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I am submitting herewith a dissertation written by Gary David Gilmore entitled "The Development, Implementation, and Evaluation of a Family Health Education Program Incorporating the Concept of Prevention." I recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Health Education.

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THE DEVELOPMENT, IMPLEMENTATION, AND EVALUATION OF A FAMILY HEALTH EDUCATION PROGRAM INCORPORATING THE CONCEPT OF PREVENTION

A Dissertation

Presented for the

Doctor of Philosophy

Degree

The University of Tennessee

Gary David Gilmore

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ABSTRACT

The major purpose of this research was to develop a health education program, implement it, and then evaluate its effect in changing the attitudes of fifth-grade students and their parents toward prevention.

The health education program was developed through the utilization of a program rating scale by a county and state jury, and by the establishment of a pilot program. Implementation of the program involved the random assignment of subjects to one of four groups: Group I, parent and student education; Group II, education for the parents, but not for the students; Group III, education for the students, but not for the parents; and Group IV, a non-educational situation for parents and students (control). Attitudinal change which was detected by pretest to posttest gain scores from an instrument specifically developed for this research, the Attitudinal Inventory of Prevention, constituted program evaluation.

Developmental procedures for the Inventory basically included the establishment of fifth-grade reading level, the use of a rating scale by a national jury in order to establish content validity, the administration of an Inventory

draft to a sample population with a t-test analysis of the data to establish item discrimination, and the use of an analysis-of-variance with repeated measures technique in order to determine reliability.

The statistical analyses of the program data involved the use of the Kruskal-Wallis one-way analysis-of-variance test to examine for significance among group gain scores for all possible group comparisons with the student data, and then for the parent data, as well. The Mann-Whitney U test was used for all possible two-group comparisons within the separate student and parent categories, and between those categories.

Based on the findings of this research, the following conclusions were derived:

1. The Attitudinal Inventory of Prevention was considered to be a valid instrument at the fifth-grade level for detecting an individual's attitude toward prevention.
2. The Attitudinal Inventory of Prevention was considered to be a reliable instrument which provided a reasonable degree of consistency.
3. The family health education program incorporating the concept of prevention was a workable program which presented some of the major health aspects regarding prevention.

4. Students in the mutual education situation (Group I) experienced the most attitudinal change of any group (statistically significant when compared with the parent control group), possibly due to an interaction with their parents who were also involved in the program.
5. Parents involved in the educational program were not significantly influenced by it.
6. All of the research findings for the educational program evaluation had to be tempered by the consideration of possible influence on the student control group by the treatment groups, and the relatively small number subjects incorporated in the study (85 students and 52 parents).

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CHAPTER I

INTRODUCTION

It is difficult initially to develop an understanding of the practical value in utilizing available preventive services, especially since there is a usual lack of immediate visible results. Add to this basic difficulty the further encumbrances of low income, poor interaction and communication with health professionals, as well as physical and temporal barriers (distance, transportation, time), and it becomes clear why episodic treatment many times replaces preventive action. It is also clear that education for prevention becomes a significant challenge for the educator.

In light of these difficulties, an educational program which utilizes family interaction for prevention may provide a more meaningful type of education. The family is our basic social and cultural unit providing a high degree of personal interaction and reinforcement of values. It is felt that a mutual involvement of parents and their children in an educational program may utilize these modes of interaction and reinforcement for a significant and lasting change of attitudes.

I. STATEMENT OF THE PROBLEM

An investigation should be conducted which will determine whether or not the resultant interaction of parents with their children, after each has experienced separate preventive health education programs, will lead to significant attitude changes regarding the concept of prevention, when compared with subjects who have not had such educational experiences.

II. PURPOSE OF THE STUDY

It was the purpose of this study to develop a program which would provide a preventive health education experience for the parent group in the community setting, a separate preventive education experience for their children in the school setting, with resulting interaction in the family setting. The program was to be implemented so that treatment and nontreatment groups could be compared, and then evaluated according to the degree of attitudinal change which occurred. In order to properly evaluate the effects of the program, it was also considered necessary to develop a specific inventory for the detection of attitudinal change.

III. NEED FOR THE STUDY

Attitudes toward prevention many times are consummated as good intentions only. With respect to the individual, his family, and community, this type of approach usually will lead to more treatment measures eventually being required, greater need for medical personnel, probable increased number of sick days, and resultant greater expense. It was thus felt that if a successful educational program for the development of the preventive concept among family members could be designed and implemented, an important first step would have been taken for the well-being of the individuals involved.

The program was designed so that the study communities could continue the educational program, if they so desired. Along with this, it was hoped that the study would provide a practical model for the incorporation of the family interaction methodology into other types of educational programs.

IV. DELIMITATIONS OF THE STUDY

A. The pilot program involved students and their parents from the Briceville Elementary School, Anderson County, Tennessee.

B. The final program involved students and their parents from the Gibbs Elementary School, Knox County, Tennessee.

C. Subjects in the pilot and final programs were randomly assigned to one of the following groups:

1. Group I --A mutual education group in which the students and the parents received the educational experience.
2. Group II --Only parents in this group received the educational experience. Their children did not.
3. Group III--Only students in this group received the educational experience. Their parents did not.
4. Group IV --Neither students nor parents received the educational experience (control).

D. Only fifth-grade students and their parents were involved in this study.

E. Rural, basically low socioeconomic subjects were utilized in this study.

F. Pretests and posttests were given just prior to and two weeks following the educational programs respectively, in which the difference between scores was used to indicate attitudinal change.

V. LIMITATIONS OF THE STUDY

A. Even though the entire fifth-grade student populations at the Briceville and Gibbs Elementary Schools were

utilized in the research, the total number of subject N's were relatively small (44 and 100 respectively).

B. Even though all of the parents of the fifth-grade students were able to participate in one way or another in the research (educational program and/or completing the inventories), parent participation also resulted in small subject N's.

C. Absences, removal from school, and reading difficulties (special students) resulted in the further attrition of the student total at the Gibbs Elementary School, leading to an N of 85 students who took both the pretest and posttest.

D. There is the possibility of interaction having occurred between the treatment and control groups.

E. Finally, due to the necessity of terminating testing within a specified time span to allow for extensive analysis of the data, there was no long-term follow-up evaluation of the study populations in order to detect retention of attitudinal states or behavioral effects of the program.

VI. BASIC ASSUMPTIONS

A. There would be positive interaction and reinforcement for the program's educational goals in the family

setting when both parents and children had participated in similar educational experiences.

B. The educational programs would provide adequate time and enough meaningful learning experiences for the subjects to comprehend the concept of prevention.

C. All subjects would respond accurately regarding their feelings toward the attitudinal statements during data collection.

D. Data collected by the attitudinal inventory would be ordinal and distribution-free.

VII. HYPOTHESES

The following major null hypotheses were advanced for the research:

A. There are no significant differences in the pretest to posttest preventive attitude gain scores among students in Groups I, II, III, and IV.

B. There are no significant differences in the pretest to posttest preventive attitude gain scores among parents in Groups I, II, III, and IV.

C. There is no significant difference in the pretest to posttest preventive attitude gain scores between students and parents involved in the mutual education program (Group I).

D. There is no significant difference in the pretest to posttest preventive attitude gain scores between students and parents involved in the parent education program (Group II).

E. There is no significant difference in the pretest to posttest preventive attitude gain scores between students and parents involved in the student education program (Group III).

F. There is no significant difference in the pretest to posttest preventive attitude gain scores between students and parents involved in the non-educational situation (Group IV).

VIII. DEFINITIONS AND INTERPRETATIONS

A. Concept of Prevention: Adverse conditions affecting mental, physical, and social well-being can be forestalled. The concept involves the recognition by an individual of the personal meaning of an indisposed state, and the actions which can be taken while the person is still well to avoid an unhealthy state.

B. Educational Experience: The learning process of parents and/or their children in which the concept of prevention is clarified, and its personal value is understood.

C. Mutual Education Program: The process in which parents are involved in a learning experience, their children in the fifth grade are involved in a learning experience at school, and there is resultant interaction in the family setting which is not programed.

D. Positive Attitude: A predisposition involving the personal understanding of the concept of prevention and the value of preventive services, which leads to probable preventive behavior.

E. Posttest: The utilization of the Attitudinal Inventory of Prevention two weeks after the completion of the educational program in order to detect changes in attitudes when compared with the pretest. (The posttest was administered after two weeks to allow for family interaction in the home setting and reduce the likelihood of learning test responses).

F. Pretest: The utilization of the Attitudinal Inventory of Prevention just prior to the initiation of the educational program or non-educational situation in order to detect initial attitudes toward the concept of prevention and the utilization of preventive services.

G. Preventive Services: Those public health services which are available to the study populations for the

protection of their mental, physical, and social well-being: Immunizations, T. B. testing, well-baby clinic, prenatal classes, preventive dentistry, and sanitation inspection.

H. Singular Education Program: The learning experience of either the student group or the parent group.

IX. DATA COLLECTION

Data for the evaluation of the effects of the educational program involved the assessment of attitude change from a pretest to posttest. The instrument used for these measurements was the Attitudinal Inventory of Prevention. Data for the development of the educational program involved the proposed program structure and educational content evaluation by a county and state jury. The instrument used for this purpose was the Health Education Program Rating Scale. Data for the development of the Attitudinal Inventory of Prevention involved the evaluation of a compilation of attitudinal statements by a national jury using the Inventory Rating Scale: National Jury. It also involved a trial administration of an initial Inventory form to a sample population, with the results t-test analyzed for item discrimination.

X. SUMMARY

The major emphasis of this research was to examine the basic value and impact of a family health education program which attempted to clarify the concept of prevention for students and their parents. It was anticipated that involvement of the parents in the educational program would lead to discussion and interaction in the home setting with the students involved in the educational program, resulting in a mutual reinforcement of the concept. Proper evaluation of the treatment effect necessitated the development of an attitudinal inventory, as well.

CHAPTER II

REVIEW OF RELATED LITERATURE

In order to clearly delineate studies related to this research, the literature review is classified into three categories: Family and School Settings; Prevention Research; and Health Education Methodology.

I. FAMILY AND SCHOOL SETTINGS

An initial starting point for educational research in this study involved consideration of the family. A concern for family health and well-being was strongly underscored in a classic public health study by the National Commission on Community Health Services (35). The Commission emphasized the responsibility of the individual not only for his own health, but for his family and community, as well. It was reported that this responsibility for health necessitated being developed and enriched in the family setting.

Regarding the family setting, Handel (22) has attempted to examine it according to various interaction patterns, rather than continuing to use the timeworn cause-effect model where the parent influences the child. The latter model considers the parents as the loci of various independent variables, while only dependent variables are located in the

children. Handel believes a more realistic approach is one in which the family is considered as a group of interacting personalities, in which there are four basic levels of interaction: (a) physical contacts, such as mothering, (b) cognitive interchanges for information exchange and decision making, (c) behavior in which norms and roles are created and validated, and (d) affective behavior in which feelings and emotions are exchanged. Bischof (3:117-128) would very much agree with Handel that a definite form of interaction is taking place in the family which results in the parents influencing their children, and the children influencing their parents, as well.

In their extensive study of five midwestern American families, Hess and Handel (22) analyzed family interaction and interpersonal relationships. They postulated that separateness and connectedness were the underlying conditions of a family's life, and that one basic family process was the attempt to develop a satisfactory pattern of separateness and connectedness. This was to say that while each family member developed his own personality and created an individual life space, he also was involved in particular family ties. While this type of interaction was going on, Hess and Handel believed that each member of a family was developing an image of each other member which consisted of cognitive and affective meanings. This led to their

postulation of the second family process in which family behavior was considered an effort to attain a congruence of these images through the exchange of information. These two processes then formed the basis for a family communication network.

Another study of 78 parents and their 111 children by Stolz (48) incorporated a diversity of backgrounds in size, age, religion, education, occupation, and socioeconomic status, in order to examine family interaction patterns. The study involved observations of how the children behaved, the characteristics which the parents perceived in their children, and the responses of the children to the methods the parents used in bringing them up. The results indicated that not only did the parents influence their children, as well as each parent modifying the behavior of one another, but that the children clearly influenced the behavior of their parents. All of the 78 parents in the study were influenced to some degree by their children.

It was also indicated by this grouping of parents that the highest values for parenthood were considered to be their provision for their children's education and emotional security; provision for control and nurturance were third and fourth, respectively. Regarding the provision for education, the parents indicated that this included teaching, training, giving of information, permitting the child to learn (i.e.,

not pushing the child unduly), helping, guiding, motivating, and providing an example for learning. In a study of 1000 adults of age 18 and older, Elder (18) noted results which were closely aligned to those of Stolz regarding interaction: family structure allowing for freedom of interaction was considered to be one of the most important determinants of achievement and motivation skills.

Regarding such family interaction, Hess and Shipman (25) have distinguished two types of families, based upon their research with 160 mothers and their four-year old children who were selected from four different socioeconomic levels. The two family types include those oriented toward control by status appeal (i.e., ascribed role norms) and those oriented toward persons. In the former type, the behavior of the family members is regulated in terms of role expectations. Here there is little opportunity for the children to influence the interaction between parent and child or decision-making processes. Thus, the personal needs of the children do not become greatly influencial as a basis for family decisions.

In the family which is oriented toward persons, the characteristics of the children do influence parent and child interaction and decision-making. Here behavior is justified in terms of feelings, preference, and personal reactions. As Hess and Shipman point out, in this latter type, a more

elaborate linguistic code and wide range of behavioral alternatives are required in order to have the interpersonal interaction. After testing the verbal skills, ability to sort toys by categories, and ability to copy specific designs, in each of the four socioeconomic levels, the authors concluded that the lower-class families appeared to be socializing passive learning styles for their children (i.e., teaching them to be docile in learning situations), whereas the middle-class families appeared to be encouraging more active and distinctively initiatory behavior.

Crandall (15:373) has emphasized that achievement motivation does have its origin in the learning experiences of early childhood. The author points out that in order to attain this, there must be a framework of performance standards established by the parents as well as the surrounding culture. Along with this sense of personal achievement, the child next develops a sense of responsibility to others, inside and outside the family. Lidz (29) refers to the child of age ten and above as beginning to attain a morality of cooperation. At this level of development, children begin to look beyond solely their own basic desires, and become motivated by a responsibility to other individuals.

Outside the family, the child gains a large portion of social responsibility development in the school setting. As Bossard and Boll (4) point out, the transition from family to

school is not necessarily an easy one; they describe five cultural conflicts between the home and the school: (a) the school is usually the formal and official instrument of middle-class American culture, and thus can run counter to the culture of various other social groups; (b) the school as a nonpartisan, nonsectarian culture-transmitting agency can run counter to the ideological patterns of many families; (c) there are social-class pressures which differ from those of the public school; (d) there are child training differences between the school and the home; and finally, (e) there are contrasting interpretations of life values. Clarke (12:132-136) basically emphasizes these same conflicts as existing between the family and school, and goes on to stress the probable existence of a definitive language barrier between the middle-class teacher and his lower-class students. Students of varied cultural backgrounds may find it quite difficult to become the expected middle-class model of a student.

The age of the student is another significant consideration in the school setting. In their study of 80 school children, five, seven, nine and 11 years of age, Swartz and Hall (49) noted particular age distinctions with respect to conceptual development and word definitions. Regarding conceptual development, the authors tested the students' discrimination with the relational concepts of

right-left distinction, kinship, and their judgment of shape comparisons. In their results, the five-year old students showed predominantly egocentric characteristics, ages seven and nine showed inclinations toward socialization, and those aged 11 showed objective conceptual development. Regarding word definitions, functional definitions predominated at ages five, seven, and nine, with a predominance of abstract definitions at age 11.

In his study of eighth-grade students, Kronick (28) emphasized that perceived classroom support, affiliation and insight were associated with the student's attitude toward learning. This research, along with that of Coleman et al. (14), implied that the public schools did allow for the development of social responsibility but, unfortunately, appeared to be producing individuals who were assuming the role of submission, negating creativeness of thought. Byler (6) realized this through her work in the Connecticut School System, and attempted to delineate what the students considered their basic wants and needs to be. Starting with this approach, she felt that any attempt at education, after delineation of the students' needs, would come to have a high priority for them. On a much broader scale, the School Health Education Study (39) attempted to establish the health information and misinformation attained by students in sixth, ninth and twelfth grades, utilizing a national sample of 135

school districts in 38 states. Based on their findings, which indicated a lack of information about specific health concepts and a series of health misconceptions, a curriculum guide was formulated which suggested certain key health concepts that the student should learn in the school setting. It was the eventual objective of the guide that along with the individual understanding and desire for good health, would be the development of responsibilities for family and community health, as well.

II. PREVENTION RESEARCH

The study of the concept of prevention must take into consideration the whole person as he interacts with those around him. Simon (42) has developed a model of preventive behavior in which three significant variables interact: predicting the undesirable state, knowing about it, and finally acting on it. Accomplishing the preventive act involves the value system of the individual and his level of knowledge about the undesirable state. Rosenstock (38) has also proposed a model to explain health behavior, which incorporates two classes of variables: (a) the psychological state of readiness to take specific action, and (b) the extent to which a particular course of action is believed by the person to be beneficial in reducing the threat to health. The psychological state of readiness has the two dimensions of

the degree to which an individual feels susceptible, and the extent to which he feels that contracting the particular condition would result in serious consequences. Rosenstock also very carefully notes that readiness is comprised of both cognitive and emotional elements, with a probable emphasis on the latter regarding value toward a change in behavior. Thus, the model can be delineated into the following variables: perceived susceptibility, perceived seriousness, perceived benefits of taking action, barriers to taking action, and specific cues to action (e.g., perception of bodily states, interpersonal interactions, and impact of particular forms of communication).

In a study by Williams and Wechsler (55) involving 172 women aged 35 to 54 years, consideration was given to the dynamics of preventive behavior. They found preventive behavior not to be completely unidimensional in nature (e.g., personality and social status), but rather related to a series of independent factors such as primary prevention where an individual takes actions to prevent disease from occurring, and secondary prevention in which an individual attempts to determine if he has a disease in its early stages. Their study found that those who limited calorie intake, and those who utilized seat belts, had a general preventive health orientation.

Triplett (50) conducted a study utilizing 40 low-income women in order to ascertain their perceptions of disparity and threat as related to preventive health services. She noted high threat and disparity scores among the women who received welfare assistance. It turned out that these people were poor users of preventive health services. Along this same line, Podell (37) conducted a survey involving 954 Puerto Rican, 1,017 Negro, and 208 Caucasian mothers on welfare, in order to decipher their utilization of preventive health care services. It was found that Puerto Ricans and Negroes made more use of the available preventive services (e.g., medical examination, dental examination, gynecologic examination, chest x-ray, and polio vaccine) than did the Caucasians in this particular study. It was also noted that those women with more education, organizational participation, and mass media exposure, regardless of ethnic group, were more likely to utilize the preventive services. A further finding noted that those mothers who thought that examinations for healthy one-year old and three-year old children were necessities, were high utilizers of preventive services for themselves; the more seriously the mothers viewed the lack of examinations for their healthy three-year olds, the more likely they were to be utilizers of preventive services for themselves.

With respect to the various motivational factors involved in preventive behavior, Becker et al. (2) in studying 119 low-income mothers, found that those who complied most often with the administration of medicine to their children and kept followup pediatric appointments were relatively more concerned about their children's health. These same women also had more confidence in their physicians than did the noncompliers. They summarized the various dimensions of health motivations of the mothers as (a) physical threat to the child, (b) feelings of ability to control health matters, (c) willingness to be directed by medical personnel, and (d) concern for the overall good health of their child.

Certain barriers to the seeking of preventive health services have also been studied. In a study by Ludwig and Gibson (32) involving applicants for Social Security disability benefits who considered their health to be poor, it was found that the families with lower income levels had the greatest proportion of individuals who had not seen a doctor or utilized a hospital in more than six months. In this instance, the results brought out the relationship of seeking preventive medical care to the amount of income.

However, in a prospective study of 70 three-generation linkages of blue-collar families in a metropolitan area conducted by Litman (31), a major finding was that while the

younger generation survey group had a more advanced occupational status than did their two older generations, they generally had the more precarious financial standing. It was further found that due to increased taxation, familial responsibilities and inexperience in money management, the younger generation was the most affected by the financial pressure of illness. Here the results indicated the relationship of medical care to the preliminary planning that the family takes for such care.

Stephens' study (47) of Montana families indicated that the perception of illness and the initiation of seeking professional medical care was based upon the amount of health information possessed by the family, with the better informed families having more doctor visits. This, however, was not the only variable in the study, since it was noted that there was a concomitant increase in income in the better informed families. Other factors which enter into the decision for seeking preventive health services were studied by Madsen (33) who examined the customs of Mexican Americans living in the lower Rio Grande Valley. Among these people, the family head had to approve that a member of the family was actually sick, prior to treatment. Hospital care for these people was a greatly feared experience because it was considered the place where people went to die. These people had no formal

system of prevention since they considered illnesses to be based upon natural or supernatural causes called "curanderismo."

