying degrees of arrest at that
stage of development when the loss occurred. (p. 230)

In summary, the loss of a loved one through death in childhood may be
accompanied by hazards to the young person's development. When coupled
with the inability to mourn, the loss could develop into severe pathology.
Children's Understanding of Death

Some of the studies previously reviewed have set forth the position that mourning occurs in children who can comprehend the meaning of death. According to R. Furman (1970) there is reason to believe that a child's understanding of death is related to coping with bereavement. Several studies investigating children's conceptions of death have implied stage-based conceptualizations based on children's responses to questions about death and dying (Kane, 1979; Koocher, 1973; & Melear, 1973). One distinct element affecting the development of a conception of death is the child's level of cognitive ability (Ferguson, 1978; Kane, 1979; & Koocher, 1973). Koocher (1973) studied 75 children ranging in age from 6 to 15. He used Piaget's framework for conceptualizing cognitive development to explore and analyze children's attitudes toward death. Each child was tested to determine his main level of cognitive functioning and was asked four open-ended questions about death: "What makes things die? How can you make dead things come back to life? When will you die? What will happen then?" Answers to these questions were found to be related to the child's level of cognitive development. Children gave more realistic replies as their levels of cognitive development progressed from preoperational to concrete-operational, to formal-operational stages.

Based upon interviews with 122 middle-class children aged three through twelve years, Kane (1979) postulated three developmental stages in the formation of a death concept. These stages were related to Piaget's levels of cognitive development as follows:
1. During the preoperational stage when the child focuses on a single dimension of objects at a time, children defined death in terms of structure, realness, separation, and immobility of the dead person. Some magical thinking also existed (e.g. anger caused the death).

2. During the concrete-operational stage when the child is able to think simultaneously of the object as a whole as well as its parts, children defined death as specific and concrete with internal as well as external causes. The dysfunction and irrevocability of death were also mentioned.

3. During the stage of formal-operational when the child begins to speculate on possibilities beyond reality and begins to use abstract reasoning, children were able to interrelate the various components of death in a more abstract and applicable manner.

The effects of death-related experiences upon the child's developing concept of death are not clear. Kastenbaum (1977) proposed that while a death experience may promote the child's understanding of death, this effect decreases over time because of repression of the death by the family and the intellectual limitations of the child. Analyses of the impact of actual death experiences have not revealed that children's concepts of death are affected by the death of a parent, sibling, or close relative (McIntire, Angle, & Streumpler, 1972; Tallmer, Formanek, & Tallmer, 1974).

In a recent study conducted by Reilly, Hasazi, and Bond (1983), 60 children ranging in age from five to ten years were studied regarding their conceptions of death and personal mortality as related to age, cognitive development, and life experiences with death or separation/divorce. Children who had experienced the death of a parent, sibling, close relative, or close friend were compared with children who had experienced parental
separation or divorce and with children from two-parent families who had not experienced death or separation/divorce. The children were compared on two measures of personality development. The parents of the children were interviewed regarding demographic variables about the family and information about the death or divorce including its effect on the child. The results indicated that most of the children six years of age or older had some understanding of the universality of death. The child's understanding of personal mortality was related to cognitive developmental level and to direct experience with death. No differences were found on the measures of personality development. Children who had experienced the loss of a loved one provided more realistic information about death than children who had never had such an experience. Comparability of the three groups prior to the study was not assessed, however.

From the studies reviewed, it appears that the child's understanding of death is closely associated with his or her level of cognitive development. As the child moves through the levels of cognitive development, his or her comprehension of death becomes more accurate. Nevertheless, it is not clear how the child's concept of death is affected by actually having experienced the death of a loved one. The results of some studies suggest that this experience may advance the child's understanding of death, while other studies have found that children's concepts of death are not affected by such an experience.
Infancy

The idea of temporary separation begins with the infant's (age 0-2 years) awareness of alternate states of wakefulness and sleeping. For example, the infant will be alone for a time, and then a familiar, soothing figure will return. Maurer (1966) believes that the healthy three-month-old infant experiments with the states of being and nonbeing through such games as peek-a-boo. Some researchers also contend that the infant is even able to begin working at an understanding of the concept of death (Maurer, 1966; Moriarity, 1967; Kastenbaum & Aisenberg, 1972). Nevertheless, some developmentalists disagree with this viewpoint and believe that during the first two years the child has no understanding of death. According to Wass and Cason (1984), there are no indications that death is conceptualized during infancy. Wass et al. say, however, that this does not mean that infants do not or cannot respond emotionally to the death of a pet or significant other. Wass et al. believe that the response at this early age is more likely to loss rather than death.

The nature of the child's response to loss depends largely upon the stage of emotional and cognitive development which the child has reached. Based upon observation of infants (age 6 months to 3 years) in a residential nursery who were separated from their mothers, Bowlby (1980) proposed three phases in response to loss and separation. In the stage of "protest" which immediately followed the loss of the loved object, Bowlby found that children actively expressed grief and anger through such behavior as loud
crying. In the second stage of "despair" children were observed to be apathetic and unresponsive toward other people. The final stage of "detachment" followed if the mother did not return. Children at this stage behaved as if they no longer cared whether their mothers returned or not. The children became cheerful and responsive to others. According to Bowlby, however, once the third stage is reached the child becomes vulnerable and is likely to react abnormally to future losses of loved ones.

Thus, not only are there differences of opinion regarding the infant's ability to mourn, but also the ability of the infant to understand the concept of death. Unfortunately, there is no way to resolve these differences of opinion regarding infant bereavement until it is possible to have access to the infant's thought processes before language skills develop.

**Preschool Children**

Children aged three to five respond differently to bereavement than do older children basically due to differences in cognitive ability. At this age the child attributes life to inanimate objects. Thinking is magical, and reality is subjective. Studies have shown that children at this age have erroneous or incomplete understandings of death (Stillion & Wass, 1979; Kastenbaum & Aisenberg, 1972). Death is seen by this age group as synonymous with sleep, as temporary and reversible. The preschool child's comprehension of the meaning of death is important for adults to be aware of when a death has occurred. Adults who do not understand the preschool child's concept of death may be needlessly upset at the child's apparent indifference to the death of a loved one. When the child does eventually grasp the reality of the death it is important for the adult to reassure the child that he or she will
not be abandoned but will be taken care of and loved as before, since this is one of the most prominent worries of children this age after a death has occurred.