In a study designed to detect an interaction of various factors affecting health related behavior, Gochman (20) included 108 children aged seven to 18. The study considered perceptions of vulnerability to health problems, potential health behavior, and perceived internal control (persons with high levels of perceived internal control tend to see themselves as able to determine the outcomes of their encounters with the world, while those with low levels tend to see experiential encounters as determining their actions). Perceived vulnerability was assessed through the use of a questionnaire which incorporated questions such as "How likely are you to catch a cold during this year?" Perceived internal control was assessed through a Bialer-type questionnaire which incorporated questions such as "When bad things happen to you, could it be your fault that they happen?" Potential health behavior was assessed by using the Health Ideation Pictures in which the child would be shown pictures such as children picking mushrooms, and he would then be asked to comment on the scene.

The results of this study confirmed that perceived vulnerability to health problems was (a) inversely related to potential health behavior in children with high degrees

of perceived internal control, (b) directly related to potential health behavior in persons with low degrees of perceived internal control, and (c) inversely related to perceived internal control in persons for whom health is prominent. One final observation made by Gochman emphasized the relatively minor degree to which health was prominent for these children; only 28 out of the 108 children had health ideation scores in the top quartile, exhibiting a high degree of health behavior. From this, Gochman questioned the relative importance of health to the children in the study, as well as the contemporary adult population.

III. HEALTH EDUCATION METHODOLOGY

Considering all of the many facets which comprise the concept of prevention and whether or not people seek preventive services, it would be beneficial to consider various educational attempts which could be applicable to preventive health education. Educational programs involving parents and their children were considered valuable by Steiner (46) in his research with communication between adults and their adolescent children. His program involved a lecture which provided information regarding communication processes, including (a) barriers to good communication, (b) techniques in good communication, and (c) a review of communication techniques. After the lecture, separate small group

discussions were held, followed by final reports in the large group sessions. This type of interaction once each week for four weeks allowed for open interaction and education of the parents as well as their children.

Carton and Carton (9) attempted to construct an educational program for sex education, involving parents and their ten and eleven year old children. Pretest and post-test measures were taken utilizing a 27-item Likert-type rating scale. The teaching approach involved consideration for discovery and inquiry. Following the utilization of such course materials as slides, filmstrips, tape recordings, poetry and photographs for information dissemination, the authors allowed time for free discussion among parents and their children. The results were significant ($P \leq .01$) in showing that in both the parent group and the children group, there were attitude changes from less permissive to more permissive orientations toward human sexuality.

Zimmerman and Rosenthal (58) studied a grouping of 64 Mexican-American and 64 Anglo-American fifth-grade children in an attempt to decipher the best procedure for teaching them about various form and shape configurations. Their results showed significantly higher performances by both groups of children when a person was present who could act as a model and use verbal repetition in teaching them. The authors concluded that in the areas of performance and

generalization, those children who received the combined education presented by the modeling and repetition displayed the strongest conceptual learning.

Campbell and Early (8) attempted to compare the health knowledge of freshman college students and their parents. They utilized the Kilander Health Knowledge test with 49 students, and also tested the parents of the same sex as the students. The results suggested that the parents had more health knowledge than did their children. The results further revealed basic health misconceptions and superstitious beliefs among the students. In similar research conducted by Coleman et al. (13), a comparison of health knowledge of 42 high school under-achievers and their parents was attempted. They also used the Kilander Health Knowledge test. The results indicated that parents scored significantly higher ($P \leq .05$) than their children in areas such as nutrition, community health, consumer health, and family living. There were also non-significant differences which existed in favor of the parents regarding personal health and mental health, and in favor of the students for stimulants and depressants, and safety education. As the authors indicated, such results could certainly encourage the involvement of parents in school health education programs.

Regarding the basics of the learning process, Holt (26) emphasizes the natural curiosity of the child and how he can

really learn a good deal on his own. He favors the development of a reasoning process within the students which does not solely rely upon the presence of a teacher to drive them, but rather enables the student to make specific decisions and solve problems based upon his system of needs and priorities. This is also reflected in Byler's study (6). It was her desire to get at the health interests, concerns, and problems of 5,000 students from kindergarten through the twelfth grade in Connecticut. Her methodology involved the use of discussion sessions, observation, free anonymous writing, incomplete story, dramatization, role-playing, and tape recordings. From her results, she was able to delineate specific health concerns among the various grade levels.

One final study has specific import regarding the development of a health education program. Weinstein and Fantini (53:33-65) developed a particular model for humanistic education. It is of significance that following the identification of the particular learning group, the next portion of the model attempts to identify the shared concerns of the students. The authors noted at this stage that three major concerns arose: (a) self-image, (b) concern for establishing a connection with others in society, and (c) a concern about control over one's life. After identifying the shared concerns of the students, there is next the diagnosing of underlying factors related to the various

manifestations of the students' concerns. Next is the establishment of behavioral outcomes for the students, so that they know the direction in which they are going, and so that they can assess their progress. Then follows the establishment of cognitive organizers which are basically the concepts and ideas the teacher would like the student to discover. Closely involved here are the content vehicles which enable a transmission of knowledge. Specific learning skills and teaching procedures must also be established in order to enable the student to take part in the learning process. Finally, as with all good education, a continual evaluation process should be going on at periodic intervals in order to establish the growth and progress of the student in the educational process.

IV. SUMMARY

The outline of the literature review was designed to first examine the research which has been devoted to the community environment (family and school settings), demonstrating the existence and importance of family interactions, as well as school interaction patterns, on educational attempts. The literature also stressed the mutual reinforcement of ideas which can occur in the family setting. The concept of prevention was next examined with respect to models of preventive behavior, studies of the utilization of various

preventive services, possible motivational factors and barriers, and family interaction factors affecting health related behavior. The conceptual approach to education was examined more closely in the final section of the literature review. This laid the groundwork for possible educational program designs which could involve the subjects in the learning process, and result in attitudinal change.

CHAPTER III

PROCEDURE OF THE STUDY

I. OVERVIEW

The emphasis of this study was to involve the family members of a Tennessee community, consisting of parents and their fifth-grade children, in respective health education programs which incorporated the concept of prevention. Subjects were randomly divided into one of four groups in which the educational procedures ranged from parent and student education to non-educational situations. Following a pilot incorporation of the program in one community, it was slightly reorganized in preparation for its use in a second test community.

Specifically regarding the parent and student education group, fifth-grade children participated in a three day school program, while their parents were involved in an evening program. The final phase of the educational program involved the speculated interaction of ideas among parents and their children in the family setting. This interaction was not programed. It was anticipated that with parents and their children having basically the same exposure to the concept of prevention in educational programs geared for

their respective learning levels, there could be constructive interaction between them which would lead to a change in attitudes.

The change in attitudes was measured with an inventory specifically developed for this research. The Attitudinal Inventory of Prevention (Appendix D) was utilized as a pre-test and posttest for the student and parent populations. Non-parametric statistics were then incorporated to detect any significant test differences.

II. SUBJECTS

The pilot study utilized all 44 fifth graders from the Briceville Elementary School, Briceville, Tennessee. The parents of these same fifth graders were also used. The final program implementation incorporated 85 fifth graders from the Gibbs Elementary School, Corryton, Tennessee, including their parents. With respect to each school, prior written permission was secured for the utilization of these students from the respective county school superintendent.

Through arrangements made by the Reading Supervisor of the Knoxville City Schools, five fifth-grade teachers and 60 fifth-grade students were utilized in evaluating the inventory reading level. Another grouping of 53 fifth-grade students from two Knoxville City Schools, along with 46 of

their parents, were administered an initial draft of the inventory in order to calculate item discrimination.

Fifth-grade students were selected as subjects in this research based upon their being old enough to comprehend the concept of prevention, and yet young enough to be significantly influenced by their home setting (29:265-295; 56:8-9; 48). The Briceville community was selected as an appropriate research location based upon three factors:

1. Certain members of the community had demonstrated their willingness to institute better health care through the establishment of a People's Health Council and Clinic.
2. The County Superintendent of Schools, the Health Officer and Administrator of the County Health Department, the Principal of the elementary school, and the Director of the People's Health Council and Clinic indicated to the investigator a desire to become involved in this particular research.
3. These same individuals indicated a further desire to continue the program once it had been tested and evaluated.

Due to an unanticipated reduction in the total number of fifth-grade students during the school year in which the research was to be initiated, the subjects at the Briceville Elementary School were utilized in the pilot program. This

necessitated the location of a final program site. The criteria for the final program site included the selection of a population which would want to become involved in an educational program emphasizing prevention, and the availability of an elementary school which had a substantial number of fifth-grade students (at least 60), since the subjects would be eventually divided into four groups. Also, a rural population much like the Briceville community was desired; due to the reduced accessibility of health care facilities, the investigator believed that there would be an increased value of an educational program stressing the incorporation of personal preventive measures, as well as the utilization of county preventive services. Based upon these criteria, and the investigator's discussions with the Principal and Fifth-Level Chairman of the Gibbs Elementary School, the fifth-grade population at Gibbs in the Corryton community was selected.

III. EQUIPMENT AND FACILITIES

For the pilot study, parent and student education programs were held in the Briceville Elementary School. Audio-visual material consisted of a 35mm slide projector and a 16mm movie projector. Parent and student education programs for the final implementation were held in the Gibbs

Elementary School. Again, a 35mm slide projector and 16mm movie projector were utilized.

IV. EDUCATIONAL METHODS

Fifth-Grade Program

The program for the fifth-grade students was designed to include the conceptual approach to education as discussed in the School Health Education Study Report (39). Basic program content was developed from eight school health lesson plans (59-66). The instructional units included the following components:

A. Concept: Protection and promotion of health is an individual and community responsibility.

B. Long Range Goals:

1. Cognitive: The student understands the nature of prevailing health problems.
2. Affective: The student believes that acceptance of individual responsibility is basic for personal well-being and community health.
3. Action: The student maintains and promotes his own health, that of his family, and that of his community.

C. Behavioral Objectives:

The student:

1. defines health.

2. defines prevention.
3. lists significant health problems.
4. discusses the health problems existing in families and communities which cannot be solved by an individual.
5. lists selected community efforts designed to meet prevalent health problems.

D. Learning Opportunities:

1. The first session was designed to get initial feedback from the students so that a baseline of their knowledge and needs could be established. Following a brief introduction to the program, and the administration of the pretest, students were given blank index cards and asked to write down their responses to each of the following questions:
   a. What is health?
   b. What is poor health?
   c. What is your biggest health problem?
   d. What is prevention?
   e. How can you improve your health?
   f. How can you improve your family's health?
   g. How can you improve your community's health?
2. The second session involved a discussion of the particular health issues brought out in the first

session. Much in line with the model for humanistic education presented by Weinstein and Fantini (53:33-65), a primary emphasis of this was to discuss possible solutions to particular health problems, and ways they might be prevented in the future. These discussions resulted in the following group consensuses:

a. A combined definition of health by students.
b. A combined definition of prevention.
c. A listing of ways to improve individual health.
d. A listing of ways to improve a family's health.
e. A listing of ways to improve a community's health.

3. The third session included a presentation which underscored the significance of the students' ideas regarding health problems and their prevention, and a delineation of available school and community preventive measures. A brief summary was made regarding the distinction between treatment and prevention, the benefits of prevention, and individual, family, and community responsibilities for the assurance of health. A 10 minute 16mm movie entitled Insects

as Carriers of Disease was then shown. This was followed by a discussion of the many ways an individual may become sick. A final audio-visual presentation involved a series of 100 35mm slides which had been developed by the investigator. They emphasized the effects of water, air, and land pollution, as well as showing all of the major services available from a department of public health. A brief discussion followed this presentation.

E. Implementation:

1. Pilot Program: The 44 fifth graders at Briceville Elementary School were randomly assigned to one of four groups:

   a. Group I, parent and student education.

   b. Group II, only parent education.

   c. Group III, only student education.

   d. Group IV, non-educational situation (control).

An introduction to the program was given to all 44 students which emphasized that this was a program which was in its developmental stages, and that their participation was most important. This was followed by the administration of the Attitudinal Inventory of Prevention. It was stressed that the Inventory was not a test, and

thus did not have correct or incorrect answers. The inventory was administered in order to detect any procedural difficulties incurred by the students. The results were not meant to be statistically analyzed during this pilot program. The only aid given by the investigator and the fifth-grade teacher who was present was the brief definition of any individual words which were unfamiliar to a small percentage of the students. Following the administration of the pretest, the students who made up Groups II and IV were taken from the classroom in order to participate in extra-curricular activities. Those students who remained in the classroom comprised Groups I and III, and were involved in the educational program. Two weeks after the program had been completed, the Inventory was again administered.

2. Final Program: Initially, all 100 fifth graders at the Gibbs Elementary School were randomly assigned to one of four groups, as delineated in the pilot program. However, various types of individual situations ranging from reading difficulties, removal from school, and absence on the day of the pretest resulted in an attrition down

to 85 students. The program was again introduced as one which was in its developmental stages, and the administration of the Inventory followed. It was noted from the pilot program how fearful some children could be of the word "test" and every effort was made not to use this word. Again based on the experience of the pilot program, fifth-grade teachers were instructed to aid students only in defining individual words which might have been difficult for a few of the students. The educational program was then presented to only Groups I and III in three 60 minute sessions during a three day period. The experience of the pilot program was also of value during this phase: the investigator intentionally allowed for more time to be allotted to discussion with the students, rather than didactic presentations. It is believed that this aided the students in feeling that <u>they</u> were developing answers to health issues as a group. Again, two weeks after the program had been completed, the Inventory was administered as a posttest.

Parent Program

Regarding the educational program for the parents, the major concept, long range goals, and behavioral objectives which were stated for the students remained the same. However, since it was realized that it would be most difficult to get the parents to come out on three separate nights, the program was condensed into a single evening. The learning opportunities for the parents included an initial presentation of a summary of the student consensuses regarding their definitions of health, prevention, and responsibilities for individual, family, and community health. Here a distinction also was made between treatment and prevention, and the benefits of prevention were enumerated. These included keeping the body in a healthy state, reduction in the number of sick days, and a monetary savings as well. A 16 mm movie entitled Looking At Children next was shown. This film presented information to the parents regarding the various signs and symptoms of chronic and communicable diseases which could be detected in their children, and what could be done to prevent many of the disorders. Discussion time was allotted following the film. The final audio-visual presentation involved the same series of 100 35mm slides which had been presented to their children. Another brief discussion period followed this presentation. At the end of the program, a

wide variety of free brochures stressing prevention were made available to the parents (see Appendix L).

Implementation of the program for parents involved their assignment to one of the four groups previously mentioned for the students, based upon the placement of their own children. This would then mean that if student x were assigned to Group III, his parents would be in that group as well. A Pilot Program was held in one evening session at the Briceville School. Letters of introduction and invitation were sent out to the parents in Groups I and II (see Appendix G). Parents in these two groups were administered the Inventory prior to the presentation. Parents in Groups III and IV completed Inventories which were brought home to them in sealed envelopes by their children. As with the student pilot program, the test results were not meant to be statistically analyzed, but rather, they were utilized to detect any difficulties regarding their administration.

The final program experienced some administrative difficulties. The original program date for the parent education program conflicted with another scheduled school event, and thus it had to be changed (see Appendix G). Since the rescheduled program at Gibbs Elementary School resulted in only five couples coming out, another one was scheduled during that same week. A total of 13 couples came to the second program, making a grand total of 18 couples who

participated in the parent education program. While the first letter of invitation to Groups I and II contained a few incentives for the parents to come to the program, the second letter intentionally emphasized a few more (see Appendix G). Another important factor in getting parents to come to the second program involved the use of a well-known and respected member of the Corryton community: the School Secretary telephoned all of the remaining parents in Groups I and II who had not come, and invited them out.

Again, the parents in Groups I and II who did come to the program were administered the Inventory prior to the presentation. Parents in the two remaining groups completed Inventories which were brought home to them in sealed envelopes by their children. These were then returned by the children to the Fifth-Level Chairman. Two to three weeks after the program had been completed, the Inventory was again administered. This time the parents in all four groups had the Inventory brought home to them in sealed envelopes by their children. In certain instances, the investigator had to visit the parents individually at home in order to get the posttest completed. For this reason, a few of the posttests were not completed until three weeks after the completion of the program.

V. VALIDATION OF THE EDUCATIONAL MATERIAL

An initial validation procedure involved the construction of a Health Education Program Rating Scale (Appendix E) for the evaluation of the proposed student and parent programs. The Scale was divided into two major portions: Proposed Program Structure and Educational Content. Further subdivision was utilized for the student program and the parent program. A rating scale was used which allowed jury members to rate learning opportunities and educational content involving mental, physical, and community health on a scale of from one (not acceptable) to five (indispensable). A mean value of three and above allowed for the retention of a specific subject area. Jury members also had the opportunity to write down other evaluation comments alongside each subject area, if they so desired.

Many of the ideas for the learning opportunities and program structure came from research involving the model for humanistic education presented by Weinstein and Fantini (53) and the conceptual approach presented in the School Health Education Study Report (39). Basic material for the educational content section came from eight school health lesson plans (59-66). The numerative system which was employed in the Rating Scale was developed as an adaptation of research conducted by Brown (5:28-29, 39-40).

The first draft of the Rating Scale was submitted to the investigator's doctoral committee members for initial advisement regarding its suitability. Following the incorporation of their suggestions, a final draft was completed and prepared for submission to a jury for evaluation. The jury consisted of local representatives from the respective counties which were to be involved in the research: Anderson County (Briceville Elementary School) and Knox County (Gibbs Elementary School). Certain state representatives were also involved, and their evaluations were incorporated into the results from each county (see Appendix K). The jury members involved the following representatives:

A. Anderson County:
    1. School Principal (Briceville).
    2. Fifth-Grade Health Teacher (Briceville).
    3. County Director of Pupil Personnel Services.
    4. County School Health Nurse.
    5. County Public Health Nurse.
    6. Former County Health Educator.
    7. County Health Officer (Medical Doctor).
    8. County Health Department Administrator.

B. Knox County:
    1. School Principal (Gibbs).
    2. Fifth-Level Chairman (Gibbs).
    3. County School and Public Health Nurse.

4. County Director of Health, Physical Education, and Driver Education.

C. State of Tennessee:

1. Area Medical Director, United Mine Workers.
2. Health Education Specialist, Department of Education.
3. Public Health Educator, Department of Health.
4. Public Health Educator, Department of Health.

The results from the evaluation by these representatives are listed in Table 4.5 (Page 73). Based on this evaluation technique, the educational programs for students and their parents were developed and incorporated into the second phase of the validation procedure, the pilot programs. As described in Section IV (Educational Methods), the pilot programs allowed for refinements in the Inventory administration, the allotment of more program time for discussion, and the establishment of realistic program time limits.

VI. DATA COLLECTION INSTRUMENT

Following an exhaustive search for a suitable research instrument which resulted in none being found, it was concluded that an attitudinal instrument would have to be developed. It was first decided that the basic instrument which would be developed could be utilized as the pretest and posttest, since the subjects' attitudes would be measured

in each instance. A time period of at least two weeks between test administrations was considered necessary in order to reduce the probability of learning test responses and allow for family interaction. The use of the instrument as a post-posttest also was considered so that the retention of the attitudinal change could be measured, but the time element required (a two to six month waiting period) did not realistically conform to the research timetable. It also was decided that the same instrument which was used with the fifth-grade students could be used with their parents. This decision initially was based on a 1964 Study Report on Anderson County (21) which indicated that the average level of educational attainment for the adult population was basically a junior high school education. Another factor involved in this decision was that student and parent test results could be directly compared statistically when the same test was utilized for both groups.

Following the guidelines specified by Edwards (17:13-14) and Wallace (52:40-41), an inventory (Appendix A) was constructed, consisting of 80 attitudinal statements. In order to develop the statements, the investigator reviewed three school health textbooks (1, 51, 54), three public health textbooks (11, 43, 44), and an inventory developed by Meise (34) which was concerned with health attitudes. Ideas which were obtained from these sources were then worded by the

investigator into positive and negative statements involving prevention. A five-point Likert scale was chosen as the basic Inventory design instead of a Thurstone scale because the former scale was considered to (a) provide a simpler method of scoring (30:154), (b) require fewer statement items, usually 20 to 25 (40:171), and maintain a consistently higher reliability (40:171). The five-point scale which was used ranged from an interpretation of Strongly Agree to Strongly Disagree.

The first draft of the Inventory was submitted to the investigator's doctoral committee members for evaluation. Their suggestions were incorporated into a second draft which contained 125 statements (Appendix B). The remaining developmental stages of the Inventory involved the following:

A. Reading Level: Arrangements were made by the Reading Supervisor of the Knoxville City Schools to have the 125 statements examined by five fifth-grade teachers and 60 fifth-grade students. Each of these evaluators had the opportunity to read all 125 statements and report incomprehensible words. The fifth-grade teachers along with the Reading Supervisor met as a group and formed consensuses regarding which words would have to be changed. In many instances, they offered a selection of alternate words which could be used. Many of the words which

were detected by the adult group also were reported by the fifth-grade students. In the few instances where the children identified other words, changes were instituted.

B. Content Validity: In order to assure the attainment of content (curricular) validity, a national jury of 41 Department Heads and professors at Schools of Health, Physical Education, and Recreation, and Departments of Health and Safety were contacted. Selection of the 41 individuals resulted from a necessity to secure national representation; thus, the investigator chose representatives from as many different states as possible. A letter of introduction and a request for the individual's services was sent to each, along with a postcard for reply (Appendix I). Of those who responded, 35 replied affirmatively. Each of these individuals was sent a letter of explanation, an evaluation form, and a stamped, self-addressed envelope for returning the completed form (Appendix B). The form enabled the jurors to respond to each of the 125 items regarding its ability to reveal a test subject's positive or negative preventive nature. This was accomplished through the utilization of a numerical rating of from one (Not Acceptable) to five (Indispensable), which

was an adaptation of research conducted by Brown (5). The jurors also were provided space to make written comments. An actual deadline date for the return of the evaluation forms was established by the investigator as being one week beyond the stated deadline in the letter. By that time, 29 evaluation forms had been received; these constituted the responses from the national jury (Appendix J). Analysis of the forms involved the calculation of the means for each item, and the acceptance of those with three and above. Any consensus appearing among the jurors in the comment section led to statement adjustments. This analysis resulted in the discarding of 26 statements.

C. Item Discrimination: With the remaining 99 statements, another inventory was constructed (Appendix C). In order to detect item discrimination, another grouping of subjects from two Knoxville City Schools was arranged by the City Reading Supervisor, involving 53 fifth-grade students and 46 of their parents. These subjects responded to each statement on a five-point Likert scale of from Strongly Agree to Strongly Disagree. Those statements which were considered to be positively worded were given a ranking value as follows: Strongly Agree = 5, Agree = 4, Undecided =

3, Disagree = 2, and Strongly Disagree = 1. This weighting system was directly reversed for those statements which were considered to be negatively worded. A subject's score was calculated by summing the values obtained from each statement rating, with the highest possible score being 495. The item analysis utilized a format presented by Edwards (17:152-155), in which 25 percent of the subjects with the highest total scores and 25 percent of those with the lowest total scores were compared via a t-test as to how they responded to each of the 99 statements. For this, the following formula was utilized:

$$t = \frac{\bar{X}_H - \bar{X}_L}{\sqrt{\frac{S_H^2}{n_H} + \frac{S_L^2}{n_L}}}$$

Where:

$\bar{X}_H$	=	The mean score on a given statement for the high group
$\bar{X}_L$	=	The mean score on the same statement for the low group
S_H^2	=	The variance of the distribution of responses of the high group to the statement
S_L^2	=	The variance of the distribution of responses of the low group to the statement
n_H	=	The number of subjects in the high group
n_L	=	The number of subjects in the low group

These values were calculated at the University of Tennessee Computer Center and the results are presented in Table 4.2 (page 63). Both student and parent responses were combined since the final inventory would be utilized for both groups, and this resulted in a total subject N of 99. Of this number, 25 were included in the high scoring group and another 25 were in the low scoring group. Those statements with the largest t-test values could thus be considered as having better discrimination between subjects in the high and low groups.

D. Final Item Selection: The five major criteria used to select the final inventory statements were:

1. The t-test score (the larger the value, the better the item discrimination).
2. The National Jury Score.
3. Inventory Length (the need for the smallest number of statements which would cover the major aspects of the concept of prevention; the need for the same number of positive statements as negative statements).
4. The Elimination of Duplication in the Statements.
5. The Investigator's Personal Judgment (tempered by the written responses of the national jury).

Thirty-two statements for the final draft of the Attitudinal Inventory of Prevention (Appendix D) were selected using the above procedure.

E. Reliability: Since the Likert scale represents a multiple-item scale, reliability calculations were made on the final program pretest values, utilizing an analysis of variance with repeated measures technique as described by Specht (45). This procedure results in a reliability coefficient called alpha. Cronbach (16:158-167) has further defined this statistical technique as one which incorporates the mean square of persons taking the inventory, the mean square of the conditions (observed scores), and the mean square for the residual (any influence which would make a particular observed score higher or lower). The reliability coefficient is then calculated from the estimated variance of the person, condition, and residual effects. This basic procedure is also called Hoyt's analysis of variance for estimating reliability based on internal consistency (27;23:73-74). The overall formula is as follows:

$$\text{Hoyt's Analysis of Variance Reliability} = \frac{\text{Mean Square Between People} - \text{Residual Mean Square}}{\text{Mean Square Between People}}$$

VII. STATISTICAL DESIGN

The design of this research is considered by Van Dalen (57:279) to be one of the highly recommended experimental procedures. This design involved a pretest and posttest technique with a control group and randomized assignment to one of four groups. Table 3.1 graphically shows how the groups were comprised for this research, and includes the number of subjects tested. The table shows that a few post-tests could not be obtained from some of the subjects, due to non-availability. While both of the students' parents in Groups I and II were invited to the program, only one of the parents took the inventory.

Statistical analysis involved the comparison of the pretest to posttest gain scores of one group with those of another, as recommended by Campbell and Stanley (7:23). This procedure would then result in individual tests of significance between groups. These authors have cautioned against merely computing a statistical test for pretest to posttest differences within each group and then basing significance on comparisons between groups.

Since no specific assumptions were made regarding the nature of the variable distributions in the populations from which the subjects were drawn, non-parametric tests were selected in attempting to establish significance. Ferguson

TABLE 3.1

RESEARCH DESIGN FOR FINAL PROGRAM: NUMBER OF SUBJECTS COMPLETING INVENTORY

Group Number and Type of Education	Students		Parents	
	Pretest	Posttest	Pretest	Posttest
Group I Parent & Student Education	25	24	11	11
Group II Parent Education	20	20	7	7
Group III Student Education	19	19	17	15
Group IV Control	22	22	20	19

(19:354) has described these as distribution-free tests, and has underscored their value in being able to allow a wider application of the research results. Another very important reason for the selection of non-parametric tests was the necessity of meeting particular test assumptions. Utilization of the parametric t-test and analysis-of-variance assumes that the researcher has at least interval-level data (10:122). Utilization of the non-parametric Mann-Whitney U test and Kruskal-Wallis one-way analysis-of-variance assumes that the researcher has at least ordinal-level data (10:181, 189). Data obtained by the Likert-type inventory is considered to be of the ordinal level (10:168).

For these reasons, the initial statistical tests which were utilized in this research involved Kruskal-Wallis analyses among the student pretest to posttest gain scores in Groups I, II, III, and IV. These same analyses were made for the parent groups as well. The formula for the Kruskal-Wallis test is as follows (10:187):

$$H = \frac{12}{N(N+1)} \left(\frac{\Sigma R_i^2}{N_i} \right) - [3(N+1)]$$

Where: N = The total number of people in K samples

N_i = The number of people in ith sample

ΣR_i = The sum of ranks for the ith sample

The power efficiency of the Kruskal-Wallis one-way analysis-of-variance is 95.5 percent when compared with its parametric counterpart, the analysis-of-variance or F-test (41:194). Whereas the Kruskal-Wallis test will compare all four groups in one category (i.e., student category or parent category) during a single statistical procedure, if significance is detected, this test will not reveal between which two groups the significance lies.

For this reason, the Mann-Whitney U test was employed to test for significance between the gain scores of two groups at a time. The formula for the Mann-Whitney U test is as follows (10:176):

$$U = N_1N_2 + \frac{N_1(N_1 + 1)}{2} - \Sigma R_1$$

$$U' = N_1N_2 + \frac{N_2(N_2 + 1)}{2} - \Sigma R_2$$

Where: ΣR_1 = The sum of ranks for N_1 (Group I)

ΣR_2 = The sum of ranks for N_2 (Group II)

Siegel (41:126) has emphasized that the Mann-Whitney U test is an excellent alternative to the t-test, since it maintains a power-efficiency of 95 percent when compared with the t-test. Champion (10:181) stresses that with the Mann-Whitney U test, the researcher does not have to make unrealistic assumptions regarding the data distribution, and the test can be used with small or large samples.

In utilizing the Kruskal-Wallis one-way analysis-of-variance and the Mann-Whitney U test in this research, the significance level for the data was set at $P \leq .05$.

VIII. SUMMARY

The procedure of this study incorporated the development of an educational program which utilized the conceptual approach, its validation, and eventual evaluation. The validation of the program included the use of a Health Education Program Rating Scale, and the incorporation of the initial program design into the Briceville Elementary School as a pilot study. Evaluation of the effects of the final program necessitated the development by the investigator of a specific Attitudinal Inventory of Prevention, which would serve as a pretest and posttest for students and parents. The Inventory was validated by 29 national jurors, and t-test item discrimination analysis based on the scores of 53 students and 46 of their parents. The Inventory's reliability was determined by the score values of the student and parent pretests in the final program. Four groups were established for the final program: Group I (parent and student education), Group II (parent education), Group III (student education), and Group IV (control). Student and parent categories were represented in each group. Statistical

analyses of the data involved the use of the Kruskal-Wallis one-way analysis-of-variance to test for significance among the groups within the same category (student or parent), and the use of the Mann-Whitney U test to determine if significance existed between groups of different categories.

CHAPTER IV

ANALYSIS OF DATA

I. INTRODUCTION

A variety of procedures was included in this research. A suitable instrument could not be located, and this necessitated the development of one. The educational program which would be used had to be carefully developed and evaluated. And the effects of the educational program on the subjects had to be quantified and statistically tested.

In order to evaluate these procedures, a total of five statistical techniques were incorporated in this study: (1) calculation of means, (2) t-test, (3) analysis-of-variance with repeated measures, (4) Kruskal-Wallis one-way analysis-of-variance, and (5) Mann-Whitney U test.

Mean scores were calculated for the responses to the inventory attitudinal statements by members of the national jury. The t-test was used in determining the discriminating ability of each statement. The analysis-of-variance with repeated measures provided the reliability calculation. Mean scores were again utilized in evaluating the educational program with the Health Education Program Rating Scale. The

Kruskal-Wallis and Mann-Whitney U tests were used in testing the six null hypotheses related to the problem.

In order to clearly distinguish the various types of analyses which were incorporated in this study, the chapter has been divided into three major sections: (1) Inventory Development, (2) Program Development, and (3) Program Evaluation.

II. INVENTORY DEVELOPMENT

The two basic statistical procedures which were used in the selection of the attitudinal statements were the calculation of the mean values from the national jury responses and the t-test for item discrimination.

The 29 members of the national jury who responded to the 125-item Inventory Rating Scale (Appendix B), were able to rate each statement on a one (Not Acceptable) to five (Indispensable) basis. Mean calculations were then made by the investigator based on the 29 responses for each of the 125 statements (see Appendix F). A summary of the mean values is presented in Table 4.1. Only values of 3.00 and above were accepted, resulting in 26 statements being discarded from the inventory.

The next procedure involved the development of the 99-statement Attitudinal Inventory of Prevention (Appendix C) and its submission to a sampling of 53 fifth-grade students

TABLE 4.1

MEAN RATING OF ATTITUDINAL STATEMENTS BY NATIONAL JURY

Statement	Mean	Statement	Mean	Statement	Mean	Statement	Mean	Statement	Mean
1	2.90	26	3.00	51	3.21	76	3.34	101	3.52
2	3.52	27	3.93	52	3.45	77	3.52	102	3.21
3	3.45	28	3.90	53	2.76	78	3.34	103	2.90
4	3.52	29	3.59	54	3.52	79	3.03	104	2.59
5	2.17	30	3.52	55	3.04	80	3.24	105	2.93
6	3.90	31	3.17	56	3.10	81	2.76	106	3.97
7	2.86	32	3.03	57	3.41	82	3.34	107	3.10
8	2.66	33	3.83	58	3.55	83	3.18	108	3.32
9	3.36	34	3.28	59	2.83	84	3.46	109	2.64
10	3.52	35	2.93	60	3.38	85	3.90	110	3.17
11	2.59	36	3.45	61	3.41	86	2.90	111	3.31
12	4.03	37	3.34	62	3.10	87	3.41	112	2.34
13	3.14	38	3.10	63	3.34	88	2.93	113	2.86
14	3.14	39	3.38	64	3.24	89	3.00	114	2.83
15	3.62	40	3.66	65	2.41	90	2.34	115	3.97
16	2.90	41	3.00	66	3.14	91	2.25	116	3.10
17	3.93	42	3.34	67	3.24	92	3.24	117	3.34
18	3.69	43	3.21	68	2.69	93	3.28	118	3.34
19	3.03	44	3.17	69	3.10	94	3.17	119	3.31
20	3.34	45	3.55	70	2.79	95	3.69	120	3.66
21	3.48	46	3.31	71	3.90	96	3.28	121	3.72
22	3.86	47	3.34	72	3.28	97	2.76	122	3.24
23	3.18	48	3.69	73	3.62	98	3.00	123	2.79
24	3.41	49	3.41	74	3.07	99	3.34	124	3.72
25	3.83	50	3.72	75	3.10	100	3.10	125	3.69

and 46 of their parents. For the item analysis procedure with the t-test, the two groups were combined, for a total subject N of 99. This was done particularly because the final inventory would be used with both student and parent groups. In this analysis procedure, the highest scoring 25 percent of the subjects would be compared with the lowest scoring 25 percent as to how they responded on each one of the 99 statements. The t-test would then test for significance between these two groups, with the higher t-test values indicating a greater degree of discrimination by specific statements (17:152-155). The University of Tennessee Computer Center was utilized for data analysis, the results of which are presented in Table 4.2.

The discrimination ability of a majority of the items may be considered quite high. There were 40 statements with a probability of 0.0001, while 11 statements had a probability of 0.001. It was from these 51 statements which the final 32 attitudinal statements were selected on the basis of the selection criteria cited in the previous chapter.

A summarization of the characteristics of each statement is presented in Table 4.3. Three of the five major criteria utilized in the selection of the final statements are presented in the Table: The national jury mean score, the t-test item discrimination score, and whether the statement is negative or positive. The remaining two criteria involved

TABLE 4.2

T-TEST ITEM DISCRIMINATION RESULTS

Statement	T Value	Two-Tail Probability	Statement	T Value	Two-Tail Probability	Statement	T Value	Two-Tail Probability
1	5.00	0.0001	26	2.26	0.0280	51	2.36	0.0230
2	2.09	0.0420	27	4.86	0.0001	52	5.30	0.0001
3	3.02	0.0040	28	4.02	0.0001	53	2.87	0.0070
4	5.31	0.0001	29	1.14	0.2610	54	4.76	0.0001
5	3.63	0.0010	30	3.60	0.0010	55	1.07	0.2920
6	5.42	0.0001	31	2.03	0.0480	56	4.69	0.0001
7	3.70	0.0010	32	2.28	0.0290	57	4.19	0.0001
8	5.31	0.0001	33	3.58	0.0010	58	5.89	0.0001
9	5.01	0.0001	34	2.81	0.0070	59	4.64	0.0001
10	1.86	0.0690	35	3.36	0.0020	60	2.50	0.0160
11	5.28	0.0001	36	3.95	0.0001	61	2.76	0.0090
12	4.83	0.0001	37	4.48	0.0001	62	3.36	0.0020
13	5.89	0.0001	38	6.54	0.0001	63	4.45	0.0001
14	1.13	0.2640	39	4.46	0.0001	64	5.60	0.0001
15	4.12	0.0001	40	3.17	0.0030	65	3.31	0.0030
16	2.64	0.0120	41	3.00	0.0050	66	2.93	0.0060
17	3.31	0.0020	42	5.30	0.0001	67	3.82	0.0010
18	2.99	0.0040	43	0.86	0.3960	68	3.91	0.0001
19	2.22	0.0320	44	1.73	0.0900	69	4.68	0.0001
20	1.64	0.1070	45	3.60	0.0010	70	1.63	0.1100
21	4.02	0.0001	46	2.81	0.0070	71	3.81	0.0001
22	5.69	0.0001	47	2.62	0.0120	72	3.63	0.0010
23	3.48	0.0010	48	5.28	0.0001	73	2.51	0.0160
24	2.82	0.0080	49	3.53	0.0010	74	3.33	0.0020
25	2.78	0.0080	50	4.43	0.0001	75	1.69	0.0980

TABLE 4.2 (continued)

Statement	T Value	Two-Tail Probability	Statement	T Value	Two-Tail Probability	Statement	T Value	Two-Tail Probability
76	3.25	0.0020	84	3.09	0.0030	92	3.12	0.0040
77	2.67	0.0110	85	2.47	0.0170	93	2.75	0.0090
78	1.39	0.1720	86	4.29	0.0001	94	4.09	0.0001
79	1.74	0.0880	87	2.21	0.0320	95	3.89	0.0001
80	5.28	0.0001	88	5.52	0.0001	96	4.01	0.0001
81	3.59	0.0010	89	3.26	0.0020	97	1.41	0.1660
82	0.94	0.3530	90	3.51	0.0010	98	5.33	0.0001
83	6.52	0.0001	91	5.40	0.0001	99	3.42	0.0020

TABLE 4.3

CHARACTERISTICS OF THE 32 STATEMENTS IN FINAL INVENTORY

Final Inventory Number	99-Item Inventory Number	National Jury Mean	T Value	Positive/ Negative Statement
1	5	3.36	3.63	+
2	4	3.90	5.31	-
3	6	3.52	5.42	-
4	8	3.14	5.31	-
5	15	3.48	4.12	+
6	11	3.93	5.28	+
7	13	3.03	5.89	-
8	12	3.69	4.83	-
9	21	3.93	4.02	-
10	22	3.90	5.69	-
11	33	3.66	3.58	+
12	27	3.83	4.86	-
13	36	3.34	3.95	+
14	38	3.55	6.54	+
15	50	3.55	4.43	+
16	37	3.21	4.48	-
17	52	3.38	5.30	+
18	58	3.10	5.89	+
19	59	3.90	4.64	+
20	63	3.10	4.45	-
21	64	3.34	5.60	-
22	67	3.03	3.82	+
23	69	3.34	4.68	-
24	71	3.46	3.81	+
25	80	3.00	5.28	-
26	72	3.90	3.63	+
27	83	3.52	6.52	+
28	86	3.10	4.29	-
29	88	3.17	5.52	-
30	95	3.66	3.89	+
31	90	3.97	3.51	+
32	23	3.59	3.48	-

All t-test values are at least $P \leq .001$.

the elimination of duplication in the statements, and the incorporation of the investigator's personal judgment which was tempered by the written comments of the members of the national jury.

The reliability calculations for the Inventory were made using an analysis of variance with repeated measures (45;16:158-167), since the scale was multiple item.

The reliability coefficient for the student population was calculated by using the 85 student pretest values from the final program. The computer calculations were as follows:

Mean Square Between People:	8.08754
Mean Square Within People:	1.12500
Residual Mean Square:	1.00312
Residual Mean Square Balance:	1.00170
Alpha:	0.87597

The alpha coefficient can be rounded to 0.876 and represents the extent of errors which differed from person to person during the single testing procedure (variable error). This proportion is considered large for the ratio of true score variance to observed score variances, thus designating a small variable error (23:58-62). Thus, for the students, the Inventory is 87.6 percent reliable while measurement error dominates 12.4 percent of the variance scores (36:108).

The reliability coefficient for the parent population was calculated by using the 52 parent pretest values from the final program. The computer calculations were as follows:

Mean Square Between People:	2.98080
Mean Square Within People:	0.37874
Residual Mean Square:	0.32820
Residual Mean Square Balance:	0.32840
Alpha:	0.88990

The parent alpha coefficient can be rounded to 0.890 and also represents the extent of errors which differed from person to person during the single testing procedure. The large proportion indicates an Inventory for the parents which is 89.0 percent reliable, while maintaining a measurement error of 11.0 percent.

As Nunnally (36:127) and Helmstadter (23:84) point out, there are no hard-and-fast rules governing the interpretation of reliability coefficients. However, Nunnally (36:127) does state that a coefficient under 0.80 generally should be considered with suspicion. Good reliability depends on the way the instrument is used. The reliability coefficients obtained in this research for the students and parents, 0.876 and 0.890 respectively, are considered as sufficient values for consistent attitude measurement.

III. PROGRAM DEVELOPMENT

The development of the educational program involved two major stages: (1) evaluation of the proposed program structure and educational content by county and state jurors using the Health Education Program Rating Scale (Appendix E), and (2) the incorporation of a pilot program in the Briceville Elementary School.

The Health Education Program Rating Scale was administered to representatives of Anderson and Knox Counties, and the State of Tennessee (see pages 44-45). These jurors were able to rate each item in the Program Structure and Educational Content sections on a one (Not Acceptable) to five (Indispensable) basis. With this scale, the highest values above 3.00 were incorporated in the selection of specific items. The ratings of the four State representatives were included in the Anderson County and Knox County respective mean calculations. The Anderson County mean ratings applied to the pilot program which would be conducted at the Briceville Elementary School. The Knox County mean ratings applied to the final program which would be conducted at the Gibbs Elementary School. The results of these ratings for the first section of the Rating Scale, the Program Structure, are presented in Table 4.4.