According to Petrillo and Sanger (1972) children aged three to six are also concerned with the death as a punishment for real or imagined wrongdoing. The difficulty of the preschool child to comprehend death results from the relative immaturity of the child's personality, limited experience, and emotional dependency on the loved one. This does not mean, however, that the older the person becomes, the more the ability to mourn improves. E. Furman (1983) found that some four-year-olds could master their bereavement, while many older children and adults were not able to do so. Personality difficulties, special circumstances related to the death, or lack of other sufficient relationships were among some of the factors cited by E. Furman as interfering with the bereavement work of some subjects.

It appears, therefore, that preschool children have inaccurate concepts of death, thinking that dead persons are asleep and can awaken. Once the child realizes that the dead person is not coming back, he or she will be worried about being taken care of and may feel that the death is a punishment for misbehavior. It is important for adults to be aware of these types of reactions by preschoolers so that these children can be reassured and comforted in ways consistent with their cognitive development.

**Elementary School Children**

Generally, researchers agree that a turning point occurs in the child's understanding of death around the ages of five to seven years. The child now starts to adjust to the concept of death as final and inevitable.
(Kastenbaum, 1967). Bereaved children aged five to nine are concerned about procedures regarding survival, death, and burial. E. Furman (1983) reported that the school children in her study needed help in understanding the cause of death but had already formed a basic concept of death. In an interesting study conducted by Alexander and Adlerstein (1958) it was found that children as young as five years of age showed more emotional reaction to "death words" than to other types of words. The children's emotional reactions were measured by galvanic skin responses (GSR) and by the amount of time which elapsed between hearing a word and giving a response to it (latency measure on a word association task). Although these children were not able to formulate a completely accurate concept or definition of death, they still responded more strongly when presented with death stimuli than when presented with other stimuli.

According to Petrillo and Sanger (1972), children between the ages of six and ten begin to fear death itself. Children ask questions about death (unless they are discouraged by adults) and tend to adopt magical explanations for such an event. If parental death or the death of a close family member occurs, behavior disorders are likely to arise in children of this age, which may seem to make no sense to adults (Wolff, 1969).

Although elementary school children begin to understand death as being final and inevitable, they are more likely to fear death at this age. Sometimes this is due to adults' refusal to answer questions children have about death. Children this age are concerned about burial procedures, causes of death, and issues surrounding survival. Adults need to be aware of such concerns and be available to answer questions and offer support.
Preadolescent Children

The concept of death attained during preadolescence (ages 9-12) includes the understanding of death as irreversible, personal, and universal. Accompanied by this concept of irreversibility is also a fear of death in terms of separation. In a study of 85 children conducted by Wass and Scott (1978), children automatically reported fear and concern along with explanations of death as irreversible. Wass and Scott (1978) also found that children expressed concern and anxiety related to their own inevitable death.

According to Wolff (1969), children nine years of age and older now begin to display more adult-like grief reactions including crying, withdrawal, apathy, and sometimes hostility. Children this age may also react to bereavement with aggressive and/or antisocial behavior.

In studies of bereaved elementary school children and preadolescents, Wolfelt (1983) described the children as experiencing shock, denial, disbelief, and numbness following the death of a close loved one. He also outlined several common somatic behaviors exhibited by these children including tiredness, difficulty sleeping, changes in appetite, headaches, stomach pain, and general nervousness. Other grief reactions such as regression, panic, explosive emotions, fear, guilt, and self-blame were also found to be experienced by the bereaved children.

According to Moller (1967), in spite of suffering from depression and/or anxiety, bereaved children often suppress their feelings. Elementary school children seem more likely to verbalize their unhappiness and apprehension, while preadolescents will rarely do so unless they find themselves in the midst of an acute crisis.
Preadolescents, therefore, are of the age at which death is understood as irreversible, universal, and personal. Children this age often display anxiety and fear regarding their own inevitable death, however. Preadolescents also now begin to manifest more adult-like bereavement reactions, such as withdrawal, crying, apathy, and somatic problems. Other more child-like reactions such as regression, aggressive behavior, and explosive emotions may be evident also. It is important for adults to realize that preadolescent children are more likely to suppress depression and anxiety surrounding death rather than verbalizing their concerns. If adults are aware of this, they can help preadolescents talk about their fears and sadness regarding death and perhaps eliminate complicated bereavement problems in the future.

Adolescents

The adolescent (ages 13 to 19) has reached the point where death is comprehended as final, irreversible, universal, and personal. Adolescents seem to view the universality of death with less anxiety than adults or younger children (Aubrey, 1977). This lack of anxiety, however, may be a result of the adolescent's ability to deal with death in the abstract. In this respect, adolescents may be more courageous than many adults when dealing with death. Early adolescence appears to be a vulnerable period in terms of significant relationship loss (Van Eerdewegh, Bieri, Parrilla, & Clayton, 1982).

Aubrey (1977) analyzed case records of students seen in counseling for various reasons. She found that adolescents confronted with a death in the family most often turned to their peer group for comfort and support. She also found that the adolescents tended to repress their feelings of anger and
rage, thus avoiding some of the essential aspects of grief work that must be done to complete the mourning process.

Thus, adolescents can comprehend death as irreversible, final, universal, and personal, sometimes viewing death with less anxiety than do younger children or adults. However, it is important for adults to be aware that adolescents may repress their feelings of anger surrounding death. Again, adults can help adolescents deal with the death of a loved one by being available to talk and by letting adolescents know that it is alright to be angry. If adults can help adolescents ventilate their anger appropriately, this will facilitate movement through the stages of bereavement toward healing and acceptance.

Adults

The most common period of bereavement is that of adulthood, with losses occurring more frequently as people age. This stage of life will not be reviewed in this section, however, since the present study is only concerned with bereavement reactions of children.

Reactions of Children to Parental Death

Kliman (1979) has estimated that five percent of children in the United States experience the death of one or both parents by age 15. According to Bowlby (1961) and Deutsch (1937/1965), the impact of a parent's death upon the surviving child and the manner in which that child attempts to cope with the death can be of crucial importance in shaping the course of his or her future personality development. Arthur and Kemme (1964) conducted a study
in which the reactions of 83 emotionally disturbed children to the death of a parent were investigated. Most of the children had been referred to a child psychiatric hospital for treatment before the death. The death itself was acknowledged as the precipitating event in 13 of the cases, however. The results of this case study revealed a high occurrence of intellectual and emotional problems related to the death either directly or indirectly. Cognitively, the children had difficulty with abstract thinking related to concepts of causality and finality. The children also exhibited symptoms of anxiety and depression. The actual measures used in this study, if any, were not reported. Also, as admitted by the authors themselves, the sample is biased because of its psychiatric nature.