TABLE 4.4

PROPOSED PROGRAM STRUCTURE: MEAN RATINGS FROM THE HEALTH EDUCATING PROGRAM RATING SCALE

Proposed Program Structure	Briceville Mean Rating	Gibbs Mean Rating
I. Students		
A. Day One		
1. Learning Opportunities		
a. Define health	3.50	3.14
b. Describe poor health	3.80	3.14
c. Specify health problems	3.80	3.43
d. Define prevention	3.60	3.14
e. How to improve own health	3.90	4.14
f. How to improve family health	3.50	4.00
g. How to improve community health	3.00	3.00
h. Prepared list of definitions	3.00	3.00
B. Day Two		
1. Learning Opportunities		
a. Discuss definitions of health	3.70	3.43
b. Discuss health needs and concerns	4.10	3.86
c. Discuss definitions of prevention	4.20	3.86
d. Discuss involvement in family and community health	3.60	3.14

TABLE 4.4 (continued)

Proposed Program Structure	Briceville Mean Rating	Gibbs Mean Rating
C. Day Three		
1. Learning Opportunities		
a. Presentation emphasizing health responsibilities	4.10	3.86
b. Film: Insects as Carriers of Disease	4.10	3.71
Film: Health Begins at Home	3.44	3.67
II. Parents		
A. Evening Session		
1. Learning Opportunities		
a. Presentation emphasizing health responsibilities	3.55	3.67
b. Film: Looking at Children	4.11	4.50

Based on the mean values for the first-day student educational sessions at the Briceville and Gibbs Schools, all of the learning opportunities were incorporated, except for the list of definitions of health which received 3.00 ratings. The portion relating to the improvement of the community's health also obtained 3.00 ratings, but it was considered by the investigator to be an integral part of the individual and family health overview. The high ratings for all four learning opportunities involved in the second day session led to their retainment. Regarding the third day of student education, the presentation to the students with respect to their responsibility for health protection drew high ratings from the jurors. The film, Insects as Carriers of Disease, was selected in place of Health Begins at Home based on higher rating values.

The evening educational session for the parents incorporated the presentation regarding their responsibility for the protection of health, due to the mean rating values of 3.55 and 3.67 for the Briceville and Gibbs Schools respectively. The film, Looking at Children, was also utilized, resulting from high mean ratings of 4.11 and 4.50, and because no other film suggestion was made by the jury members. This film was procured from Metropolitan Life.

The presentation of the mean ratings regarding the Educational Content section for the pilot (Briceville) and

final (Gibbs) programs is in Table 4.5. This section included a wide range of material in mental, physical, and community health so that important health areas would not be overlooked by the jury. Selection of material for the programs was based on (1) content areas with the highest mean ratings, (2) specific written comments by the jury members, and (3) the investigator's personal judgment in regard to the construction of a suitable program outline, program administration, and time limitations. For the students and parent educational programs, the selected content areas included basic psychological human needs and family responsibilities, values, the spread of disease organisms, types of childhood immunizations, physical health involving dental and nutritional aspects, and individual measures for community health and pollution control.

The next form of evaluation for the educational program incorporated the use of the pilot program at the Briceville Elementary School. This enabled the investigator to make a trial run in presenting the program to a sample population prior to its experimental incorporation. The original design of the program (developed from the Rating Scale evaluations) and subsequent changes for the final program are presented in Table 4.6.

TABLE 4.5

EDUCATIONAL CONTENT: MEAN RATINGS FROM HEALTH EDUCATION PROGRAM RATING SCALE

Educational Content	Briceville Mean Rating Student	Briceville Mean Rating Parent	Gibbs Mean Rating Student	Gibbs Mean Rating Parent
A. Mental Health				
1. Human defense mechanisms	3.20	3.33	3.28	3.43
2. Psychological adjustment	3.40	3.62	2.86	3.50
3. Mental illness	3.20	3.75	3.00	3.67
4. Feeling towards ourselves	3.70	3.62	3.57	3.83
5. Attitude improvement	3.60	3.78	3.57	4.14
6. Preventing quarreling	3.80	4.00	4.14	4.33
7. Showing consideration	4.10	3.88	4.43	4.00
8. Basic human emotions	3.90	3.88	4.57	4.50
9. Expression of emotions	3.90	3.78	4.43	4.14
10. Physical effects of emotions	3.70	3.75	3.71	3.83
11. Fear of trying something new	3.50	3.44	3.67	3.33
12. Parent-child responsibilities	4.40	4.40	4.14	4.28
13. Human needs: Love	4.50	4.44	4.43	4.50
Security	4.50	4.33	4.57	4.50
Recognition	4.50	4.56	4.57	4.67
Independence	4.50	4.33	4.57	4.50
14. Value of laughter	3.80	3.66	4.14	4.00
15. What maturity is	3.50	3.56	3.71	3.83
16. How maturity is attained	3.60	3.78	3.86	4.17
17. Activities for tension release	4.30	4.11	4.71	4.33
18. What values are	3.90	4.11	4.14	4.33
19. Peer effect on values	4.40	4.00	4.57	4.28

TABLE 4.5 (continued)

Educational Content		Briceville Mean Rating Student	Briceville Mean Rating Parent	Gibbs Mean Rating Student	Gibbs Mean Rating Parent
B. Physical Health					
1. Causes of disease:	Bacteria	3.30	3.88	3.28	4.00
	Viruses	3.30	3.78	3.28	4.00
	Protozoa	3.20	3.88	3.28	4.00
	Fungi	3.10	3.66	3.14	3.83
	Rickettsia	3.00	3.66	3.14	3.83
	Parasitic Worms	3.60	4.33	3.28	4.00
2. Where organisms are found		3.78	4.33	3.28	4.33
3. Spread of organisms:	Direct contact	4.00	4.30	3.71	4.00
	Indirect contact	3.90	4.20	3.71	4.00
	Air	3.60	4.10	3.57	4.14
	Water	3.90	4.30	3.71	4.14
	Animals	3.70	4.10	3.71	4.14
	Unsanitary conditions	4.11	4.50	4.00	4.83
4. Chronic diseases:	Cancer	2.70	3.80	3.00	4.57
	Heart disease	2.80	4.00	3.14	4.86
	Stroke	2.80	4.10	3.00	4.71
	Diabetes	3.00	4.00	3.28	4.57
	"Black Lung"	3.10	3.80	3.14	4.14
5. Communicable diseases:	Chickenpox	3.22	3.66	2.83	4.40
	Common cold	3.88	4.00	4.67	4.80
	Diphtheria	3.11	3.56	3.50	4.40
	Gonorrhea	3.56	4.11	3.33	4.60
	Influenza	3.66	3.88	4.33	4.60
	Measles	3.78	4.11	4.33	4.80
	Mumps	3.33	3.66	4.00	4.60

TABLE 4.5 (continued)

Educational Content		Briceville Mean Rating Student	Briceville Mean Rating Parent	Gibbs Mean Rating Student	Gibbs Mean Rating Parent
5. Communicable diseases:	Pneumonia	3.56	3.78	4.00	4.60
	Poliomyelitis	3.56	3.66	4.00	4.60
	Rheumatic Fever	3.33	3.78	3.83	4.60
	Rubella	3.66	4.00	4.00	4.60
	Scarlet Fever	3.33	3.88	3.50	4.60
	Smallpox	3.11	3.11	3.50	4.20
	Syphilis	3.44	3.88	3.17	4.60
	Tetanus	4.22	4.38	4.17	4.75
	Tuberculosis	3.66	3.88	4.00	4.60
	Whooping Cough	3.56	3.78	4.00	4.60
6. Functions of teeth		4.40	4.44	4.42	4.33
7. Tooth decay factors		4.60	4.66	4.85	5.00
8. Value of exercise		4.00	3.88	4.42	4.50
9. Food variety		4.40	4.60	4.57	4.86
10. Balanced diet		4.40	4.50	4.57	4.71
11. Basic physical human needs		3.60	3.50	4.14	3.86
12. Protection systems:	Skin	3.80	3.56	4.43	4.17
	White Corpuscles	3.20	3.33	3.71	4.00
	Antibodies	3.10	3.20	3.57	3.83
	Natural Immunity	3.50	3.66	3.86	4.00
	Acquired Immunity	3.70	4.33	3.86	4.14
13. Value of rest and sleep		4.60	4.70	5.00	4.57
14. Varying needs for sleep		4.30	4.40	4.57	4.57
15. Physical illness prevention		4.20	4.33	4.14	4.33

TABLE 4.5 (continued)

Educational Content		Briceville Mean Rating Student	Briceville Mean Rating Parent	Gibbs Mean Rating Student	Gibbs Mean Rating Parent
C. Community Health					
1. Community responsibilities for health:	Water Purification	3.30	4.10	2.86	4.33
	Sewage Disposal	3.30	4.11	3.43	4.50
	Air Purification	2.80	3.44	3.14	4.00
	Milk Treatment	3.40	3.88	3.57	4.17
	Food Inspection	3.40	3.77	3.43	4.00
	Insect Control	3.50	4.00	3.57	4.33
	Sanitation Inspections	3.60	4.11	3.57	4.33
	Disease Screening	3.80	4.11	4.00	4.50
	Immunizations	4.20	4.44	4.28	5.00
	Health Education	4.44	4.22	4.86	5.00
2. Individual measures for community health:	Staying home with sick	4.20	4.40	4.71	4.57
	Obtaining immunizations	4.60	4.70	5.00	5.00
	Covering nose and mouth when coughing and sneezing	4.60	4.70	4.86	5.00
	Washing hands	4.80	4.70	5.00	5.00
	Maintaining clean environment	4.40	4.60	4.57	4.86
3. Pollution:	Environmental Pollution	3.70	4.20	4.00	4.43
	Pollution Solutions	3.80	4.10	4.14	4.43

TABLE 4.6

COMPARISON OF LEARNING OPPORTUNITIES FOR PILOT AND FINAL PROGRAMS

Program Phase	Pilot Program	Final Program
I. Day One (Student):	A. "Define health"	A. "Health is . . ."
	B. "Describe poor health"	B. "Poor health is. . ."
	C. "Specify health problems"	C. "Some health problems which are importane to me are . . ."
	D. "Define Prevention"	D. "Prevention is . . ."
	E. "How can you improve your health?"	E. "I can improve my health by . . ."
	F. "How can you improve your family's health?"	F. "I can improve my family's health by . . ."
	G. "How can you improve your community's health?"	G. "I can improve my community's health by. . ."
II. Day Two (Student):	A. Development of group definition of health	A. Development of group definition of health
	B. Discussion of student health needs and concerns	B. Development of group definition of prevention
	C. Development of group definition of prevention	C. Distinction made between treatment and prevention
	D. Discussion of student involvement in family and community health	D. Discussion of student health needs and concerns

TABLE 4.6 (continued)

Program Phase	Pilot Program	Final Program
II. Day Two (Student):		E. Discussion of interrelatedness of individual, family and community F. Discussion of student involvement in family and community health.
III. Day Three (Student):	A. Presentation of human needs for love, security, recognition and independence B. Definition of values, value examples, personal value priorities C. How diseases spread (especially emphasizing unsanitary conditions) D. Film: Insects as Carriers of Disease E. Film discussion--various disease causes and how they may be prevented: 1. Common Cold 2. Measles 3. Rubella	A. Presentation of human needs for love, security, recognition and and independence B. Definition of values, value examples, personal value priorities C. How diseases spread (especially emphasizing unsanitary conditions) Film: Insects as Carriers of Disease E. Film discussion--various disease causes and how they may be prevented: 1. Common Cold 2. Measles 3. Rubella

TABLE 4.6 (continued)

Program Phase	Pilot Program	Final Program
III. Day Three (Student):	4. Tuberculosis 5. Tetanus	4. Mumps 5. Poliomyelitis 6. Tetanus 7. Tuberculosis 8. Whooping Cough
	F. Slide presentation with intermittent discussion: 1. Water Pollution 2. Air Pollution 3. Land Pollution 4. Dental Health 5. Public Health Services	F. Slide presentation with intermittent discussion: 1. Water Pollution 2. Air Pollution 3. Land Pollution 4. Dental Health 5. Public Health Services
	G. Summary emphasizing distinction between treatment and prevention, and responsibilities of individual, family, and community for health	G. Summary emphasizing distinction between treatment and prevention, and responsibilities of individual, family, and community for health
IV. Evening Session (Parents):	A. Description of work done by their children (their definitions of health and prevention, and ideas for involvement)	A. Description of work done by their children (their definitions of health and prevention, and ideas for involvement)

TABLE 4.6 (continued)

Program Phase	Pilot Program	Final Program
IV. Evening Session (Parents):	B. ~~Presentation~~ of human needs for love, security, recognition, and independence, leading to social responsibility	B. Presentation of human needs for love, security, recognition, and independence, leading to social responsibility
	C. Discussion of value examples and priorities	C. Discussion of value examples and priorities
	D. How diseases spread (especially emphasizing unsanitary conditions)	D. How diseases spread (especially emphasizing unsanitary conditions)
	E. Film: Looking at Children	E. Film: Looking at Children
	F. Film discussion--causes of disease and their prevention: 1. Common Cold 2. Influenza 3. Measles 4. Rubella 5. Tetanus 6. Tuberculosis	F. Film discussion--causes of disease and their prevention: 1. Common Cold 2. Influenza 3. Measles 4. Rubella 5. Poliomyelitis 6. Tetanus 7. Tuberculosis 8. Whooping Cough

TABLE 4.6 (continued)

Program Phase	Pilot Program	Final Program
IV. Evening Session (Parents):	G. Slide Presentation with intermittent discussion: 1. Water Pollution 2. Air Pollution 3. Land Pollution 4. Dental Health 5. Public Health Services	G. Slide Presentation with intermittent discussion: 1. Water Pollution 2. Air Pollution 3. Land Pollution 4. Dental Health 5. Public Health Services
	H. Summary emphasizing distinction between treatment and prevention and responsibilities of individual, family, and community for health	H. Summary emphasizing distinction between treatment and prevention, and responsibilities of individual, family and community for health

It was noted during the pilot program on the first day that it was somewhat difficult for the students to think in terms of definitions for specific concepts like health and prevention. This approach seemed a little too unrealistic to a few of the students. For this reason, the final program procedure on the first day involved the completion of sentences, such as "health is . . . ." This seemed to be easier for the students in which to participate. Whenever a definition was asked for, there was the implication of "schoolwork;" however, when a student was asked to complete a thought in his own words, there appeared to be more of a sense of personal participation. Underscoring of the words "my," "family," and "community" was done for the final program in order to begin an emphasis on these major distinctions early in the program, since their interrelatedness would be established in the remaining sessions.

Based on the pilot program, the educational program for the second day was rearranged somewhat for the final program, due to a desire to have a more ordered and interconnected arrangement of learning opportunities. Thus, the development of group definitions for health and prevention in the final program were aligned closely together, leading to an eventual distinction between treatment and prevention.

Another addition involved the discussion of the interrelatedness of the individual, family, and community in order to firmly implant the idea of overall personal responsibilities.

The only major change between the pilot program and the final program for day three involved the discussion of a few extra diseases which had been highly rated by the jurors. This was the same distinction which was made between the two programs involving the parents.

IV. PROGRAM EVALUATION

The evaluation of the effect of the family health education program involved the measurement for statistical significance between group gain scores, which were obtained from the pretest to posttest differences. The actual number of subjects utilized for these calculations is presented in Table 4.7. The six null hypotheses are the following:

1. There are no significant differences in the pretest to posttest preventive attitude gain scores among students in Groups I, II, III, and IV.
2. There are no significant differences in the pretest to posttest preventive attitude gain scores among parents in Groups I, II, III, and IV.
3. There is no significant difference in the pretest to posttest preventive attitude gain scores between

TABLE 4.7

RESEARCH DESIGN FOR FINAL PROGRAM: NUMBER OF SUBJECTS USED IN STATISTICAL CALCULATIONS

Group Number And Type of Education	Students		Parents	
	Pretest	Posttest	Pretest	Posttest
Group I Parent & Student Education	24	24	11	11
Group II Parent Education	20	20	7	7
Group III Student Education	19	19	15	15
Group IV Control	22	22	19	19

students and parents involved in the mutual education program (Group I).

4. There is no significant difference in the pretest to posttest preventive attitude gain scores between students and parents involved in the parent education program (Group II).
5. There is no significant difference in the pretest to posttest preventive attitude gain scores between students and parents involved in the student education program (Group III).
6. There is no significant difference in the pretest to posttest preventive attitude gain scores between students and parents involved in the non-educational situation (Group IV).

The test instrument which was used for all subjects as a pretest and posttest was the Attitudinal Inventory of Prevention which had been developed earlier by the investigator (see Appendix D). As shown in Table 4.7, in comparison with Table 3.1 (page 54), the total number of subject inventories which was utilized for the calculations was based upon the number of posttests which could be obtained.

For the remainder of this section, each hypothesis will be statistically examined. A discussion of the data input, statistical analysis, and results will be presented for each one.

The first null hypothesis: There are no significant differences in the pretest to posttest preventive attitude gain scores among students in Groups I, II, III, and IV. Statistical analysis resulted in its acceptance.

The data input for this calculation required the computation of the differences between the pretest to post-test scores of all students in Groups I, II, III, and IV, the results of which are presented in Table 4.8.

The statistical analysis of these data requires the application of the Kruskal-Wallis one-way analysis-of-variance test, since non-parametric techniques were selected by the investigator to measure the ordinal, distribution-free data. The test is able to examine the significance between group gain scores for all possible two-group comparisons with the student data.

The gain scores of each individual in a particular group were ranked in comparison with all other groups. The sums of the ranks were taken and the formula was applied. For the student data, the H value was 2.890. Since there are more than five elements in each group, the chi-square table is used with k - 1 degrees of freedom (10:188), in order to find the necessary value for a probability level of .05. The value of H should be $\geq$6.251 (10:264). Thus, the differences between the four groups in any two-group comparison are not considered to be significant, and the null hypothesis is accepted.

TABLE 4.8

STUDENT AND PARENT PRETEST TO POSTTEST
SCORE DIFFERENCES

Group Number	Identification Number	Score Difference Student	Parent
I	1	-12	
I	2	14	- 4
I	3	10	
I	4	18	2
I	5	3	
I	6	-16	
I	7	3	
I	8	2	
I	9	2	- 1
I	10	-11	
I	11	- 3	-15
I	12	- 1	3
I	13	1	5
I	14	-11	
I	15	12	
I	16	2	6
I	17	12	- 4
I	18	-16	
I	19	- 1	-22
I	20	8	
I	21	- 4	
I	22	4	- 2
I	23	- 6	5
I	24	- 4	
II	25	4	7
II	26	0	
II	27	-24	
II	28	- 2	7
II	29	-26	
II	30	1	0
II	31	5	
II	32	- 5	0
II	33	12	- 4
II	34	- 2	
II	35	4	
II	36	- 1	
II	37	-10	

TABLE 4.8 (continued)

Group Number	Identification Number	Score Difference Student	Parent
II	38	1	
II	39	0	- 4
II	40	1	
II	41	19	
II	42	-17	
II	43	4	2
II	44	-12	
III	45	35	
III	46	- 1	- 3
III	47	- 9	- 6
III	48	8	
III	49	11	11
III	50	- 4	
III	51	8	
III	52	- 2	- 2
III	53	42	- 2
III	54	- 3	
III	55	11	-19
III	56	- 3	- 1
III	57	0	- 3
III	58	-14	
III	59	- 3	
III	60	1	4
III	61	-17	- 7
III	62	- 8	0
III	63	14	-36
IV	64	7	- 5
IV	65	- 4	-15
IV	66	9	
IV	67	- 9	- 4
IV	68	10	- 2
IV	69	19	- 6
IV	70	-27	- 1
IV	71	14	- 3
IV	72	-20	2
IV	73	31	-15
IV	74	14	
IV	75	2	2
IV	76	- 7	

TABLE 4.8 (continued)

Group Number	Identification Number	Score Difference Student	Parent
IV	77	9	-12
IV	78	9	13
IV	79	- 2	- 8
IV	80	8	14
IV	81	- 9	- 1
IV	82	6	-21
IV	83	10	
IV	84	28	11
IV	85	- 3	-16
III	86		- 4*
III	87		10*
III	88		- 5*
IV	89		- 2*

*These parent score differences were assigned separate identification numbers since their children did not complete the pretest and posttest series. However, their values were incorporated into their respective group values.

For the sample population tested, no statistically significant differences between any of the four groups could be detected. Two specific factors must be included in this interpretation. First, the number of subjects in each group was somewhat low. This has the tendency of somewhat reducing the generality of the results, whether they are significant or not. And second, the control group population was obtained from the same fifth-grade student body as the other three groups. This may have allowed for some "contamination" of the control group members by virtue of their curiosity. Nonetheless, for the purposes of this study, the student treatment groups did not perform significantly better than the student non-treatment groups.

The second null hypothesis: There are no significant differences in the pretest to posttest preventive attitude gain scores among parents in Groups I, II, III, and IV. Statistical analysis resulted in its acceptance.

The data input for this calculation was obtained from the pretest to posttest score differences for all parents in Groups I, II, III, and IV. This totals 52 gain scores, and they are presented in Table 4.8. Four of these parents completed the pretest and posttest, but their children did not (basically due to absences). Since each subject was assigned an identification number based on numbering the students (to enable the parents to be matched with their

children for later calculations), these four parents were assigned numbers 86 through 89 so that the computer would consider them "unmatched."

The Kruskal-Wallis one-way analysis-of-variance test was used with this data, resulting in an H value of 2.763. As with the students, in order to have significance at the .05 level, the value of H should be $\geq$ 6.251. The differences between the four groups in any two-group comparison is not considered to be significant, and thus the null hypothesis is accepted.

In examining the non-significance of the four group differences, only the small number of subjects in each group should be considered, and not the possibility of the same type of "contamination" as with the students. The entire parent population of 52 people never assembled as a complete group during this research. Overall, these treatment groups did not perform significantly better than did the non-treatment groups.

The investigator next attempted to examine parent and student subjects who were in the same type of group, since both subject categories took the same type of inventory. In the following instances, the number of parents in a particular group is matched with the same number of students, based on their identification numbers.

The third null hypothesis: There is no significant difference in the pretest to posttest preventive attitude gain scores between students and parents involved in the mutual education program (Group I). Statistical analysis resulted in its acceptance.

The data input for this calculation was comprised of the 11 parent scores and the 11 scores of their children. In order to statistically analyze these gain scores, the Mann-Whitney U test was used.

As with the Kruskal-Wallis test, the Mann-Whitney U test involves the ranking of the gain scores of each individual in a particular group in comparison with the other group. The sum of the ranks are taken and the formula is applied. The Group I data for the student and parent comparison resulted in a U value of 44.00, as shown in Table 4.9. A Mann-Whitney U table is used next in order to find the necessary value for a probability level of .05 in a two-tailed test (10:274). The value of U should be $\leq$30.00 when there are 11 observations in each category. Thus, the differences between the gain values in the student and parent populations of Group I are not considered to be significant, and the null hypothesis is accepted.

This particular finding could be expected considering that the students and parents basically received the same

TABLE 4.9

COMPARISON OF MANN-WHITNEY U STATISTICS
FOR GROUPS IN FINAL PROGRAM

	Group I		Group II		Group III		Group IV	
	Student (T)	Parent (T)	Student	Parent (T)	Student (T)	Parent	Student	Parent
Group I								
Student (T)								
Parent (T)	44.00		31.50		57.00		65.50	
Group II								
Student	35.00							
Parent (T)	32.00	30.50	23.00		41.00		49.50	
Group III								
Student (T)	51.50							
Parent	30.00*	52.50	20.50	25.00	51.00		70.00	
Group IV								
Student	98.50		54.50		104.00			
Parent	52.50*	86.00	37.50	41.00	84.50	114.00	116.00*	

*Significant at $P \leq .05$

T = Treatment

In the one-tail statistics, the student and parent categories in the horizontal part of the Table have the highest gain score totals.

type of educational experience regarding prevention. Again, consideration must be given to the small N which was involved which reduces the generality of this finding.

The fourth null hypothesis: There is no significant difference in the pretest to posttest preventive attitude gain scores between students and parents involved in the parent education program (Group II). Statistical analysis resulted in its acceptance.

The data input for this calculation was comprised of the 7 parent scores and the 7 scores of their children. The Mann-Whitney U test was used in comparing Group II student and parent gain scores, resulting in a U value of 23.00. Since there were 7 observations in each category, the value of H should be $\leq$ 12.00, for the .05 level of probability (one-tailed). The differences between the gain values in the Group II student and parent populations are considered non-significant. Thus, the null hypothesis is accepted.

The fifth null hypothesis: There is no significant difference in the pretest to posttest preventive attitude gain scores between students and parents involved in the Student education program (Group III). Statistical analysis resulted in its acceptance.

The data input for this computation included the 12 parent gain scores and the 12 student gain scores. The Mann-Whitney U test was used in the comparison of these

scores, resulting in a U value of 51.00. At the .05 level of probability (one-tailed), with 12 observations in each category, the value of U should be $\leq$ 42.00 for significance. Due to the insignificant U value, the null hypothesis is accepted.

Since only the students of Group III received the educational program, and only the parents of Group II received the educational program, significant differences for their respective hypotheses (five and four) would be expected. The small N in each instance may have been a contributing factor, along with the more obvious consideration that the educational program simply was not that effective.

The sixth null hypothesis: There is no significant difference in the pretest to posttest preventive attitude gain scores between students and parents involved in the non-educational situation (Group IV). Statistical analysis resulted in its rejection.

The 19 parent scores and the 19 student scores constituted the data input. Again, the Mann-Whitney U test was used in comparing the student and parent gain scores, resulting in a U value of 116.00. Since there were 19 observations in each category, the value of U should be $\leq$ 123.00, for the .05 level of probability (one-tailed). The differences between the gain values in the Group IV student and parent populations are considered significant, and thus the null hypothesis is rejected.

This finding is a most unexpected one. It indicates that a student population with the same number of subjects as a parent population had a significant gain on the same type of inventory. Such evidence indicates that there may have been a possible "contamination" of the control group by members of the treatment groups. Only the student population had the opportunity to interact as a total group after the treatment sessions.

Because of this finding, the investigator developed three sub-hypotheses which incorporated the parent populations of Groups III and IV as control groups for the two student treatment Groups I and III.

The first of these sub-hypotheses was as follows: There is no significant difference in the pretest to posttest preventive attitude gain scores between students in Group I and parents in Group III. Statistical analysis resulted in its rejection.

The data input for this calculation included the 11 student score values and the 12 parent score values of the respective groups. Using the Mann-Whitney U test, a value of 30.00 was obtained. Since there were 11 observations in one category and 12 in the other, the value of U should be $\leq$38.00, for the .05 level of probability (one-tailed). Thus, the gain values of the students in Group I are considered to

be significantly higher than those of the parents in Group III, and the null hypothesis is rejected.

The second of the sub-hypotheses: There is no significant difference in the pretest to posttest preventive attitude gain scores between students in Group I and parents in Group IV. Statistical analysis resulted in its rejection.

The data input for this calculation involved the 11 student score values and the 19 parent score values of their respective groups. Using the Mann-Whitney U test, a value of 52.50 was obtained. Since there were 11 observations in one category and 19 in the other, the value of U should be $\leq$65.00, for the .05 level of probability (one-tailed). The null hypothesis is rejected, since in this comparison, the gain values of the students in Group I are considered to be significantly higher than those of the parents in Group IV.

The third sub-hypothesis: There is no significant difference in the pretest to posttest preventive attitude gain scores between students in Group III and parents in Group IV. Statistical analysis resulted in its acceptance.

For this computation, the 12 student score values and the 19 parent score values were utilized. Using the Mann-Whitney U test, a value of 84.50 was obtained. Since there were 12 observations in one category and 19 in the other, the value of U should be $\leq$72.00, for the .05 level of probability (one-tailed). Thus, the differences between the

gain values in the Group III student population and the Group IV parent populations are considered non-significant, and the null hypothesis is accepted.

In the two tests for significance between the student treatment Group I and the parent control Groups III and IV, the null hypotheses were rejected. The tests for significance involving student treatment Group III and the parent control Groups III (hypothesis five) and IV (sub-hypothesis three) led to the acceptance of the null hypotheses. It will be remembered that Group I involved the treatment of both the student and the parent, and their interaction may have resulted in a better form of education as indicated by the test significance. However, these findings should be considered with caution since the control group population (parent Groups III and IV) was not matched in age nor educational experience with the student treatment population.

Nontheless, the findings do suggest possible program significance for the student treatment Group I, and possible "contamination" of the student control groups (when examined in conjunction with the findings of hypothesis six). The findings with respect to the educational program for the parents in Groups I and II are most distinct: No statistical significance was detected in any of the group comparisons. It is quite possible that this resulted from the reduction in time allotted for the parent program (one evening), as well as having a small N of 52 who were divided into four groups.

V. SUMMARY

The initial analytic procedure involved the analysis of data relating to the development of the Attitudinal Inventory of Prevention. The investigator initially developed 80 statements which were further expanded into 125, so that they might be sent to a national jury. Prior to this, the fifth-grade reading level of the instrument was assured following an evaluation of all 125 statements by five fifth-grade teachers and 60 fifth-grade students from two Knoxville City Schools. A total of 41 national jurors in the health profession were sought, 35 of whom stated they would participate. From the results of the 29 jurors who returned the Inventory Rating Scale, mean values for each statement were calculated. A total of 26 statements were removed from the Inventory, since their mean values were below 3.00. This procedure constituted a content validation of the instrument. The discriminating ability (between high and low scoring groups) of each statement was next considered when the 99 item inventory in a Likert-type format was administered to 53 fifth-grade students and 46 of their parents. T-test values were calculated for each statement, resulting in discrimination values. The final Inventory contained 32 statements, and its reliability was calculated by using a one-way analysis-of-variance test on the final program pretest data

from students and parents. The student alpha reliability coefficient was 0.876, and the parent alpha was 0.890.

The next procedure involved the development of the family health education program. A Health Education Program Rating Scale was designed, which enabled a jury of county and state representatives to rate the proposed program structure and educational content on a five-point scale. The ratings of the state representatives were incorporated into the two county ratings. The decision for item selection then was based on the highest mean values above 3.00. With an initial educational program drafted from this information, it was next presented at the Briceville Elementary School as a pilot program. Based on administrative and temporal issues which were discovered during this trial run, the program was somewhat altered in preparation for its final presentation.

For the final presentation of the program at the Gibbs Elementary School, the students were randomly assigned to one of four groups: Group I (student and parent education), Group II (parent education), Group III (student education), and Group IV (control). The parents were assigned to one of the four groups based on the placement of their children. The Attitudinal Inventory of Prevention was used as a pretest and posttest for students and parents, and gain scores were calculated based on the difference between the two tests. The Kruskal-Wallis one-way analysis-of-variance was used to

determine if there was significance among the four groups in the student category, and the same procedure was followed with regard to the parent category. No significance was found.

Comparisons between different groups of the two categories were next attempted using the Mann-Whitney U test. A significant difference between Group IV student gain values and Group IV parent gain values was detected. This suggested the possible "contamination" of the student control group by the treatment groups. Three sub-hypotheses were developed, and significance was found between the Group I student gain values and the Group III parent gain values, as well as with the Group IV parent gain values. This pointed to a significant change of attitudes in the students who were involved in the mutual education situation. No significant difference was detected for any parent group.

CHAPTER V

SUMMARY, FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

I. SUMMARY

The basic purpose of this research was to develop, implement, and properly evaluate a health education program which attempted to clarify the concept of prevention for students and their parents. To do this, several procedures were employed. First, an attitudinal inventory for the detection of an individual's preventive nature was developed. An initial grouping of 80 attitudinal statements was expanded into a total of 125 statements in order to be evaluated by a national jury. The 125 statements were examined by five fifth-grade teachers and 60 fifth-grade students. Their recommendations led to the alteration of statements so that they would be at the fifth-grade reading level. A request for serving on the national jury was sent out to 41 members of Departments of Health, Physical Education, and Recreation, and Health and Safety. Inventory rating scales were then sent to the 35 who responded affirmatively, and the 29 who returned them were included in the evaluation procedure. Mean values for each statement

were calculated, and 26 statements were excluded because they fell below 3.00.

Next, the 99-statement inventory was arranged in a Likert format with each statement having the possible responses of Strongly Agree, Agree, Undecided, Disagree, Strongly Disagree. The inventories were then administered to a population of 53 fifth-graders and 46 of their parents in order to use their scores in a t-test item discrimination analysis. The selection of the 32 statements for the final inventory resulted from a consideration of (1) the national jury scores, (2) the item discrimination scores, (3) the necessity to cover major areas of the concept of prevention with an equal number of positive and negative statements, (4) the elimination of statement duplication, and (5) the investigator's personal judgment which was tempered by the written comments of the national jury members. Reliability of the inventory was also calculated, based upon the final program pretest scores of the students and parents.

The next stage was the program development. This involved the construction of the Health Education Program Rating Scale in which a county and state jury could evaluate the proposed program structure and educational content for prevention on a scale of Not Acceptable, Somewhat Acceptable, Acceptable, Very Acceptable, or Indispensable. Representatives from each one of the two counties in which the

elementary schools were located were incorporated as jury members, as well as four State representatives, whose score values were included in each of the county ratings. Another major portion of the program development involved the use of one of the elementary schools for a pilot program in order to attempt a trial run. Based on this, the final program was developed and presented at the second elementary school.

The final stage was the evaluation of the effects of the educational program by using the attitudinal inventory previously developed. The inventory was incorporated as a pretest and posttest for the student and parent populations. Four groups for the program were developed: (1) Group I for student and parent education, (2) Group II for only parent education, (3) Group III for only student education, and (4) Group IV which involved no educational experience, and thus served as a control. Analysis for significance among group pretest to posttest gain scores involved the use of non-parametric tests.

II. FINDINGS

Based on the analysis of the data, the following findings were derived:

1. Item suitability for inclusion in the Attitudinal Inventory of Prevention was based on content validity

ratings of 3.00 and above, and on t-test item discrimination probabilities of .001 or better.

2. The Attitudinal Inventory of Prevention had reliability coefficients of 0.876 for students and 0.890 for parents.
3. Item suitability for inclusion in the final educational program was based on the highest mean rating values above 3.00 in the Health Education Program Rating Scale, and pilot program evaluation.
4. There were no significant differences between group gain score values in the student category.
5. There were no significant differences between group gain score values in the parent category.
6. The students in Group I (student and parent education) had significantly higher gain score values than the parents in Groups III and IV (no parent education).
7. There was no significant difference between Group III (student education only) student gain score values and the Group III and IV parent values.
8. Statistical evaluation of the effects of the educational program led to the possible consideration that the control group was influenced by the members of the treatment groups. Students in Group IV (control) had significantly higher gain scores

than parents in Group IV (control). Added evidence of this influence is provided by Group I comparisons in which no significance was detected when it was compared with Group IV students, but it was detected when compared with Group IV parents.

III. CONCLUSIONS

Based on the analysis of the research data and the derived findings, the following major conclusions are presented:

1. The Attitudinal Inventory of Prevention is a valid instrument at the fifth-grade level for detecting an individual's attitude toward prevention.
2. The Attitudinal Inventory of Prevention is a reliable instrument which provides a reasonable degree of internal consistency.
3. The study family health education program which incorporates the concept of prevention is a workable program which presents some of the major health aspects regarding prevention.
4. Students in the mutual education situation (Group I) experienced the most attitudinal change of any group (statistically significant, when compared with the parent control group), possibly due to an interaction with their parents who also were involved in the program.

5. Parents involved in the educational program were not significantly influenced by it. This possibly may have been due to inadequacies in the program itself, program time limitations, or the small subject N's.
6. All of the research findings for the educational program evaluation should be tempered by the consideration of possible influence on the student control group by the treatment groups, and the relatively small number of subjects incorporated in the study (85 students and 52 parents).

IV. RECOMMENDATIONS

Based on the research conclusions, the following recommendations are advanced:

1. It is recommended that the Attitudinal Inventory of Prevention be considered for use in other educational settings in which the detection of preventive nature is required.
2. It would also be desirable to have the reliability of the Inventory reexamined by a variety of statistical treatments on data obtained from future applications of it.
3. It is recommended that the format provided by the Health Education Program Rating Scale be applied to other education programs for their evaluation.

4. The family health education program incorporating the concept of prevention should be presented to other populations, making certain that the proposed structure and content first have been evaluated as to its suitability for a specific populace.
5. Evaluation of the effects of the family health education program should be accomplished in the future by using a control group population which is matched with the treatment group in age and educational experience, but not in the same location.
6. It is also recommended that future programs attempt a long-term study which incorporates a determination of attitudinal retention and preventive behavior.
7. It is finally recommended that careful consideration be given regarding other possible ways to involve the entire family in community-related health education programs.

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APPENDIXES

APPENDIX A

FIRST DRAFT OF THE ATTITUDINAL INVENTORY OF PREVENTION

GDG/73

SERIES: A B C NUMBER _____

Directions: Please read each one of the following statements.

Decide how you feel about each statement.

Then mark only one of the five choices.

STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE

	STRONGLY AGREE	AGREE	UNDEC.	DIS-AGREE	STRONGLY DISAGREE
1. You should cover your nose and mouth with a handkerchief when coughing and sneezing.	☐	☐	☐	☐	☐
2. You only need to have your teeth examined by a dentist every 5 years.	☐	☐	☐	☐	☐
3. You should wash your hands everytime after using the toilet.	☐	☐	☐	☐	☐
4. Only doctors can prevent disease.	☐	☐	☐	☐	☐
5. You can tell safe drinking water by looking at it.	☐	☐	☐	☐	☐

	STRONGLY AGREE	AGREE	UNDEC.	DIS-AGREE	STRONGLY DISAGREE
6. Healthy people should be examined by a doctor every 2 years.	☐	☐	☐	☐	☐
7. Since nobody gets polio anymore, you do not need to get a polio shot.	☐	☐	☐	☐	☐
8. You should always go to bed when feeling sick.	☐	☐	☐	☐	☐
9. You should not be concerned about your body now, since illnesses come in later life.	☐	☐	☐	☐	☐
10. Mental health is just as important as physical health.	☐	☐	☐	☐	☐
11. It is all right to cry when you feel hurt.	☐	☐	☐	☐	☐
12. Only a doctor needs to know the signs and symptoms of diseases.	☐	☐	☐	☐	☐
13. It is best to always treat yourself when sick, in order to save money.	☐	☐	☐	☐	☐
14. You should only exercise when you are overweight.	☐	☐	☐	☐	☐

	STRONGLY AGREE	AGREE	UNDEC.	DIS-AGREE	STRONGLY DISAGREE
15. It is best to go to bed only when you are tired.	☐	☐	☐	☐	☐
16. It is important to be nice to everyone.	☐	☐	☐	☐	☐
17. A busy person is a happy person.	☐	☐	☐	☐	☐
18. You should talk to someone else when you have a big problem.	☐	☐	☐	☐	☐
19. A good way to solve a problem is to worry about it.	☐	☐	☐	☐	☐
20. There is very little a mother can do for the health of a child <u>before</u> it is born.	☐	☐	☐	☐	☐
21. The more activities you do by yourself, the better off you are.	☐	☐	☐	☐	☐
22. <u>What</u> you eat, and <u>how much</u> you eat, are only important considerations for the overweight person.	☐	☐	☐	☐	☐
23. Mentally ill people are always born with their illness.	☐	☐	☐	☐	☐

	STRONGLY AGREE	AGREE	UNDEC.	DIS-AGREE	STRONGLY DISAGREE
24. You can stop most sickness from occurring.	☐	☐	☐	☐	☐
25. It is always best to work when you feel sick.	☐	☐	☐	☐	☐
26. The only shot you need during your lifetime is the one which protects you against smallpox.	☐	☐	☐	☐	☐
27. There is very little you can do to keep from getting sick.	☐	☐	☐	☐	☐
28. It is important to help other people.	☐	☐	☐	☐	☐
29. You should always be sincere and honest.	☐	☐	☐	☐	☐
30. You should see a doctor regularly to get his shots against disease.	☐	☐	☐	☐	☐
31. Adults are able to catch childhood diseases like chickenpox.	☐	☐	☐	☐	☐
32. Water that looks clear and clean is safe to drink.	☐	☐	☐	☐	☐

	STRONGLY AGREE	AGREE	UNDEC.	DIS-AGREE	STRONGLY DISAGREE
33. A clean environment is necessary for healthy living.	☐	☐	☐	☐	☐
34. The T.B. skin test is not worth the time and money involved.	☐	☐	☐	☐	☐
35. It is important to make friends with other people.	☐	☐	☐	☐	☐
36. You can take for granted that a school's water supply is inspected regularly.	☐	☐	☐	☐	☐
37. A pregnant woman should not smoke.	☐	☐	☐	☐	☐
38. A dentist should only be seen when a tooth hurts.	☐	☐	☐	☐	☐
39. It is certain that we will lose most of our teeth as we get older.	☐	☐	☐	☐	☐
40. The things a group wants to do should always be the same things you want to do.	☐	☐	☐	☐	☐
41. The things a person learns with his family are not very important at all.	☐	☐	☐	☐	☐

	STRONGLY AGREE	AGREE	UNDEC.	DIS-AGREE	STRONGLY DISAGREE
42. Cleanliness only benefits your appearance.	☐	☐	☐	☐	☐
43. Each member of the family should respect the feelings of every other member.	☐	☐	☐	☐	☐
44. There is no way of avoiding disease.	☐	☐	☐	☐	☐
45. Each member of the family should have specific responsibilities.	☐	☐	☐	☐	☐
46. Health only means not being sick.	☐	☐	☐	☐	☐
47. Inspection of institutional food helps protect prople from disease.	☐	☐	☐	☐	☐
48. It is best to go to a doctor only when you feel pain.	☐	☐	☐	☐	☐
49. Disease is always caused by some form of insect.	☐	☐	☐	☐	☐
50. Environmental inspections at school and work are necessary for your health.	☐	☐	☐	☐	☐