A study on bereavement and school adjustment was conducted by Kirkpatrick, Samuels, Jones, and Zweibelson (1965) in which the school records of 100 students who had experienced parental death exhibited reduced academic achievement, including under-achievement in some cases. Observable symptoms such as social isolation, physical illness, anxiety, and phobias were reported when the case histories of the bereaved students were further examined. The researchers did not report the way in which academic achievement was measured, however. Felner, Stolberg, and Cowen (1975) studied school children from families in which a parent was absent due to death, divorce, or separation and compared them to children from intact families. They found that children who had lost a parent through death were more anxious, depressed, and withdrawn than those from two-parent families, while children whose parents were divorced or separated were more aggressive and prone to acting-out. According to the
researchers, no differences existed in adjustment levels of the two groups before parent absence occurred.

Shepherd and Barracough (1976), in a study of 36 children between the ages of 2 and 17 who lost parents by suicide, found a higher than average rate of psychiatric disturbance as well as an increased risk of delinquency when they compared these children to those from intact families. The data were obtained from two interviews with the surviving parent. The first took place within a few weeks of the death, while the second occurred five to seven years after the suicide. According to the researchers, however, it was not possible to actually isolate death by suicide as a variable, since any of the behaviors reported could have resulted from living with a disturbed parent before the suicide, the effects of bereavement, the nature of the death, economic difficulties, or any of a number of other factors.

A study of the effects of parental death or divorce upon elementary school children was conducted by Felner, Ginter, Boike, and Cowen (1981). The school adjustment of children with family histories of death and divorce was compared with that of children from intact families. Results indicated that children experiencing death and divorce showed greater overall school maladaptation than children without such histories. The manner in which school performance was measured was not reported, however. Those children with histories of parental death reportedly experienced more shyness and anxiety than the children of divorced parents or children from intact families, while children who had experienced parental separation or divorce had more serious acting-out problem behavior than the other two groups. Children of divorced parents were also judged by their teachers to have fewer competencies than children from the other two groups. The
results of this study are limited, however, due to lack of data regarding sex, socioeconomic status, and the age of the child at the time of parental death or divorce. According to Felner et al. (1981), the findings of this study illustrate the potential long-term negative impact of parental death or divorce upon the child's future adjustment.

The reactions of 105 two- to seventeen-year-old children to the death of a parent were recorded by Van Eerdewegh et al. (1982). The surviving parent participated in a structured interview at one month and thirteen months after the death. The interview included items regarding the child's adaptation to the death, school performance, behavior problems, symptoms pertinent to psychopathology such as depression and/or anxiety, and the child's general health. The data were analyzed by chi-square tests and were compared with data collected from parents of a control group. The results indicated an increase in dysphoria which decreased over time and a statistically significant impairment in school performance for the bereaved children. Evidence of behavior problems or severe forms of depression was not reported, and the child's general health did not appear to be adversely affected. Although the sample was larger than most childhood bereavement samples, the children themselves were not interviewed or observed by the researchers. All data were gathered via parent interview. Therefore, it does not appear that school performance was measured by any particular instrument but was instead verbally reported by parents. The fact that the data were collected at two different points in time is a strength of this study.

A recent study of seven adolescents, who were part of a longitudinal study of 350 adolescents, was conducted by Garber (1983). Each of these adolescents had lost a parent sometime between the ages of seven and
ten-and-one-half. The children were interviewed at age 12 and again at age 13 to assess how they were coping with the death. Data were also gathered from the surviving parent. Results indicated drops in school performance, disinterest in previously satisfying activities, and uncertainty about the future. The adolescents also became highly involved with siblings and peers as a way to help them adjust to the death. Although both parents and children were interviewed, these findings are limited because of the extremely small sample size. Also, the measures used to assess school performance, if any, were not reported.

Although these studies are difficult to compare because of divergent samples used, it appears that problems such as anxiety, depression, loss of appetite, aggressive behavior, poor academic performance, and difficulty sleeping are often experienced by children who suffer the death of a parent. Nevertheless, a need exists for more research about childhood bereavement using comparable samples which can be generalized to the population of children in general.

Summary

From the preceding literature review it is apparent that the bereavement experience differs across cultures, ethnic groups, social classes, time, and cohorts. As stated by Osterweis et al. (1984), those persons specializing in bereavement need to be aware of and accommodating to different cultural and social practices regarding bereavement and mourning. Knowledge of the various grieving behaviors of ethnic group members is needed to determine the cultural norms of grieving for each group as well as the signs of pathological grieving.
According to Freud (1917/1957), the goal of the mourning process is the conversion of attachment, or decathexis in which an actual relationship changes to an inner relationship. Results of the previous literature review show that researchers disagree about whether a child can complete the mourning process before adolescence. Although young children respond to loss, researchers differ in opinion about when a child is developmentally mature enough to mourn completely. It is generally thought that before age three children cannot complete the mourning process and that by adolescence such mourning is possible. It is the years in between, however, on which no consensus exists. Those who believe that the separation process due to death cannot be completed until adolescence, feel that children cannot tolerate the pain of death until they are older. Nevertheless, others believe that healthy adjustment via mourning can occur in children three years of age or older if they have a supportive adult who encourages and facilitates communication. Often the child's surviving parent, because of his or her own grief, may be unable to provide the support the child needs. This is where school personnel can intervene. If it is possible for a child to mourn, the school counselor or the child's teacher can offer emotional support to facilitate this mourning.

Researchers also disagree about when a child can fully understand death. Most agree that a child's understanding of death depends on his or her cognitive developmental level, although some believe that even very young children can understand the difference between existence and nonexistence. It is important for school personnel to be aware of the child's conception of death before attempting to help the child cope with death. The emotional support offered to the child should be consistent with the child's understanding of death. If school personnel are cognizant of the general
perception of death children at different cognitive levels have, they will be better able to offer support to bereaved children.