	STRONGLY AGREE	AGREE	UNDEC.	DIS-AGREE	STRONGLY DISAGREE
51. You can always be sure that well water is pure and safe to drink.	☐	☐	☐	☐	☐
52. You can always be sure that water from a faucet in your kitchen is pure and safe to drink.	☐	☐	☐	☐	☐
53. All children in the family should be treated alike when they are sick.	☐	☐	☐	☐	☐
54. Germs are everywhere.	☐	☐	☐	☐	☐
55. You should go to the dentist for regular checkups.	☐	☐	☐	☐	☐
56. Health inspections perform a valuable service in protecting a community's health.	☐	☐	☐	☐	☐
57. Gaining weight always means that your meals are nourishing and well-balanced.	☐	☐	☐	☐	☐
58. You should only visit your dentist when your tooth hurts.	☐	☐	☐	☐	☐

	STRONGLY AGREE	AGREE	UNDEC.	DIS-AGREE	STRONGLY DISAGREE
59. It is best not to talk with anybody about your problems.	☐	☐	☐	☐	☐
60. It is important to make friends.	☐	☐	☐	☐	☐
61. Everybody has problems in life.	☐	☐	☐	☐	☐
62. Good physical health aids good mental health.	☐	☐	☐	☐	☐
63. You should treat a disease yourself whenever possible, in order to save money.	☐	☐	☐	☐	☐
64. It is best to wait until you are sick before visiting a doctor.	☐	☐	☐	☐	☐
65. A baby can be affected by it's mother's food habits <u>before</u> it is born.	☐	☐	☐	☐	☐
66. A health clinic can only be of help to you if you are sick.	☐	☐	☐	☐	☐
67. Shots against disease are worth the time it takes to get them.	☐	☐	☐	☐	☐

	STRONGLY AGREE	AGREE	UNDEC.	DIS-AGREE	STRONGLY DISAGREE
68. Shots against disease are worth the money they cost.	☐	☐	☐	☐	☐
69. Dental care is not necessary until the child is 10 years old.	☐	☐	☐	☐	☐
70. Proper nutrition can actually prevent disease.	☐	☐	☐	☐	☐
71. Physical exercise is kid stuff.	☐	☐	☐	☐	☐
72. A T.B. skin test is given only when you have T.B.	☐	☐	☐	☐	☐
73. Childrens' diseases are always mild.	☐	☐	☐	☐	☐
74. All children will get measles.	☐	☐	☐	☐	☐
75. Adults do not have to worry about getting childhood diseases, like measles.	☐	☐	☐	☐	☐
76. You can breathe germs onto another person.	☐	☐	☐	☐	☐

	STRONGLY AGREE	AGREE	UNDEC.	DIS-AGREE	STRONGLY DISAGREE
77. You can spread germs by not washing your hands.	☐	☐	☐	☐	☐
78. When you are sick, it is best to get plenty of rest.	☐	☐	☐	☐	☐
79. You can spread germs by sneezing.	☐	☐	☐	☐	☐
80. You can spread germs by coughing.	☐	☐	☐	☐	☐

APPENDIX B

NATIONAL JURY INVENTORY RATING SCALE

THE UNIVERSITY OF TENNESSEE
College of Education
Knoxville, Tennessee 37916

School of
Health, Physical Education
and Recreation

Department of Health and Safety

October 17, 1973

Dear Juror:

Enclosed you will find a copy of the Attitudinal Inventory of Prevention for your evaluation. This Inventory has been verified to be at the fifth-grade reading level by the Knoxville Board of Education, thus enabling you to concentrate basically upon its curricular validity with respect to prevention. However, if you do wish to comment on the readability level or any other matter, I would greatly appreciate your response in the "comment" space provided on the Inventory.

For your convenience, I have also enclosed a self-addressed, stamped envelope for use in returning the completed form. It would greatly facilitate the process of statistical analysis if you would return the Inventory by November 5.

I again want to emphasize my gratitude to you for your willingness to participate in this important evaluation. Thank you very much.

Sincerely,

Gary D. Gilmore
Doctoral Teaching Assistant

GDG/73

INVENTORY RATING SCALE: NATIONAL JURY

Directions: Enclosed is a list of statements regarding attitudes toward prevention. Please read each statement and use the scale to the right to indicate its acceptability, based upon the degree to which the statement will reveal a test subject's positive or negative preventive nature (test subjects who eventually will respond to these statements will be indicating their agreement or disagreement along a five-point scale). In this manner, you will be judging the curricular validity of these attitudinal statements with respect to prevention. The concept of prevention, for the purpose of this study, has been defined as the forestallment of adverse conditions affecting physical, mental, and social well-being. The inventory has been developed at the fifth-grade level.

The scale values are defined as follows:

1. NOT ACCEPTABLE: The item has no value as an attitudinal statement for revealing the test subject's positive or negative preventive nature.

2. SOMEWHAT ACCEPTABLE: The item has some value as an attitudinal statement for revealing the test subject's positive or negative preventive nature.

3. ACCEPTABLE: The item is valuable as an attitudinal statement for revealing the test subject's positive or negative preventive nature.

4. VERY ACCEPTABLE: The item is very valuable as an attitudinal statement for revealing the test subject's positive or negative preventive nature.

5. INDISPENSABLE: The item is absolutely necessary as an attitudinal statement for revealing the test subject's positive or negative preventive nature.

NOT ACCEPTABLE 1	SOMEWHAT ACCEPTABLE 2	ACCEPTABLE 3	VERY ACCEPTANCE 4	INDISPENSABLE 5

	Please	Circle	Only	One	Value	Comment
1. You can identify safe drinking water by looking at it.	1	2	3	4	5	_____
2. A healthy mind is just as important as a healthy body.	1	2	3	4	5	_____
3. Only a doctor needs to know the signs and symptoms of diseases.	1	2	3	4	5	_____
4. It is best to treat yourself when sick, in order to save money.	1	2	3	4	5	_____
5. You should always go to bed when feeling sick.	1	2	3	4	5	_____
6. There is very little a mother can do for the health of a child before it is born.	1	2	3	4	5	_____
7. You can stop most types of germs from making you sick.	1	2	3	4	5	_____
8. Adults are able to catch childhood diseases like chickenpox.	1	2	3	4	5	_____
9. A clean environment is necessary for healthy living.	1	2	3	4	5	_____
10. A tuberculosis skin test is not worth the time and money involved.	1	2	3	4	5	_____
11. You can take for granted that a school's water supply is inspected regularly.	1	2	3	4	5	_____
12. A dentist should be seen only when a tooth hurts.	1	2	3	4	5	_____
13. Cleanliness only benefits your appearance.	1	2	3	4	5	_____

NOT ACCEPTABLE 1	SOMEWHAT ACCEPTABLE 2	ACCEPTABLE 3	VERY ACCEPTABLE 4	INDISPENSABLE 5

	Please	Circle	Only	One	Value	Comment
14. Health only means not being sick.	1	2	3	4	5	_____
15. It is best to go to a doctor only when you feel pain.	1	2	3	4	5	_____
16. Only insects cause disease.	1	2	3	4	5	_____
17. Shots against disease are worth the time it takes to get them.	1	2	3	4	5	_____
18. Dental care is not necessary until a child is ten years old.	1	2	3	4	5	_____
19. Physical exercise is kid stuff.	1	2	3	4	5	_____
20. You can breathe germs onto another person.	1	2	3	4	5	_____
21. When you are sick it is best to get plenty of rest.	1	2	3	4	5	_____
22. You should cover your nose and mouth when coughing and sneezing.	1	2	3	4	5	_____
23. You only need to have your teeth examined by a dentist once every five years.	1	2	3	4	5	_____
24. Only doctors can prevent disease.	1	2	3	4	5	_____
25. You should thoroughly wash your hands everytime after using the toilet.	1	2	3	4	5	_____
26. Healthy people should be examined by a doctor once every two years.	1	2	3	4	5	_____
27. Since few people get polio anymore you do not need to get a polio shot.	1	2	3	4	5	_____

NOT ACCEPTABLE 1	SOMEWHAT ACCEPTABLE 2	ACCEPTABLE 3	VERY ACCEPTABLE 4	INDISPENSABLE 5

	Please	Circle	Only	One	Value	Comment
28. You should not be concerned about your health now, since illnesses come later in life.	1	2	3	4	5	_____
29. You should only exercise when you are overweight.	1	2	3	4	5	_____
30. You should talk with someone else when you have a big problem.	1	2	3	4	5	_____
31. Mentally sick people are most often born with their illness.	1	2	3	4	5	_____
32. It is best to go to work when you feel sick.	1	2	3	4	5	_____
33. There is very little you can do to keep from getting sick.	1	2	3	4	5	_____
34. Water that looks clear and clean is safe to drink.	1	2	3	4	5	_____
35. You should see a doctor regularly to get shots against disease.	1	2	3	4	5	_____
36. A pregnant woman should not smoke.	1	2	3	4	5	_____
37. It is important to make friends with other people.	1	2	3	4	5	_____
38. It is certain that we will lose most of our teeth as we get older.	1	2	3	4	5	_____
39. There is no way of avoiding disease.	1	2	3	4	5	_____
40. Each member of a family should respect the feelings of every other member.	1	2	3	4	5	_____

NOT ACCEPTABLE 1	SOMEWHAT ACCEPTABLE 2	ACCEPTABLE 3	VERY ACCEPTABLE 4	INDISPENSABLE 5

	Please	Circle	Only	One	Value	Comment
41. You can always be sure that well water is pure and safe to drink.	1	2	3	4	5	_____
42. Health inspections perform a valuable service in protecting a community's health.	1	2	3	4	5	_____
43. Gaining weight always means that your meals are nourishing and well-balanced.	1	2	3	4	5	_____
44. It is best not to talk with anybody about your problems.	1	2	3	4	5	_____
45. Shots against disease are worth the money they cost.	1	2	3	4	5	_____
46. It is best to wait until you are sick before visiting a doctor.	1	2	3	4	5	_____
47. The condition your body is in can affect the condition of your mind.	1	2	3	4	5	_____
48. A baby can be affected by its mother's food habits before it is born.	1	2	3	4	5	_____
49. You should treat diseases yourself in order to save money.	1	2	3	4	5	_____
50. Proper nutrition can actually prevent disease.	1	2	3	4	5	_____
51. You can spread germs by not washing your hands.	1	2	3	4	5	_____
52. A health clinic can only be of help to you if you are sick.	1	2	3	4	5	_____
53. You can always be sure that water from a faucet in your kitchen is pure and safe to drink.	1	2	3	4	5	_____

NOT ACCEPTABLE 1	SOMEWHAT ACCEPTABLE 2	ACCEPTABLE 3	VERY ACCEPTABLE 4	INDISPENSABLE 5

	Please Circle Only One Value	Comment
54. You can spread germs by sneezing.	1 2 3 4 5	_____
55. A good way to solve a problem is to worry about it.	1 2 3 4 5	_____
56. The only shot you need during your lifetime is the one which protects you against smallpox.	1 2 3 4 5	_____
57. Environmental inspections at school and work are necessary to protect your health.	1 2 3 4 5	_____
58. You can spread germs by coughing.	1 2 3 4 5	_____
59. The more things you do by yourself, the better off you are.	1 2 3 4 5	_____
60. Inspection of food in the school cafeteria helps protect people from disease.	1 2 3 4 5	_____
61. Childhood diseases are rarely of a serious nature.	1 2 3 4 5	_____
62. What you eat, and how much you eat, are only important considerations for the overweight person.	1 2 3 4 5	_____
63. Medications used during a previous illness may be reused.	1 2 3 4 5	_____
64. An area can look clean and still contain many germs.	1 2 3 4 5	_____
65. It is certain that all children will get measles.	1 2 3 4 5	_____
66. A tuberculosis skin test is not worth all of the bother involved.	1 2 3 4 5	_____

NOT ACCEPTABLE 1	SOMEWHAT ACCEPTABLE 2	ACCEPTABLE 3	VERY ACCEPTABLE 4	INDISPENSABLE 5

	Please	Circle	Only	One	Value	Comment
67. It is all right to cry when you feel hurt.	1	2	3	4	5	_____
68. It is best to have a scheduled time at which you go to bed.	1	2	3	4	5	_____
69. You should always be sincere and honest when you relate with others.	1	2	3	4	5	_____
70. A community health care clinic is only for use by poor people.	1	2	3	4	5	_____
71. Keeping the environment clean is the responsibility of everybody in the community.	1	2	3	4	5	_____
72. The safest drinking water is that which has no chemicals added to it.	1	2	3	4	5	_____
73. Protective shots for children are essential during their first year.	1	2	3	4	5	_____
74. A proper diet will protect you from illness.	1	2	3	4	5	_____
75. You can count on spring or well water as being safe to drink.	1	2	3	4	5	_____
76. As long as you are not sick, there would be no reason to go to the community health care clinic.	1	2	3	4	5	_____
77. It is important to wash your hands before eating.	1	2	3	4	5	_____
78. It is important to help other people who are in need of aid.	1	2	3	4	5	_____

NOT ACCEPTABLE 1	SOMEWHAT ACCEPTABLE 2	ACCEPTABLE 3	VERY ACCEPTABLE 4	INDISPENSABLE 5

	Please	Circle	Only	One	Value	Comment
79. Each member of the family should have certain responsibilities for assuring a clean household.	1	2	3	4	5	_____
80. All children in the family should receive the same medications when they are sick.	1	2	3	4	5	_____
81. Unsafe drinking water will usually look discolored.	1	2	3	4	5	_____
82. It is better and cheaper to just go ahead and treat yourself when sick.	1	2	3	4	5	_____
83. When you are feeling sick, it is best to go to bed.	1	2	3	4	5	_____
84. Most illnesses can be prevented.	1	2	3	4	5	_____
85. Health is everybody's responsibility.	1	2	3	4	5	_____
86. Daily exercise is only for athletes.	1	2	3	4	5	_____
87. It is better to wait and be sure you are sick before seeing a doctor.	1	2	3	4	5	_____
88. There will always be a cure available for any disease.	1	2	3	4	5	_____
89. It is best to have an easygoing attitude toward other people.	1	2	3	4	5	_____
90. You should consider yourself as a better person than anybody else.	1	2	3	4	5	_____
91. You should demand respect from other people.	1	2	3	4	5	_____

NOT ACCEPTABLE 1	SOMEWHAT ACCEPTABLE 2	ACCEPTABLE 3	VERY ACCEPTABLE 4	INDISPENSABLE 5

	Please	Circle	Only	One	Value	Comment
92. You should consider disappointment as a part of life.	1	2	3	4	5	_____
93. It is important to trust other people.	1	2	3	4	5	_____
94. You should feel that you are part of some group.	1	2	3	4	5	_____
95. You should do something about your problems as soon as they arise.	1	2	3	4	5	_____
96. It is best to plan ahead.	1	2	3	4	5	_____
97. Goals in life always should be set at extremely high levels.	1	2	3	4	5	_____
98. There is no harm in constantly putting things off until tomorrow.	1	2	3	4	5	_____
99. It is important to want to help other people.	1	2	3	4	5	_____
100. Death cannot be prevented, but it can be postponed.	1	2	3	4	5	_____
101. It is important to develop your mind as well as your body.	1	2	3	4	5	_____
102. Almost everybody was meant to get certain diseases, and there is nothing you can do about it.	1	2	3	4	5	_____
103. No matter how far you have to travel, protective shots for children are worth the trip.	1	2	3	4	5	_____
104. You should accept usually being sick as a part of life.	1	2	3	4	5	_____

NOT ACCEPTABLE 1	SOMEWHAT ACCEPTABLE 2	ACCEPTABLE 3	VERY ACCEPTABLE 4	INDISPENSABLE 5

	Please	Circle	Only	One	Value	Comment
105. Each member of the family should know the signs and symptoms of particular diseases.	1	2	3	4	5	_____
106. A mother can contribute to the health of her baby before it is born.	1	2	3	4	5	_____
107. When you get to be an adult, you are safe from most diseases.	1	2	3	4	5	_____
108. Taking early precautions against disease can actually save you money.	1	2	3	4	5	_____
109. A tuberculosis skin test costs too much money.	1	2	3	4	5	_____
110. Germs can only get into your body through a cut in the skin.	1	2	3	4	5	_____
111. The type of food you eat does not really matter, as long as it fills you up.	1	2	3	4	5	_____
112. A tuberculosis skin test is necessary to protect you from disease.	1	2	3	4	5	_____
113. How much it costs to go to the community health care clinic should be the main indicator of whether or not you go.	1	2	3	4	5	_____
114. It is best not to trust other people.	1	2	3	4	5	_____
115. Taking early precautions against disease can actually protect your health.	1	2	3	4	5	_____
116. The community health care clinic is only for sick people.	1	2	3	4	5	_____

NOT ACCEPTABLE 1	SOMEWHAT ACCEPTABLE 2	ACCEPTABLE 3	VERY ACCEPTABLE 4	INDISPENSABLE 5

Please Circle Only One Value

						Comment
117. It is best to help other people as well as yourself.	1	2	3	4	5	_____
118. It is best not to show your emotions.	1	2	3	4	5	_____
119. It is best to save money by using old medicines when you get the same disease again.	1	2	3	4	5	_____
120. Each member of the family is responsible for the family's health.	1	2	3	4	5	_____
121. The community health care clinic can help each member of the family even when they are healthy.	1	2	3	4	5	_____
122. Only children need to go to the community health care clinic.	1	2	3	4	5	_____
123. The pain of disease is far better than the pain of the shots against disease.	1	2	3	4	5	_____
124. Each one of us is responsible for our community's health.	1	2	3	4	5	_____
125. Daily exercise helps keep you healthy.	1	2	3	4	5	_____

GENERAL COMMENTS

Thank You!

_____
Name

APPENDIX C

ATTITUDINAL INVENTORY OF PREVENTION

USED FOR ITEM DISCRIMINATION

GDG/73 ATTITUDINAL INVENTORY OF PREVENTION

NUMBER _____

Directions: Please read each one of the following statements.

Decide how you <u>feel</u> about each statement.

Then mark only <u>one</u> of the five choices.

STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE

	STRONGLY AGREE	AGREE	UNDEC.	DIS-AGREE	STRONGLY DISAGREE
1. A healthy mind is just as important as a healthy body.	☐	☐	☐	☐	☐
2. Only a doctor needs to know the signs and symptoms of diseases.	☐	☐	☐	☐	☐
3. It is best to treat yourself when sick, in order to save money.	☐	☐	☐	☐	☐
4. There is very little a mother can do for the health of a child <u>before</u> it is born.	☐	☐	☐	☐	☐
5. A clean environment is necessary for healthy living.	☐	☐	☐	☐	☐

	STRONGLY AGREE	AGREE	UNDEC.	DIS-AGREE	STRONGLY DISAGREE
6. A tuberculosis skin test is not worth the time and money involved.	☐	☐	☐	☐	☐
7. A dentist shoud be seen only when a tooth hurts.	☐	☐	☐	☐	☐
8. Cleanliness only benefits your appearance.	☐	☐	☐	☐	☐
9. Health just means not being sick.	☐	☐	☐	☐	☐
10. It is best to go to a doctor just when you feel pain.	☐	☐	☐	☐	☐
11. Shots against disease are worth the time it takes to get them.	☐	☐	☐	☐	☐
12. Dental care is not necessary until a child is ten years old.	☐	☐	☐	☐	☐
13. Physical exercise is "kid stuff."	☐	☐	☐	☐	☐
14. You can breathe germs onto another person.	☐	☐	☐	☐	☐

	STRONGLY AGREE	AGREE	UNDEC.	DIS-AGREE	STRONGLY DISAGREE
15. When you are sick, it is best to get plenty of rest.	☐	☐	☐	☐	☐
16. You should cover your nose and mouth when coughing and sneezing.	☐	☐	☐	☐	☐
17. You should have your teeth examined by a dentist once every five years.	☐	☐	☐	☐	☐
18. Only doctors can prevent disease.	☐	☐	☐	☐	☐
19. You should thoroughly wash your hands everytime after using the toilet.	☐	☐	☐	☐	☐
20. Healthy people should be examined by a doctor once every two years.	☐	☐	☐	☐	☐
21. Since few people get polio anymore, you do not need to get a polio shot.	☐	☐	☐	☐	☐
22. You should not be concerned about your health now, since illnesses come later in life.	☐	☐	☐	☐	☐
23. You should exercise just when you are overweight.	☐	☐	☐	☐	☐

	STRONGLY AGREE	AGREE	UNDEC.	DIS-AGREE	STRONGLY DISAGREE
24. You should talk with someone else when you have a big problem.	☐	☐	☐	☐	☐
25. Mentally sick people are most often born with their illness.	☐	☐	☐	☐	☐
26. It is best to go to school or work when you feel sick.	☐	☐	☐	☐	☐
27. There is very little you can do to keep from getting sick.	☐	☐	☐	☐	☐
28. Water that looks clear and clean is safe to drink.	☐	☐	☐	☐	☐
29. A pregnant woman should not smoke.	☐	☐	☐	☐	☐
30. It is important to make friends with other people.	☐	☐	☐	☐	☐
31. It is certain that we will lose most of our teeth as we get older.	☐	☐	☐	☐	☐
32. There is no way of avoiding disease.	☐	☐	☐	☐	☐

	STRONGLY AGREE	AGREE	UNDEC.	DIS-AGREE	STRONGLY DISAGREE
33. Each member of a family should respect the feelings of every other member.	☐	☐	☐	☐	☐
34. You can usually be sure that well water is pure and safe to drink.	☐	☐	☐	☐	☐
35. It is best not to talk with anybody about your problems.	☐	☐	☐	☐	☐
36. Health inspections perform a valuable service in protecting a community's health.	☐	☐	☐	☐	☐
37. Gaining weight usually means that your meals are nourishing and well-balanced.	☐	☐	☐	☐	☐
38. Shots against disease are worth the money they cost.	☐	☐	☐	☐	☐
39. It is best to wait until you are sick before visiting a doctor.	☐	☐	☐	☐	☐
40. Your body's condition can affect the condition of your mind.	☐	☐	☐	☐	☐
41. A baby can be affected by its mother's food habits <u>before</u> it is born.	☐	☐	☐	☐	☐

	STRONGLY AGREE	AGREE	UNDEC.	DIS-AGREE	STRONGLY DISAGREE
42. You should treat most diseases yourself in order to save money.	☐	☐	☐	☐	☐
43. Proper nutrition can actually prevent disease.	☐	☐	☐	☐	☐
44. You can spread germs by not washing your hands.	☐	☐	☐	☐	☐
45. A community health care clinic can only be of help to you if you are sick.	☐	☐	☐	☐	☐
46. You can spread germs by sneezing.	☐	☐	☐	☐	☐
47. A good way to solve a problem is to worry about it.	☐	☐	☐	☐	☐
48. The only shot you need during your lifetime is the one which protects you against smallpox.	☐	☐	☐	☐	☐
49. Environmental inspections at school and work are necessary to protect your health.	☐	☐	☐	☐	☐
50. You can spread germs by coughing.	☐	☐	☐	☐	☐

	STRONGLY AGREE	AGREE	UNDEC.	DIS-AGREE	STRONGLY DISAGREE
51. Childhood diseases are rarely of a serious nature.	☐	☐	☐	☐	☐
52. Inspection of food in the school cafeteria helps protect people from disease.	☐	☐	☐	☐	☐
53. An area can look clean and still contain many germs.	☐	☐	☐	☐	☐
54. Medications from a doctor which were used during a previous illness may be reused whenever you wish.	☐	☐	☐	☐	☐
55. It is all right to cry when you feel hurt.	☐	☐	☐	☐	☐
56. A tuberculosis skin test is not worth all of the bother involved.	☐	☐	☐	☐	☐
57. What you eat, and how much you eat, are important considerations only for the overweight person.	☐	☐	☐	☐	☐
58. You should be sincere and honest when you relate with others.	☐	☐	☐	☐	☐

	STRONGLY AGREE	AGREE	UNDEC.	DIS-AGREE	STRONGLY DISAGREE
59. Keeping the environment clean is the responsibility of everybody in the community.	☐	☐	☐	☐	☐
60. The safest drinking water is that which has no chemicals added to it.	☐	☐	☐	☐	☐
61. Protective shots for children are essential during their first year.	☐	☐	☐	☐	☐
62. A proper diet will help protect you from illness.	☐	☐	☐	☐	☐
63. You can count on spring or well water as being safe to drink.	☐	☐	☐	☐	☐
64. As long as you are not sick, there would be no reason to go to the community health care clinic.	☐	☐	☐	☐	☐
65. It is important to wash your hands before eating.	☐	☐	☐	☐	☐
66. It is important to help other people who are in need of aid.	☐	☐	☐	☐	☐
67. Each member of the family should have certain responsibilities for assuring a clean household.	☐	☐	☐	☐	☐

	STRONGLY AGREE	AGREE	UNDEC.	DIS-AGREE	STRONGLY DISAGREE
68. All children in the family should receive the same medicatons when they are sick.	☐	☐	☐	☐	☐
69. It is usually better and cheaper to just go ahead and treat yourself no matter how sick you are.	☐	☐	☐	☐	☐
70. When you are feeling sick, it is best to go to bed.	☐	☐	☐	☐	☐
71. Most illnesses can be prevented.	☐	☐	☐	☐	☐
72. Health is everybody's responsibility.	☐	☐	☐	☐	☐
73. It is best to wait and be sure you are sick before seeing a doctor.	☐	☐	☐	☐	☐
74. It is best to have an easygoing attitude toward other people.	☐	☐	☐	☐	☐
75. You should consider disappointment as a part of life.	☐	☐	☐	☐	☐
76. It is important to trust other people.	☐	☐	☐	☐	☐

	STRONGLY AGREE	AGREE	UNDEC.	DIS-AGREE	STRONGLY DISAGREE
77. You should feel that you are part of some group.	☐	☐	☐	☐	☐
78. You should do something about your problems as soon as they arise.	☐	☐	☐	☐	☐
79. It is best to plan ahead.	☐	☐	☐	☐	☐
80. There is no harm in constantly putting things off until tomorrow.	☐	☐	☐	☐	☐
81. It is important to want to help other people.	☐	☐	☐	☐	☐
82. Death cannot be prevented, but it can be postponed.	☐	☐	☐	☐	☐
83. It is important to develop your mind as well as your body.	☐	☐	☐	☐	☐
84. Almost everybody was meant to get certain diseases, and there is nothing you can do about it.	☐	☐	☐	☐	☐
85. A mother can contribute to the health of her baby <u>before</u> it is born.	☐	☐	☐	☐	☐

	STRONGLY AGREE	AGREE	UNDEC.	DIS-AGREE	STRONGLY DISAGREE
86. When you get to be an adult, you are safe from most diseases.	☐	☐	☐	☐	☐
87. Taking early precautions against disease can actually save you money.	☐	☐	☐	☐	☐
88. Germs can only get into your body through a cut in the skin.	☐	☐	☐	☐	☐
89. The type of food you eat does not really matter, as long as it fills you up.	☐	☐	☐	☐	☐
90. Taking early precautions against disease can actually protect your health.	☐	☐	☐	☐	☐
91. The community health care clinic is only for sick people.	☐	☐	☐	☐	☐
92. It is best to help other people,as well as yourself.	☐	☐	☐	☐	☐
93. It is best not to show your emotions.	☐	☐	☐	☐	☐
94. It is best to save money by using old medicines when you get the same disease again.	☐	☐	☐	☐	☐

	STRONGLY AGREE	AGREE	UNDEC.	DIS-AGREE	STRONGLY DISAGREE
95. Each member of the family is responsible for the family's health.	☐	☐	☐	☐	☐
96. The community health care clinic can help each member of the family even when they are healthy.	☐	☐	☐	☐	☐
97. Each one of us is responsible for our community's health.	☐	☐	☐	☐	☐
98. Daily exercise helps keep you healthy.	☐	☐	☐	☐	☐
99. Only children need to go to the community health care clinic.	☐	☐	☐	☐	☐

APPENDIX D

FINAL DRAFT OF THE ATTITUDINAL INVENTORY OF PREVENTION

GDG/74 ATTITUDINAL INVENTORY OF PREVENTION

NUMBER _____

Directions: Please read each one of the following statements.

Decide how you feel about each statement.

Then mark only one of the five choices.

STRONGLY AGREE	AGREE	UNDECIDED	DISAGREE	STRONGLY DISAGREE

	STRONGLY AGREE	AGREE	UNDEC.	DIS-AGREE	STRONGLY DISAGREE
1. A clean environment is necessary for healthy living.	☐	☐	☐	☐	☐
2. There is very little a mother can do for the health of a child before it is born.	☐	☐	☐	☐	☐
3. A tuberculosis skin test is not worth the time and money involved.	☐	☐	☐	☐	☐
4. Cleanliness only benefits your appearance.	☐	☐	☐	☐	☐
5. When you are sick, it is best to get plenty of rest.	☐	☐	☐	☐	☐
6. Shots against disease are worth the time it takes to get them.	☐	☐	☐	☐	☐

	STRONGLY AGREE	AGREE	UNDEC.	DIS-AGREE	STRONGLY DISAGREE
7. Physical exercise is "kid stuff."	☐	☐	☐	☐	☐
8. Dental care is not necessary until a child is ten years old.	☐	☐	☐	☐	☐
9. Since few people get polio anymore, you do not need to get a polio shot.	☐	☐	☐	☐	☐
10. You should not be concerned about your health now, since illnesses come later in life.	☐	☐	☐	☐	☐
11. Each member of a family should respect the feelings of every other member.	☐	☐	☐	☐	☐
12. There is very little you can do to keep from getting sick.	☐	☐	☐	☐	☐
13. Health inspections perform a valuable service in protecting a community's health.	☐	☐	☐	☐	☐
14. Shots against disease are worth the money they cost.	☐	☐	☐	☐	☐
15. You can spread germs by coughing.	☐	☐	☐	☐	☐

	STRONGLY AGREE	AGREE	UNDEC.	DIS-AGREE	STRONGLY DISAGREE
16. Gaining weight usually means that your meals are nourishing and well-balanced.	☐	☐	☐	☐	☐
17. Inspection of food in the school cafeteria helps protect people from disease.	☐	☐	☐	☐	☐
18. You should be sincere and honest when you relate with others.	☐	☐	☐	☐	☐
19. Keeping the environment clean is the responsibility of everybody in the community.	☐	☐	☐	☐	☐
20. You can count on spring or well water as being safe to drink.	☐	☐	☐	☐	☐
21. As long as you are not sick, there would be no reason to go to the community health care clinic.	☐	☐	☐	☐	☐
22. Each member of the family should have certain responsibilities for assuring a clean household.	☐	☐	☐	☐	☐
23. It is usually better and cheaper to just go ahead and treat yourself, no matter how sick you are.	☐	☐	☐	☐	☐

	STRONGLY AGREE	AGREE	UNDEC.	DIS-AGREE	STRONGLY DISAGREE
24. Most illnesses can be prevented.	☐	☐	☐	☐	☐
25. There is no harm in constantly putting things off until tomorrow.	☐	☐	☐	☐	☐
26. Health is everybody's responsibility.	☐	☐	☐	☐	☐
27. It is important to develop your mind as well as your body.	☐	☐	☐	☐	☐
28. When you get to be an adult you are safe from most diseases.	☐	☐	☐	☐	☐
29. Germs can only get into your body through a cut in the skin.	☐	☐	☐	☐	☐
30. Each member of the family is responsible for the family's health.	☐	☐	☐	☐	☐
31. Taking early precautions against disease can actually protect your health.	☐	☐	☐	☐	☐
32. You should exercise just when you are overweight.	☐	☐	☐	☐	☐

APPENDIX E

HEALTH EDUCATION PROGRAM RATING SCALE

Gary D. Gilmore
Department of Health and Safety
The University of Tennessee
Knoxville, Tennessee
November 20, 1973

HEALTH EDUCATION PROGRAM RATING SCALE

DIRECTIONS:

The following represents the proposed program structure and content material for utilization in a family health education program which incorporates the concept of prevention. The concept of prevention, for the purpose of this study, has been defined as the forestallment of adverse conditions affecting physical, mental, and social well-being.

Section I of this rating scale deals with your evaluation of the development of the program structure for students, and for their parents. Section II deals with your evaluation of the content which can be used in the program for students, and for their parents.

Please review each section, giving consideration to the following criteria:

- Does the material have a preventive nature?
- Is the material necessary for such an educational program?
- Is the material appropriate for fifth graders and their parents?

After completing your review, please indicate your judgment regarding each item by using the following rating scale:

1. NOT ACCEPTABLE: The item would have no value for this program of prevention.
2. SOMEWHAT ACCEPTABLE: The item would have some value for this program of prevention.
3. ACCEPTABLE: The item would be valuable for this program of prevention.
4. VERY ACCEPTABLE: The item would be very valuable for this program of prevention.
5. INDISPENSABLE: The item is absolutely necessary for this program of prevention.

SECTION I. PROPOSED PROGRAM STRUCTURE

A. PROGRAM FOR FIFTH-GRADE STUDENTS

1. DAY ONE: INPUT FROM THE STUDENTS	RATING SCALE	COMMENTS
Time allotted: 50 minutes		
Objective: To have students write down and verbalize their health needs and concerns		
Learning Opportunities:		
a. The students are asked to define health in their own words.	1 2 3 4 5	_____
b. The students are asked to describe what being in poor health would mean to them.	1 2 3 4 5	_____
c. The students are asked to specify health problems which they consider important.	1 2 3 4 5	_____
d. The students are asked to define prevention in their own words.	1 2 3 4 5	_____
e. The students are asked what they can do to improve their own health.	1 2 3 4 5	_____
f. The students are asked what they can do to improve the health of their families.	1 2 3 4 5	_____
g. The students are asked what they can do to improve the health of their community.	1 2 3 4 5	_____
h. The students choose from a prepared list those definitions of health and prevention with which they basically agree.	1 2 3 4 5	_____

GENERAL COMMENTS:

2. DAY TWO: DISCUSSION OF STUDENT INPUT

Time Allotted: 50 minutes

Objective: To discuss with the students how prevention relates to their health needs and concerns

Learning Opportunities:

	RATING SCALE	COMMENTS
a. There is discussion about the compiled listing of student definitions of <u>health</u> written the day before, leading to the development of a group definition of health which relates to mental, physical, and social well-being.	1 2 3 4 5	
b. There is discussion about the compiled listing of student <u>health needs and concerns</u> written the day before, leading to the discussion of possible preventive measures which may be taken.	1 2 3 4 5	
c. There is discussion about the compiled lisiting of student definitions of <u>prevention</u> written the day before, leading to the development of a group definition of prevention which relates to individual recognition of adverse conditions which can affect their health.	1 2 3 4 5	
d. There is discussion about the compiled listing of student <u>involvement in family and community health</u> written the day before, leading to the development of areas of concensus for involvement by fifth-grade students.	1 2 3 4 5	

GENERAL COMMENTS:

3. DAY THREE: GENERAL PRESENTATION

Time Allotted: 50 mintues

Objective: To enable students to analyze their present health situation and that of their parents, to better allow them to take the proper steps for protection.

Learning Opportunities:

a. Presentation to the students incorporating their responsibility in protecting their health and the health of others (Educational content to be utilized for this is listed in Section II).

b. Incorporation of a film:

(1) Insects as Carriers of Disease (10 minute color film produced by Walt Disney)

The major emphases of the film include:

- Disease transmission by the fly
- Disease transmission by the mosquito
- Disease transmisison by the louse
- Environmental protection measures
- Personal protection measures

(2) Health Begins at Home (10 minute color film produced by World Health Organization)

The major emphases of the film include:

- Use of a cartoon character who looks like a sinister old man, and represents disease and illness

RATING SCALE	COMMENTS
1 2 3 4 5	
1 2 3 4 5	
1 2 3 4 5	

- This character stalks unprotected people and makes them sick

- This character is unable to affect the members of an orderly, clean house who practice good health measures

- It is shown that as soon as they stop employing these measures, they too become sick

(3) _____

OTHER SUGGESTED FILM

GENERAL COMMENTS:

B. PROGRAM FOR THE PARENTS

1. ONE EVENING SESSION

Time Allotted: 2 hours

Objective: To enable parents to analyze their present health situation and that of their children, to better allow them to take the proper steps for protection

Learning Opportunities:

a. Presentation to the parents regarding their responsibility for the protection of their health and the health of their children (Educational content to be utilized for this presentation is listed in Section II).

b. Incorporation of a film:

(1) Looking At Children
(23 minute color film produced by the Metropolitan Life Insurance Company, New York)

The major emphases of the film include:

- Importance of immunizations
- Importance of dental care
- Signs and symptoms of:
  - Abnormal skin conditions
  - Malocclusion
  - Orthopedic defects
  - Overweight
  - Eye disorders
  - Hearing disorders
  - Perceptual problems
  - Chronic disorders

(2) _____
OTHER SUGGESTED FILM

RATING SCALE	COMMENTS
1 2 3 4 5	_____
1 2 3 4 5	_____

GENERAL COMMENTS:

SECTION II. EDUCATIONAL CONTENT

In this section you are asked to evaluate the specific educational content which you believe should be incorporated into the discussions and presentations which were outlined in Section I. There are three content areas which will be listed in Section II: Mental Health, Physical Health, and Community Health.

The rating scale in Section II remains the same as in Section I:

1. NOT ACCEPTABLE: The item would have no value for this program of prevention.

2. SOMEWHAT ACCEPTABLE: The item would have some value for this program of prevention.

3. ACCEPTABLE: The item would be valuable for this program of prevention.

4. VERY ACCEPTABLE: The item would be very valuable for this program of prevention.

5. INDISPENSABLE: The item is absolutely necessary for this program of prevention.

A. MENTAL HEALTH

CONCEPTUAL AREA	LEARNING EXPERIENCE	RATING SCALE FOR FIFTH GRADERS	RATING SCALE FOR PARENTS	COMMENTS
1. Adjustment	Discuss human defense mechanisms.	1 2 3 4 5	1 2 3 4 5	
2. Adjustment	Discuss how we adjust psychologically in order to cope with our environment.	1 2 3 4 5	1 2 3 4 5	
3. Adjustment	Discuss mental illness as a result of inability to cope.	1 2 3 4 5	1 2 3 4 5	
4. Emotional Control	Discuss with participants if they think the way we feel towards ourselves has any effect on the way we feel towards others.	1 2 3 4 5	1 2 3 4 5	
5. Emotional Control	Ask participants to tell of some ways in which they can improve their attitudes.	1 2 3 4 5	1 2 3 4 5	
6. Emotional Control	Discuss what might be done in school and at home to prevent quarreling.	1 2 3 4 5	1 2 3 4 5	
7. Emotional Control	Discuss how family members can show consideration for each other.	1 2 3 4 5	1 2 3 4 5	
8. Emotional Control	Discuss what some of our basic human emotions are.	1 2 3 4 5	1 2 3 4 5	
9. Emotional Control	Discuss ways in which we express our emotions.	1 2 3 4 5	1 2 3 4 5	
10. Emotional Control	Discuss how our emotions lead to physical changes in our body.	1 2 3 4 5	1 2 3 4 5	

CONCEPTUAL AREA	LEARNING EXPERIENCE	RATING SCALE FOR FIFTH GRADERS	RATING SCALE FOR PARENTS	COMMENTS
11. Emotional Control	Discuss what could happen if we were afraid to try new things (such as food items).	1 2 3 4 5	1 2 3 4 5	
12. Family Responsibility	Discuss the responsibility of parents toward the child, and the child toward the parents.	1 2 3 4 5	1 2 3 4 5	
13. Human Needs	Discuss some of the basic psychological human needs:			
	- Love	1 2 3 4 5	1 2 3 4 5	
	- Security	1 2 3 4 5	1 2 3 4 5	
	- Recognition	1 2 3 4 5	1 2 3 4 5	
	- Independence	1 2 3 4 5	1 2 3 4 5	
14. Laughter	Discuss the value and importance of laughter.	1 2 3 4 5	1 2 3 4 5	
15. Maturity	Discuss what maturity is.	1 2 3 4 5	1 2 3 4 5	
16. Maturity	Discuss how maturity is attained.	1 2 3 4 5	1 2 3 4 5	
17. Tension Release	Discuss various ways to release tension through activities.	1 2 3 4 5	1 2 3 4 5	
18. Values	Discuss what values are.	1 2 3 4 5	1 2 3 4 5	
19. Values	Discuss how a peer group affects a person's values.	1 2 3 4 5	1 2 3 4 5	

B. PHYSICAL HEALTH

CONCEPTUAL AREA	LEARNING EXPERIENCE	RATING SCALE FOR FIFTH GRADERS	RATING SCALE FOR PARENTS	COMMENTS
1. Disease	Discuss various causes of disease:			
	- Bacteria	1 2 3 4 5	1 2 3 4 5	
	- Viruses	1 2 3 4 5	1 2 3 4 5	
	- Protozoa	1 2 3 4 5	1 2 3 4 5	
	- Fungi	1 2 3 4 5	1 2 3 4 5	
	- Rickettsia	1 2 3 4 5	1 2 3 4 5	
	- Parasitic worms	1 2 3 4 5	1 2 3 4 5	
2. Disease	Discuss where these organisms are found.	1 2 3 4 5	1 2 3 4 5	
3. Disease	Discuss how these organisms are spread:			
	- Direct Contact	1 2 3 4 5	1 2 3 4 5	
	- Indirect Contact	1 2 3 4 5	1 2 3 4 5	
	- Air	1 2 3 4 5	1 2 3 4 5	
	- Water	1 2 3 4 5	1 2 3 4 5	
	- Food	1 2 3 4 5	1 2 3 4 5	
	- Animals	1 2 3 4 5	1 2 3 4 5	
	- Unsanitary Conditions	1 2 3 4 5	1 2 3 4 5	
4. Chronic Diseases	Discuss specific chronic diseases:			
	- Cancer	1 2 3 4 5	1 2 3 4 5	
	- Heart Disease	1 2 3 4 5	1 2 3 4 5	
	- Stroke	1 2 3 4 5	1 2 3 4 5	
	- Diabetes	1 2 3 4 5	1 2 3 4 5	
	- "Black Lung"	1 2 3 4 5	1 2 3 4 5	