Studies of children's grief reactions following the death of a parent suggest that anxiety and depression are often experienced by bereaved children. Other reactions, such as loss of appetite, the occurrence of nightmares, aggressive behavior, and a decrease in school performance have also been reported. Because most of the subjects in these studies were not compared with peers not experiencing parental or sibling death, it is unknown to what extent these reactions can be labeled as inappropriate or pathological, and as such should warrant the special attention of school personnel.
CHAPTER III

METHODOLOGY

Population

The target population for this study was all eleventh and twelfth grade students enrolled in rural public schools in the state of Utah. The accessible population was all eleventh and twelfth grade students who had been enrolled in the Cache County School District or in the Logan City School District since the third grade. The sample was selected from all students (except those from divorced families) in the accessible population who filled out a questionnaire providing information about their parents' marital status including whether their parents were living or deceased, and whose parent(s) and/or legal guardian gave the researcher written permission to gather academic achievement data from their child's school records. The bereaved group and the comparison group consisted of 15 students each.

Initial comparability of the two groups was achieved by matching the third grade Total Battery achievement score of each subject in the bereaved group with that of a subject in the control group. Subjects were also matched on gender, school presently attending, grade level, and age characteristics (see Appendix A for a frequency count).

Procedures and Materials

Subjects for this study were chosen by administering a questionnaire to eleventh and twelfth grade students in the high schools (see Appendix B and C) to determine which students experienced the death of a parent any time between third and eleventh grade. The students filled out the
questionnaire in their English classes, and a 76% overall response rate was obtained. The instrument also contained questions concerning the influence of parents upon academic achievement, thus obtaining other information in addition to whether any parental death had occurred. Although students were asked to report their grade point averages on the questionnaire, the data actually used was taken directly from school records.

Regarding parental consent for access to school records, letters describing the study (see Appendix D and E) were sent out in both school districts to parents of the eleventh and twelfth grade students who had filled out questionnaires. A stamped postcard which could be signed and dropped in the mail by those parents who consented was attached to the letter. Parents of students who identified themselves as coming from a divorced family (on the questionnaire) were not sent letters.

The students of parents who gave consent for access to school records were then divided into two groups:

1. **Bereaved Group.** This group consisted of all subjects who had experienced the death of either parent after having taken the achievement test in the third grade and before taking the achievement test in the eleventh grade. These students were identified through information obtained from the questionnaire.

2. **Nonbereaved (Control) Group.** This group consisted of all subjects who lived with both parents and who had not experienced parental death or divorce at any time. These students were also identified through the questionnaire. Since it was necessary for both groups to be the same size, only the 15 subjects who matched up best with the bereaved subjects were used. The other nonbereaved students were eliminated.
Measures Used

Academic achievement was measured by high school grade point averages (ranging from 4.00 = A to 0.00 = F) and by the Total Battery scaled score received on the Comprehensive Tests of Basic Skills (CTBS) administered in the Cache County and Logan City School Districts. The Cache County School District has been using Form U of CTBS since the 1981-1982 school year. Prior to that, Form S was used. The Logan City School District has been using Form U of CTBS since the 1982-1983 school year. Prior to that, Form A of the Stanford Achievement Test (SAT) was used.

For this study, the equipercentile method was used to equate the third grade SAT Basic Battery scores of the subjects in the Logan City School District with the third grade CTBS/S Total Battery scores of the Cache County School District subjects. Also, because the CTBS/U is not administered in the eleventh grade in the Logan City School District, the tenth grade CTBS/U Total Battery scores of the Logan City subjects were equated with the eleventh grade CTBS/U Total Battery scores of the subjects in the Cache County School District. Although not ideal, it was felt that this was the best way to equalize all pretest and posttest scores as closely as possible since different tests and different grade levels were involved.

Description of Tests

The Stanford Achievement Test (SAT) is a series of Comprehensive norm-referenced, objectives-based achievement tests developed to measure and assess learning at different levels of the educational process. The test covers the objectives of general education at all levels from kindergarten through ninth grade. The subject areas measured by the SAT are reading,
mathematics, spelling, language, social science, and science. Listening comprehension is also tested, but only up to the end of sixth grade. The subject areas included in the Basic Battery Score are Reading, Mathematics, and Language.

The Comprehensive Tests of Basic Skills (CTBS) is a series of norm-referenced, objectives-based tests for kindergarten through twelfth grade. The series is designed to measure achievement in the basic skills usually found in state and district school curricula. The subject areas measured by the CTBS are reading, spelling, language, mathematics, reference skills, science, and social studies. The skill areas included in the Total Battery Score are Reading, Language, and Mathematics.

According to the CTBS/U Test Coordinator's Handbook (1982), although CTBS/U has retained many features of CTBS/S, some new content areas and a variety of new item types and formats have been included. To correlate and equate scores for CTBS/S and CTBS/U, both tests were administered in the fall of 1981 to students in different geographical areas across the United States (44 districts in 21 states). About half of the sample took Form U first and were retested a week later with a comparable level of Form S. The other half of the sample took Form S first and then took Form U one week later. Pearson product-moment coefficients were computed in scaled score units on matched cases for different combinations of test levels and grades. The equipercentile method was used to equate the two forms, based on distributions of scaled scores for matched cases, with grades combined where possible. The resulting intercorrelations for Level 1, CTBS/S and Level E, CTBS/U (Grade 3, N=619) are as follows: Total Reading--.87, Total Language--.81, Total Mathematics--.83, and Total Battery--.91. The intercorrelations for Level 4,
CTBS/S and Level J, CTBS/U (Grade 11, N=587) are: .81 for Total Reading, .79 for Total Language, .76 for Total Mathematics, and .87 for Total Battery (CTBS/U Technical Report, 1982).

**Test Validity**

To ensure that the test content of the SAT would be valid and in agreement with instructional objectives (measuring what is actually taught in the schools), a thorough analysis of the most widely used textbooks in the various subject areas was conducted. A wide variety of courses of study were also examined intensely along with research literature regarding children's concepts, experiences, and vocabulary at consecutive ages or grades. Items were written and tried out by the test authors, each of whom assumed special responsibility in areas of their expertise. The items were then turned over to the test publisher and were edited by several groups of experts. A national tryout of the test items was then administered in the fall of 1970 to a sample of 61,000 students in 1445 classrooms in 47 school systems throughout the United States. The statistical data obtained from the item tryout program for each of the items were then used to determine the content of the final forms of each test (Stanford Achievement Test Norms Booklet, Form A, Primary Level III Battery, 1973).

According to the SAT Norms Booklet, Form A, Primary Level III Battery (1973), the tests in the Basic Battery of the present SAT correlate highly with prior additions of the SAT and with other achievement tests. Intercorrelations of SAT scores and scores on the Otis-Lennon Mental Ability Test (OLMAT) were computed to help establish concurrent validity of the SAT.
A coefficient of .78 for the Basic Battery was reported when the SAT, Level III (beginning of grade 4) and OLMAT scores were correlated.

According to the CTBS/S Technical Bulletin No. 2 (1977), CTBS/S test items were developed by testing specialists and items writers with teaching background corresponding to the grade levels and content areas covered by the test. Content specialists reviewed all levels of the tests item-by-item as well as providing overall reviews, thus establishing content validity. A tryout edition of the test was then administered. Data analysis from this tryout was the basis for selecting appropriately difficult items, as well as contributing to the reliability of the test, and further meeting the content criteria established for the test.

Concurrent validity of the CTBS/S was established by cross validating scores on the CTBS/S with scores on the Short Form Test of Academic Aptitude (SFTAA). Pearson product-moment correlation coefficients were then computed on data from grades three through twelve. These coefficients are reported in the CTBS/S Technical Bulletin No. 2 (1977). A coefficient of .67 for the Total Battery was reported when CTBS/S, Level 1 and SFTAA, Level 1 were correlated (Grade 3, N=18,070). Also, a coefficient of .84 for the Total Battery was reported when CTBS/S, Level 1 and SFTAA, Level 2 were correlated (Grade 3, N=1,634). For CTBS/S, Level 4 and SFTAA, Level 5 Total Battery, a correlation of .90 was reported (Grade 11, N=2,557).

According to the CTBS/U Technical Report (1982), the match between CTBS/U test content and local curriculum guides, as well as the content of recently published textbook series were examined to determine which objectives were most often taught in each subject at each grade level. Professional item writers, many of whom were experienced teachers,
researched and wrote items to be used in the Form U Tryout. Two to three times as many items as would be needed were developed. The Tryout Edition of CTBS/U was administered in the fall of 1979, and statistical information about the items was evaluated by the editors who selected the final tests. Statistical data related to validity are reported in the CTBS/U Technical Report (1982) as a list of the number of items and the percentage of students in the norming sample who showed mastery of each objective at a given grade level. The Bayesian procedure of calculating estimates of proportion correct within a category was used with a .75 mastery criterion for each objective. "The data also support the content validity of CTBS/U by indicating that category objectives were generally placed in appropriate test levels" (CTBS/U Technical Report, 1982, p. 15).

Intercorrelation coefficients for CTBS/U and the Test of Cognitive Skills (TCS) are also reported in the CTBS/U Technical Report (1982) to establish concurrent validity of the CTBS/U. These correlation coefficients were calculated using scaled scores based on item response theory (IRT) scoring, and are presented for Levels D through J of CTBS/U along with appropriate levels of the TCS for second through twelfth grade. The scores used were those of students in the fall 1980 norming sample who took both CTBS/U and TCS. A coefficient of .60 is reported for the Total Battery of Level E, CTBS/U when correlated with the Total Scale Score of Level 1, TCS (Grade 3, N=1,480). When the Total Battery Score for Level E, CTBS/U was correlated with the Total Scale Score for Level 2, TCS (Grade 3, N=2,281) a coefficient of .79 was reported. A coefficient of .81 was reported for Level J, CTBS/U Total Battery when correlated with Level 5, TCS Total Scale Score (Grade 11, N=2,231).
The Test of Cognitive Skills (TCS) is a measure of skills important to success in the school setting. It is a major revision of and successor to the Short Form Test of Academic Aptitude (SFTAA). TCS has four subtests: Sequences, Analogies, Memory, and Verbal Reasoning. The test measures abilities considered important to success in an educational program, such as comprehension, classification, recall, and logical reasoning.

**Test Reliability**

Two types of reliability coefficients were computed for the SAT: one in terms of split-half estimates based on odd-even scores corrected by the Spearman-Brown formula, and the second based on the Kuder-Richardson formula 20 (KR 20). Coefficients at the third grade level are not reported. Nevertheless, at the beginning of grade four, split-half estimates range from .79 for Reading to .93 for Language with a coefficient of .86 for Basic Battery. KR20's range from .88 for Mathematics to .92 for both Reading and Language with a coefficient of .90 for Basic Battery. Standard errors of measurement (SEM) regarding the degree to which chance fluctuation in test scores might be expected, were determined using the reliability coefficient obtained from the KR 20 estimate. The SEMs range from 2.3 for Mathematics to 3.2 for Language with an SEM of 2.8 for Basic Battery (Stanford Achievement Test Norms Booklet, Form A, Primary Level III Battery, 1973).

Test-retest reliability coefficients, derived from two administrations at an interval of four weeks, are reported for CTBS/S in Technical Bulletin No. 2 (1977). At Level 1, Grade 3.7, these coefficients range from .91 for Total Mathematics to .93 for Total Reading, with a coefficient of .95 for Total Battery. Coefficients for Level 4, Grade 11.7 are not reported.
The reliability or consistency of CTBS/U test results are reported in the CTBS/U Technical Report (1982) through the use of the Kuder-Richardson formula 20 (KR 20) and standard errors of measurement (SEM). For Level E, Grade 3.7, KR 20's range from .89 for Total Language to .96 for Total Reading, with a coefficient of .97 for Total Battery. SEMs are as follows: Level E, Grade 3.7—2.70 for Total Reading, 2.44 for Total Language, 3.09 for Total Mathematics, and 4.82 for Total Battery. KR 20's for Level J, Grade 11.7 range from .94 for Total Language to .96 for Total Mathematics, with a coefficient of .98 for Total Battery. The SEMs are as follows: Level J, Grade 11.7—3.77 for Total Reading, 3.59 for Total Language, 3.68 for Total Mathematics, and 6.48 for Total Battery.

Standard errors of measurement (SEM) are also reported as a function of scaled scores based on IRT results. Such detailed reporting of SEMs by level of scaled score helps clarify the range of scores where the results are most dependable. For example, on the Level 3 (Grade 3) Mathematics Computation subtest, the scaled scores are most dependable between about 540 and 675 (SEMs between 9 and 20). On the other hand, a scaled score of 729 has an SEM of 55, while a score of 441 has an SEM of 62.

Normative Data

For the purpose of obtaining normative data for the SAT, two standardization programs were undertaken: one near the end of each grade in May of 1972, and one near the beginning of each grade in October of 1972. Over 275,000 pupils in a total of 109 school systems drawn from 43 states participated in the standardization programs. The standardization samples were selected to represent the national population in terms of geographic
region, size of city, socioeconomic status, and public and non-public schools. A variety of norm-referenced scores such as percentile ranks, stanines, grade equivalents, and scaled scores (Thurstone absolute) are also reported in the SAT Norms Booklet, Form A, Primary Level III Battery (1973).

Norms for the CTBS/S are offered on each skill and skill area for three different periods in the school year, thus enabling each school district or state program to schedule testing at the time of year most convenient for them (CTBS/S Technical Bulletin No. 2, 1977). Norms appear to be based on a representative national sample (stratified sample of more than 32,000 students). A variety of norm-referenced scores are also available, including percentile ranks, grade equivalents, stanines, and scaled scores (Thurstone absolute scaled scores).

Norms for the CTBS/U were collected twice in one year with equivalent samples containing many of the same schools. As a result, accurate normative data are available for students tested in any month of the school year. The combined fall and spring norming sample included about 250,000 kindergarten through twelfth grade students from public, Catholic, and other private schools throughout the United States. The test was administered in October of 1980 and again in April of 1981 (CTBS/U Technical Report, 1982). No school or district norms are provided, however. Percentile, stanine, grade equivalent, and normal curve equivalent scores are provided, along with scaled scores derived from item response theory (IRT) scaling.
Data Analysis

An analysis of covariance (ANCOVA) was conducted on the posttest (eleventh grade achievement score) means of each group using the pretest scores (third grade achievement score) as a covariate. An ANCOVA was also computed for the mean high school grade point averages of each group, again using the pretest scores as a covariate. To determine whether posttest achievement scores of the bereaved group were affected by the age each student was when parental death occurred, a multiple regression analysis was run using the pretest score and the age of the child when parental death occurred as independent variables. The posttest score was the dependent variable. This analysis was only computed for the bereaved group. Another multiple regression was also run on the bereaved group, using the same independent variables, but with the high school grade point average as the dependent variable. A statistical significance level of .05 was set for all analyses.

To determine whether a linear model was appropriate, a scatter plot of posttest scores with pretest scores by group was generated along with a plot of high school grade point averages with pretest scores by group. Scatter plots for the bereaved group were also generated: one of posttest scores with the age the child was at parental death and one of high school grade point averages with the age of the child at parental death.
Hypothesis 1: Achievement Test Scores

It was hypothesized that no difference in posttest achievement scores would exist between secondary school students who had lost a parent through death any time between third and eleventh grade (bereaved group) and similar students who had not experienced parental death (control group). Results of an ANCOVA on the posttest (eleventh grade achievement score) means of each group, using the pretest scores (third grade achievement score) as a covariate, are presented in Table 1. The mean pretest and posttest scores for each group, along with standard deviations, are shown in Table 2.

Table 1

Analysis of Covariance of Achievement Scores (Posttest Means)

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>8.01</td>
<td>1</td>
<td>8.01</td>
<td>0.01</td>
<td>.914</td>
</tr>
<tr>
<td>Pre (Covar)</td>
<td>7835.37</td>
<td>1</td>
<td>7835.37</td>
<td>11.50</td>
<td>.002</td>
</tr>
<tr>
<td>Residual</td>
<td>18403.43</td>
<td>27</td>
<td>681.61</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>26258.00</td>
<td>29</td>
<td>905.45</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
As can be seen from Table 1, the ANCOVA comparing the group posttest means was not statistically significant. Therefore, the null hypothesis of no difference between posttest means is retained. A significant $F$ value was found for the pretest, which means that it was appropriate to use as a covariate since a student's pretest score is likely to have an impact on the posttest score. As shown by Table 2, the pretest and posttest means for each group are similar, again confirming the fact that the groups do not differ much on pretest scores and that posttest scores are practically equal for the two groups.

Table 2

Pretest and Posttest Achievement Score Statistics by Group

<table>
<thead>
<tr>
<th>Group</th>
<th>Pretest</th>
<th>Posttest</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Bereaved (N = 15)</td>
<td>448.33</td>
<td>70.66</td>
</tr>
<tr>
<td>Control (N = 15)</td>
<td>445.93</td>
<td>71.08</td>
</tr>
</tbody>
</table>

Results of a multiple regression analysis conducted to determine whether posttest scores (criterion variable) of the bereaved group were affected by the age of the child when parental death occurred, are presented in Tables 3 and 4. Pretest scores and age at parental death were the independent variables.
Table 3

Summary of Multiple Regression Analysis for Bereaved Group

With Posttest as Criterion Variable

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
<th>R²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>1208.18</td>
<td>2</td>
<td>604.09</td>
<td>2.09</td>
<td>.17</td>
<td>.26</td>
</tr>
<tr>
<td>Residual</td>
<td>3470.22</td>
<td>12</td>
<td>289.18</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4

Multiple Regression Analysis Predicting the Influence of Age (at Parental Death) and Pretest Score Upon Posttest Scores of Bereaved Group

<table>
<thead>
<tr>
<th>Variable</th>
<th>Beta</th>
<th>(r)</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age at Parental Death</td>
<td>.02</td>
<td>.08</td>
<td>.10</td>
<td>.93</td>
</tr>
<tr>
<td>Pretest</td>
<td>.50</td>
<td>.50</td>
<td>2.02</td>
<td>.07</td>
</tr>
</tbody>
</table>

As shown by Tables 3 and 4, the multiple regression analysis was not statistically significant, meaning that neither the age of the child at parental death nor the pretest score are able to significantly predict posttest scores for the bereaved group. It can be assumed, then, that although the students in
the bereaved group were different ages (ranging from 9 to 16 years) when they experienced parental death, such differences do not have a statistically significant impact on posttest scores.

Hypothesis 2: Grade Point Averages

It was hypothesized that no difference in overall high school grade point averages would exist between the bereaved students and the control students who had not experienced parental death. Results of an ANCOVA comparing the grade point average means of the two groups, using the pretest scores as a covariate, are shown in Table 5.

Table 5

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>.02</td>
<td>1</td>
<td>.02</td>
<td>.16</td>
<td>.689</td>
</tr>
<tr>
<td>Pre (Covar)</td>
<td>.60</td>
<td>1</td>
<td>.60</td>
<td>4.13</td>
<td>.052</td>
</tr>
<tr>
<td>Residual</td>
<td>3.93</td>
<td>27</td>
<td>.15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>4.56</td>
<td>29</td>
<td>.16</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As can be seen from Table 5, the ANCOVA comparing the group grade point averages was not statistically significant. Therefore, the null hypothesis of no difference between mean high school grade point averages is retained. The F value for the covariate was not quite statistically significant, which means that grade point averages do not have as much of
an impact on posttest scores as do other variables such as pretest scores. Means and standard deviations for the grade point averages of each group are presented in Table 6, and as can be seen, are virtually equal.

Table 6

**High School Grade Point Average Statistics by Group**

<table>
<thead>
<tr>
<th>Group</th>
<th>GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
</tr>
<tr>
<td>Bereaved (N = 15)</td>
<td>3.21</td>
</tr>
<tr>
<td>Control (N = 15)</td>
<td>3.15</td>
</tr>
</tbody>
</table>

Results of a multiple regression analysis conducted on the bereaved group to determine whether high school grade point averages (criterion variable) were affected by the age of the child when parental death occurred, are presented in Tables 7 and 8. Pretest scores and age at parental death were the independent variables.
Table 7

Summary of Multiple Regression Analysis for Bereaved Group

With Overall High School GPA as Criterion Variable

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>DF</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
<th>R^2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>.21</td>
<td>2</td>
<td>.10</td>
<td>.66</td>
<td>.53</td>
<td>.10</td>
</tr>
<tr>
<td>Residual</td>
<td>1.89</td>
<td>12</td>
<td>.16</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 8

Multiple Regression Analysis Predicting the Influence of Age (at Parental Death) and Pretest Score Upon Overall High School GPAs of Bereaved Group

<table>
<thead>
<tr>
<th>Variable</th>
<th>Beta</th>
<th>(r)</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age at Parental Death</td>
<td>.22</td>
<td>.24</td>
<td>.80</td>
<td>.44</td>
</tr>
<tr>
<td>Pretest</td>
<td>.20</td>
<td>.23</td>
<td>.73</td>
<td>.48</td>
</tr>
</tbody>
</table>

As can be seen from Tables 7 and 8, the multiple regression analysis was not statistically significant. Therefore, neither the age of the child at parental death nor the pretest score are able to significantly predict posttest scores of the bereaved group.
Contrary to the findings of some studies (Felner et al., 1981; Garber, 1983; Kirkpatrick et al., 1965; Van Eerdewegh et al., 1982), the academic achievement of the students in this study did not appear to be affected by the experience of parental death to an extent that was statistically significant. Intuitively, one might expect that those students who experienced parental death would be less likely to perform well academically (due to the stress of coping with the death) than their peers from intact families not affected by parental death. In the present study, however, achievement test scores and high school grade point averages of the bereaved students were virtually the same as those obtained by the students from two-parent families not experiencing parental death or divorce.
The purpose of this research was to study the effects of bereavement on the academic achievement of secondary school students who had lost a parent through death between third and eleventh grade and to compare those students with a sample of pupils attending the same schools who were living with both natural parents. Findings indicate that for the bereaved students in this study academic achievement was not adversely affected as a result of experiencing the death of a parent. Virtually no difference was found between the eleventh grade achievement test scores or the overall high school grade point averages of the bereaved students and the group of control students from intact families not having experienced parental death or divorce.

Although these results do not support the idea that the academic achievement of students is affected by the experience of parental death, some studies have indicated lowered school performance in the wake of such a tragedy, especially in the short term (Felner et al., 1981; Garber, 1983; Kirkpatrick et al., 1965; Van Eerdewegh et al., 1982). However, these researchers do not report how academic achievement was measured or what indicators of school performance were used in their studies.

The present findings, then, suggest that academic achievement is not adversely affected by the experience of parental death. Conclusive research evidence regarding the effect of parental death upon the academic achievement of students immediately following the death as well as over time and at different ages is still lacking, however.
Limitations

The intent of this study was not to assess all factors of the bereavement process, just the effect upon academic achievement. Therefore, the major limitation of this study is that family grief patterns and intensity of grieving was not assessed. Such variables were not included in the study mainly because this would have required a longitudinal research design.

Another limitation of this study is that it is not possible to be sure that the accessible population (all eleventh and twelfth grade students enrolled in the Cache County or Logan City School Districts since third grade) from which the sample was drawn is representative of the target population (all eleventh and twelfth grade students enrolled in rural public schools in the state of Utah). Also, the students included in the study were limited to those who had lived in the Cache County or Logan City School Districts since third grade. Thus, students who had moved into either school district after third grade could not be part of the sample since comparable third grade achievement scores were not available for these students.

The composition of the bereaved group is another limitation of this study. The group was not broken down according to which parent died or how the parent died as this would have resulted in an insufficient number of subjects for conducting the statistical analyses. Each group had only 15 subjects as it was, which was barely enough to run the ANCOVAs.

The fact that multiple regression analyses were run on the bereaved group consisting only of 15 subjects is also a limitation. According to Borg and Gall (1983), sample size should be increased by at least 15 subjects for each variable that will be included in the multiple regression. Using this rule, at
least 30 subjects should have been in the bereaved group since two predictor variables were used. Therefore, the results of the multiple regression analyses should be interpreted with caution.

Recommendations

At this point in time the literature on children's immediate and long term reactions to the death of a parent consists mainly of descriptive research generating hypotheses about what typically occurs in such a situation. It seems that a need exists for more empirical research that would examine the reactions of children within personal, family, and social contexts. It would be expected that differences with respect to age will be seen, as indicated by some of the literature already reviewed. Therefore, cross-sectional research on children of different ages would help to clarify this view. Also, it seems that longitudinal research which would follow bereaved children over time is also needed to identify and assess the effects of bereavement over the long-term.

It is clear that both research and theory of children's reactions to the death of a parent are in need of further refinement. The present study could be duplicated with a larger sample, in different schools, in other areas of the country, and with different measures which are more sensitive to changes in school performance, to see if the same or different results are obtained. Also, more study is needed on the signs of pathological grief in children, conditions which promote adjustment to death, risk factors which may indicate poor adaptation to death, and the relationship between the sex of the deceased parent and the age and sex of the surviving children. In summary, further study of the differences between bereaved children and a normal
population from intact families in encouraged, especially in the areas of cognitive and personality development.
REFERENCES


Furman, R. (1970). The child's reaction to death in the family. In B. Schoen


Appendix A

Frequency Count of Subject Characteristics

<table>
<thead>
<tr>
<th>Category</th>
<th>Bereaved</th>
<th></th>
<th>Control</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percent</td>
<td>Frequency</td>
<td>Percent</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>9</td>
<td>60</td>
<td>9</td>
<td>60</td>
</tr>
<tr>
<td>Female</td>
<td>6</td>
<td>40</td>
<td>6</td>
<td>40</td>
</tr>
<tr>
<td><strong>Grade Level</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eleventh</td>
<td>7</td>
<td>47</td>
<td>7</td>
<td>47</td>
</tr>
<tr>
<td>Twelfth</td>
<td>8</td>
<td>53</td>
<td>8</td>
<td>53</td>
</tr>
<tr>
<td><strong>School Attending</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skyview High</td>
<td>7</td>
<td>47</td>
<td>7</td>
<td>47</td>
</tr>
<tr>
<td>Mt. Crest High</td>
<td>5</td>
<td>33</td>
<td>5</td>
<td>33</td>
</tr>
<tr>
<td>Logan High</td>
<td>3</td>
<td>20</td>
<td>3</td>
<td>20</td>
</tr>
<tr>
<td><strong>Current Age</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sixteen</td>
<td>4</td>
<td>27</td>
<td>4</td>
<td>27</td>
</tr>
<tr>
<td>Seventeen</td>
<td>10</td>
<td>67</td>
<td>10</td>
<td>67</td>
</tr>
<tr>
<td>Eighteen</td>
<td>1</td>
<td>6</td>
<td>1</td>
<td>6</td>
</tr>
</tbody>
</table>
Appendix B

Questionnaire Administered in the Cache County School District

Parental Influence on Academic Achievement

This questionnaire was developed as part of a study being conducted by Utah State University to help determine how parents influence academic achievement of their children. It will be appreciated if you will complete this questionnaire answering as truthfully as possible. If you do not wish to answer a question, go on to the next one, but please try to answer every question. Your responses will be held in strictest confidence.

A. Student Data

1. Name ____________________________ 2. Birthdate ____________________________
3. Grade ________ 4. Age ________ 5. Sex (Check one) ______ M ______ F
6. Race ____________________________ 7. Current Grade Point Average ________

B. Family History

1. Father
   a. Occupation ____________________________
   b. Education: Circle last grade completed
      1 2 3 4 5 6 7 8 9 10 11 12 B.S. M.S. PhD. Don't know
   c. Living _____ Deceased _____ (Check one)
      If deceased, how old were you when parent died? ________
   d. Divorced: yes _____ no _____ (Check one)
      If yes, how old were you when parents divorced? ________

2. Mother
   a. Occupation ____________________________
   b. Education: Circle last grade completed
      1 2 3 4 5 6 7 8 9 10 11 12 B.S. M.S. PhD. Don't know
   c. Living _____ Deceased _____ (Check one)
      If deceased, how old were you when parent died? ________
   d. Divorced: yes _____ no _____ (Check one)
      If yes, how old were you when parents divorced? ________
Appendix C

Questionnaire Administered in the Logan City School District*

**Parental influence on Academic Achievement**

This questionnaire was developed as part of a study being conducted by Utah State University to help determine how parents influence academic achievement of their children. It will be appreciated if you will complete this questionnaire answering as truthfully as possible. If you do not wish to answer a question, go on to the next one, but please try to answer every question. Your responses will be held in strictest confidence.

A. Student Data

1. Name ________________________________ 2. Birthdate ________________________________
3. Grade ______ 4. Age ______ 5. Sex (Check one) __ M __ F
6. Race ________________________________ 7. Current Grade Point Average ____________
8. Parents' Marital Status (Check one) ___ Married ___ Divorced ___ Other

B. Family History

1. Father
   a. Occupation ________________________________
   b. Education: Circle last grade completed
   1 2 3 4 5 6 7 8 9 10 11 12 B.S. M.S. PhD. Don't Know
   c. Living ___ Deceased ___ (Check one)
      If deceased, how old were you when parent died? ____________

2. Mother
   a. Occupation ________________________________
   b. Education: Circle last grade completed
   1 2 3 4 5 6 7 8 9 10 11 12 B.S. M.S. PhD. Don't Know
   c. Living ___ Deceased ___ (Check one)
      If deceased, how old were you when parent died? ____________

*A different questionnaire was made up for the Logan City School District due to school personnel concern regarding the question about divorce. The question was slightly reworded and moved from the section on family history to the section on student data. School personnel were comfortable with this change.
Appendix D

Cache County School District Letter

Dear Parent and/or Guardians:

The Psychology Department at Utah State University, with the cooperation of the Cache County School District, is conducting a research study entitled "Achievement of Bereaved Children: Comparison with a Nonbereaved Population." The purpose of the research is to study the effects of parental death during elementary or secondary school upon students' achievement scores. Through this study, we hope to provide suggestions for the involvement of teachers, school counselors, and other school personnel in helping students cope with the death of a parent.

The research will involve looking at past and present academic records (specifically achievement scores, grade level, age, grades, and sex) of students in the Cache County School District. No names will be used in collecting information from the school records. Code numbers will be used to identify each student, and actual files will not be taken off school premises. All information will be kept completely confidential. We would appreciate your cooperation in helping us carry out this study. Please sign the attached card and mail it to us as soon as possible.

Sincerely,

Dr. Michael Bertoch  Mrs. Patricia Wright  Rebecca W. Valcarce
Professor of Psychology  Elementary Supervisor  Researcher
Utah State University  Cache County School District  Utah State University
Dear Student and Parent/Guardian:

The Psychology Department at Utah State University, with the cooperation of the Logan City School District, is conducting a research study entitled "Achievement of Bereaved Children: Comparison with a Nonbereaved Population." The purpose of the research is to study the effects of parental death during elementary or secondary school upon students' academic achievement. Through this study, we hope to provide suggestions for the involvement of teachers, school counselors, and other school personnel in helping students cope with the death of a parent.

The research will involve looking at past and present academic records (specifically achievement scores, grade level, age, grades, and sex) of eleventh and twelfth grade students in the Logan City School District. No names will be used in collecting information from the school records. Code numbers will be used to identify each student, and actual files will not be taken off school premises. All information will be kept completely confidential. We would appreciate your cooperation in helping us carry out this study. Please sign the attached card and mail it to us as soon as possible.

Sincerely,

Dr. Michael Bertoch
Professor of Psychology
Utah State University

Mr. Rulon Olsen
Principal
Logan Senior High School

Rebecca W. Valcarce
Researcher
Utah State University