CONCEPTUAL AREA	LEARNING EXPERIENCE	RATING SCALE FOR FIFTH GRADERS	RATING SCALE FOR PARENTS	COMMENTS
5. Communicable Diseases	Discuss specific communicable diseases:			
	- Chickenpox	1 2 3 4 5	1 2 3 4 5	
	- Common Cold	1 2 3 4 5	1 2 3 4 5	
	- Diptheria	1 2 3 4 5	1 2 3 4 5	
	- Gonorrhea	1 2 3 4 5	1 2 3 4 5	
	- Influenza	1 2 3 4 5	1 2 3 4 5	
	- Measles	1 2 3 4 5	1 2 3 4 5	
	- Mumps	1 2 3 4 5	1 2 3 4 5	
	- Pneumonia	1 2 3 4 5	1 2 3 4 5	
	- Poliomyelitis	1 2 3 4 5	1 2 3 4 5	
	- Rheumatic Fever	1 2 3 4 5	1 2 3 4 5	
	- Rubella	1 2 3 4 5	1 2 3 4 5	
	- Scarlet Fever	1 2 3 4 5	1 2 3 4 5	
	- Smallpox	1 2 3 4 5	1 2 3 4 5	
	- Syphilis	1 2 3 4 5	1 2 3 4 5	
	- Tetanus	1 2 3 4 5	1 2 3 4 5	
	- Tuberculosis	1 2 3 4 5	1 2 3 4 5	
	- Whooping Cough	1 2 3 4 5	1 2 3 4 5	
6. Dental Health	Discuss some of the function of our teeth.	1 2 3 4 5	1 2 3 4 5	
7. Dental Health	Discuss some of the factors which contribute to tooth decay.	1 2 3 4 5	1 2 3 4 5	
8. Exercise	Discuss the value of exercise to our bodies.	1 2 3 4 5	1 2 3 4 5	
9. Nutrition	Discuss the variety of foods our body requires for good health.	1 2 3 4 5	1 2 3 4 5	

CONCEPTUAL AREA	LEARNING EXPERIENCE	RATING SCALE FOR FIFTH GRADERS	RATING SCALE FOR PARENTS	COMMENTS
10. Nutrition	Discuss the value of a balanced diet.	1 2 3 4 5	1 2 3 4 5	
11. Physical Human Needs	Discuss some of the basic physical human needs (air, food, temperature).	1 2 3 4 5	1 2 3 4 5	
12. Protection of the Body	Discuss our body's protection system:			
	- Skin	1 2 3 4 5	1 2 3 4 5	
	- White Corpuscles	1 2 3 4 5	1 2 3 4 5	
	- Antibodies	1 2 3 4 5	1 2 3 4 5	
	- Natural Immunity	1 2 3 4 5	1 2 3 4 5	
	- Acquired Immunity	1 2 3 4 5	1 2 3 4 5	
13. Rest and Sleep	Discuss the value of rest and sleep to our bodies.	1 2 3 4 5	1 2 3 4 5	
14. Rest and Sleep	Discuss the varying needs of people for sleep.	1 2 3 4 5	1 2 3 4 5	
15. Preventive Measures	Discuss what specific measures can be taken in order to prevent physical illness.	1 2 3 4 5	1 2 3 4 5	

C. COMMUNITY HEALTH

CONCEPTUAL AREA	LEARNING EXPERIENCE	RATING SCALE FOR FIFTH GRADERS	RATING SCALE FOR PARENTS	COMMENTS
1. Community Responsibilities	Discuss what some of the community responsibilities for health are:			
	- Water Purification	1 2 3 4 5	1 2 3 4 5	
	- Sewage Disposal	1 2 3 4 5	1 2 3 4 5	
	- Air Purification	1 2 3 4 5	1 2 3 4 5	
	- Milk Treatment and Handling	1 2 3 4 5	1 2 3 4 5	
	- Food Inspection	1 2 3 4 5	1 2 3 4 5	
	- Insect Control	1 2 3 4 5	1 2 3 4 5	
	- Sanitation Inspections	1 2 3 4 5	1 2 3 4 5	
	- Screening for Specific Diseases (e.g. T.B.)	1 2 3 4 5	1 2 3 4 5	
	- Immunizations Against Specific Diseases	1 2 3 4 5	1 2 3 4 5	
	- Health Education	1 2 3 4 5	1 2 3 4 5	
2. Individual Measures	Discuss what specific measures can be taken by the individual in order to aid community health:			
	- Staying Home When Sick	1 2 3 4 5	1 2 3 4 5	
	- Up-To-Date Immunizations	1 2 3 4 5	1 2 3 4 5	
	- Covering Nose and Mouth when Coughing and Sneezing	1 2 3 4 5	1 2 3 4 5	
	- Washing Hands	1 2 3 4 5	1 2 3 4 5	
	- Clean Environment	1 2 3 4 5	1 2 3 4 5	

CONCEPTUAL AREA	LEARNING EXPERIENCE	RATING SCALE FOR FIFTH GRADERS	RATING SCALE FOR PARENTS	COMMENTS
3. Pollution	Discuss how man pollutes his environment.	1 2 3 4 5	1 2 3 4 5	_____
4. Pollution	Discuss what can be done about pollution.	1 2 3 4 5	1 2 3 4 5	_____

GENERAL COMMENTS ABOUT THE PROGRAM:

Thank You!

_____
Name

APPENDIX F

RAW SCORES

TABLE F.1

RAW SCORES AND MEANS OF NATIONAL JURY INVENTORY RATINGS

Item	National Juror Number																													$\bar{x}$
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	
1	3	1	1	3	3	4	2	3	5	5	1	1	1	3	3	3	3	2	4	1	2	4	4	5	2	5	3	4	3	2.90
2	4	5	2	5	1	2	5	4	4	5	1	4	1	4	3	4	5	3	5	1	4	5	3	5	5	4	2	5	1	3.52
3	5	1	2	4	3	3	4	4	3	5	4	4	2	3	2	4	3	5	5	1	5	3	4	3	5	4	3	4	2	3.45
4	3	2	1	5	3	4	4	5	5	5	5	2	3	1	2	4	3	3	5	1	5	4	2	5	4	4	4	5	3	3.52
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6	5	1	1	5	4	4	4	4	5	5	5	4	2	5	4	4	3	5	5	1	5	5	4	4	5	5	4	4	1	3.90
7	3	5	1	3	3	3	2	4	4	3	3	1	3	2	3	3	3	4	4	5	3	4	1	1	3	3	3	2	1	2.86
8	3	2	1	3	2	3	2	3	3	5	1	2	1	3	2	2	3	5	3	5	1	4	3	4	3	3	2	2	1	2.66
9	5	4	2	5	-	3	5	2	3	5	3	1	3	2	3	3	3	5	4	5	2	4	3	4	5	3	3	3	1	3.36
10	3	4	2	4	1	4	4	4	3	5	4	3	3	5	3	2	3	4	5	1	3	4	4	5	4	4	3	3	5	3.52
11	5	3	2	3	1	3	3	4	3	2	1	3	4	2	2	3	3	1	3	3	1	4	3	3	1	3	2	3	1	2.59
12	5	5	1	4	4	5	4	4	5	5	5	3	4	5	4	4	3	5	5	1	3	5	5	5	4	5	3	3	3	4.03
13	5	4	1	4	4	3	4	2	3	5	3	2	3	3	3	3	3	5	5	1	2	3	2	3	3	4	3	2	3	3.14
14	5	4	1	5	1	2	3	3	5	4	4	4	2	5	2	3	3	2	5	2	3	3	2	5	4	2	3	3	1	3.14
15	5	4	2	5	2	4	3	4	3	4	5	2	3	3	2	4	3	5	4	1	5	4	4	5	5	4	4	4	2	3.62
16	3	1	1	4	4	4	2	2	3	3	2	1	1	4	3	2	3	4	5	1	5	5	4	1	4	5	3	3	1	2.90
17	3	1	2	5	5	5	4	4	4	3	4	3	4	4	5	3	3	3	4	5	3	5	5	5	4	5	4	4	5	3.93
18	5	1	1	5	3	5	4	3	5	5	5	3	4	3	1	3	3	5	4	1	5	5	4	5	3	5	3	4	4	3.69
19	4	4	1	4	5	2	3	4	3	3	1	1	2	3	2	3	3	5	3	1	3	4	2	3	4	4	3	4	4	3.03
20	5	2	1	5	3	4	2	4	3	3	3	3	3	4	4	2	3	4	2	5	3	5	3	5	3	4	4	4	1	3.34
21	5	2	2	4	4	1	3	5	3	5	3	3	3	3	1	3	3	5	3	5	4	5	3	5	3	5	4	4	2	3.48
22	4	2	5	5	3	5	3	4	4	5	4	3	3	5	5	2	3	5	3	5	4	5	3	5	3	5	4	4	1	3.86
23	5	4	1	4	-	4	2	4	3	3	5	3	3	3	3	2	3	4	5	1	2	4	3	4	3	4	3	3	1	3.18
24	5	1	1	4	4	4	3	4	3	2	5	4	4	4	2	2	3	4	5	1	5	4	4	5	5	4	3	3	1	3.41
25	5	2	4	5	5	4	4	4	4	5	5	3	3	5	5	3	3	4	4	4	3	4	3	4	3	5	3	3	2	3.83

TABLE F.1 (continued)

Item	National Juror Number																													$\bar{X}$
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26	4	4	1	3	4	2	3	4	3	3	5	3	3	1	3	3	3	2	3	1	3	4	3	5	3	4	4	1	2	3.00
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28	5	5	1	5	3	4	4	5	4	4	5	3	3	4	4	4	3	5	5	1	3	5	2	5	4	4	4	4	5	3.90
29	5	3	1	4	4	4	4	4	3	5	5	4	2	3	3	4	3	5	3	1	4	4	3	5	3	4	4	4	3	3.59
30	4	4	2	4	5	2	2	4	3	3	4	4	3	5	3	3	3	5	5	3	3	5	1	2	3	3	4	5	5	3.52
31	3	3	1	5	4	4	3	3	3	1	1	4	2	4	4	3	3	5	5	1	4	3	3	5	4	4	3	3	1	3.17
32	3	1	1	4	3	2	4	4	4	4	4	3	3	3	3	2	3	2	4	1	3	3	3	3	3	5	4	3	3	3.03
33	5	1	1	5	4	4	3	5	3	5	5	4	4	5	3	3	3	4	5	1	5	4	3	5	5	5	3	4	4	3.83
34	5	3	1	4	2	4	3	3	4	5	1	1	4	4	3	3	3	5	4	1	3	5	3	5	3	5	4	3	1	3.28
35	3	2	4	2	2	4	1	3	2	3	4	3	4	5	1	3	3	2	2	3	3	5	4	3	2	3	4	3	2	2.93
36	2	1	4	3	3	3	1	4	5	5	3	3	3	5	5	4	3	4	4	4	2	3	4	5	4	4	3	3	3	3.45
37	5	3	2	4	4	1	2	4	4	5	1	4	2	5	4	3	3	2	4	3	2	5	3	4	3	3	3	4	5	3.34
38	3	4	3	3	4	5	2	3	2	1	3	3	3	3	3	2	3	4	2	1	5	4	3	5	3	4	3	2	4	3.10
39	2	5	1	5	3	5	3	5	3	3	1	4	3	5	3	3	3	2	4	1	3	5	3	5	5	5	4	3	1	3.38
40	5	2	3	5	4	4	4	4	3	5	4	4	2	5	3	4	3	5	5	3	4	2	2	4	4	2	4	4	3	3.66
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42	3	5	4	4	3	4	3	4	2	4	3	3	2	3	3	3	3	2	4	5	2	5	3	3	5	3	3	3	3	3.34
43	4	4	2	2	4	4	4	3	3	3	1	3	3	4	4	4	3	4	5	1	4	2	2	5	3	3	4	2	3	3.21
44	5	2	1	4	1	1	4	4	3	4	3	4	3	4	3	3	3	4	5	1	3	3	2	4	3	4	4	3	4	3.17
45	1	4	5	5	1	3	4	4	3	3	4	3	4	4	3	3	3	3	4	4	3	5	3	5	3	4	4	4	4	3.55
46	5	2	1	4	3	1	4	4	3	5	4	3	3	3	3	3	3	5	4	1	3	2	3	5	5	5	4	3	2	3.31
47	3	4	2	5	2	3	3	4	4	2	3	3	2	4	3	4	3	2	5	5	4	5	2	5	4	2	3	3	3	3.34
48	5	4	3	5	4	3	2	3	3	2	2	3	4	4	5	4	3	2	5	5	4	5	4	5	5	4	4	3	2	3.69
49	5	2	1	5	4	4	4	4	4	5	4	2	3	2	1	3	3	2	4	1	4	4	3	5	4	5	4	4	3	3.41
50	5	5	2	4	3	1	3	4	5	2	4	3	4	3	4	4	3	2	5	5	5	5	3	5	5	4	3	4	3	3.72

TABLE F.1 (continued)

Item	National Juror Number																													$\bar{x}$
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51	3	2	3	5	2	4	2	4	1	4	3	2	3	5	5	3	3	2	3	5	3	5	2	4	3	5	3	3	1	3.21
52	5	4	3	5	3	1	4	4	3	5	3	3	3	4	4	2	3	2	5	1	3	5	3	5	4	4	3	3	3	3.45
53	3	2	2	3	1	4	3	3	3	5	3	2	3	1	3	2	3	2	4	3	2	4	1	4	3	3	4	3	1	2.76
54	2	2	3	5	3	5	2	4	5	5	3	2	2	5	5	3	3	4	3	5	3	4	3	5	3	4	4	3	2	3.52
55	4	4	1	4	2	4	4	4	3	3	1	3	2	3	3	-	3	2	5	1	2	4	2	4	4	2	3	3	5	3.04
56	2	4	1	5	1	4	2	4	4	4	1	3	3	4	3	3	3	2	5	1	2	5	4	5	1	5	4	3	2	3.10
57	3	5	3	4	4	4	3	4	5	4	3	1	2	3	3	3	3	3	4	4	4	3	3	5	4	3	3	3	3	3.41
58	1	2	4	5	3	4	3	4	4	5	3	2	2	5	5	3	3	4	3	5	3	5	3	5	3	5	4	3	2	3.55
59	2	4	2	5	4	1	4	3	3	1	1	3	2	2	3	2	3	3	5	3	4	2	2	3	2	4	3	2	4	2.83
60	2	4	4	4	3	4	3	4	4	4	4	2	2	1	3	3	3	5	4	4	3	4	3	5	4	5	3	3	1	3.38
61	5	5	1	4	4	4	3	3	3	1	4	2	3	2	5	4	3	2	5	1	5	4	3	4	4	5	4	3	3	3.41
62	3	5	1	5	3	4	4	4	1	2	2	3	2	4	5	4	3	3	5	1	3	3	1	4	3	3	4	3	2	3.10
63	5	1	1	5	3	4	5	4	5	2	3	2	3	1	3	3	3	3	5	2	4	3	3	5	5	4	4	3	3	3.34
64	4	4	2	5	3	4	3	3	2	1	3	2	2	4	3	3	3	4	4	3	3	5	3	5	3	4	4	3	2	3.24
65	1	2	1	4	2	3	2	3	2	1	1	2	2	2	3	2	3	2	5	1	4	3	2	4	3	3	2	2	3	2.41
66	1	2	1	4	1	4	4	4	2	4	4	2	4	4	3	2	3	2	5	1	4	3	4	5	5	4	3	3	3	3.14
67	5	1	3	4	2	4	5	4	3	5	4	3	2	4	3	2	3	3	5	5	3	2	1	2	1	3	4	3	5	3.24
68	3	1	3	3	3	1	3	4	3	3	1	1	3	4	3	3	3	2	5	2	1	2	2	5	2	2	3	3	4	2.69
69	5	1	3	5	1	1	4	4	1	2	1	4	2	5	3	3	3	2	5	2	2	4	2	4	4	4	4	4	5	3.10
70	2	1	1	4	3	4	4	3	1	4	1	2	2	4	1	2	3	4	5	1	3	3	3	5	4	3	3	3	2	2.79
71	5	4	3	5	4	4	5	3	4	5	3	3	2	5	3	3	3	3	5	5	3	4	2	5	5	5	4	5	3	3.90
72	1	5	1	5	4	5	3	3	3	5	4	2	2	2	3	3	3	3	5	2	4	3	4	5	3	4	4	3	1	3.28
73	3	3	4	5	5	3	2	3	2	4	5	2	3	2	3	3	3	4	4	5	4	4	5	5	4	5	4	3	3	3.62
74	2	3	2	4	4	5	2	4	3	4	4	3	2	2	3	3	3	2	5	1	3	3	2	4	4	4	3	4	1	3.07
75	1	4	1	5	1	4	2	4	3	4	1	2	2	3	3	3	3	3	3	1	4	3	3	5	4	4	4	3	3	3.10

TABLE F.1 (continued)

Item	National Juror Number																													$\bar{X}$
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	
76	4	2	1	4	2	2	4	4	3	5	5	3	3	3	3	3	3	4	5	1	4	4	3	5	4	3	4	3	3	3.34
77	2	4	4	5	3	4	3	4	2	5	3	2	2	5	5	3	3	3	3	5	3	4	2	4	4	5	4	3	3	3.52
78	3	5	2	5	3	4	4	4	1	4	1	4	2	4	3	3	3	3	5	4	2	2	1	5	4	4	5	3	4	3.34
79	5	4	3	4	3	1	4	4	2	4	4	3	1	5	2	2	3	3	5	3	1	2	1	4	2	2	4	3	4	3.03
80	2	5	1	5	3	5	4	4	3	4	1	3	2	2	2	2	3	2	5	1	4	3	5	5	2	3	5	3	5	3.24
81	2	3	1	5	3	4	3	3	3	4	1	2	2	2	4	2	3	1	4	1	3	3	2	5	3	3	3	3	2	2.76
82	5	4	1	5	3	5	4	4	1	2	4	2	3	1	3	3	3	2	4	1	4	4	4	5	4	5	4	3	4	3.34
83	-	2	2	4	4	2	3	4	3	5	3	2	2	3	3	3	3	2	5	3	3	4	3	4	3	4	3	4	3	3.18
84	4	2	3	4	4	4	2	4	1	5	4	3	2	4	3	3	3	3	4	-	5	4	3	5	5	4	4	4	1	3.46
85	5	5	3	5	4	1	4	4	5	5	3	2	1	4	3	4	3	4	5	5	3	5	2	5	5	5	5	5	3	3.90
86	1	3	1	4	3	4	3	2	3	5	1	2	2	3	3	3	3	4	3	1	3	4	2	5	3	4	3	5	1	2.90
87	3	4	1	5	4	3	4	4	3	4	4	3	2	2	3	3	3	4	4	1	4	5	4	4	4	4	3	4	3	3.41
88	5	4	1	3	2	4	4	2	1	3	1	1	2	4	2	2	3	2	5	1	4	4	3	5	5	4	3	4	1	2.93
89	2	2	2	4	3	3	3	3	2	4	1	3	2	5	3	2	3	1	5	4	3	4	3	4	2	3	4	2	5	3.00
90	1	2	1	3	1	1	4	1	3	4	2	2	2	2	3	2	3	1	5	2	3	2	2	3	2	2	2	3	4	2.34
91	1	1	2	3	3	1	3	1	3	4	2	2	2	-	3	2	3	1	4	1	2	2	3	4	2	2	2	1	3	2.25
92	5	2	4	3	3	4	4	4	3	2	2	4	2	5	3	3	3	2	4	4	3	4	3	4	2	4	3	1	4	3.24
93	4	2	3	4	4	1	3	4	3	4	3	4	2	5	3	3	3	2	5	3	4	4	2	5	3	2	3	3	4	3.28
94	3	2	3	4	4	1	3	4	3	3	4	4	2	4	3	2	3	1	5	2	3	4	3	5	3	3	3	3	5	3.17
95	4	5	3	5	5	5	4	4	4	3	3	4	2	3	3	2	3	4	5	2	4	5	3	5	4	2	3	3	5	3.69
96	5	5	5	4	4	1	3	4	4	2	4	3	2	2	3	2	3	1	5	3	4	2	2	5	5	2	3	3	4	3.28
97	3	2	4	3	4	1	4	1	3	2	1	3	1	1	2	3	3	1	4	3	3	4	4	4	3	2	2	4	5	2.76
98	2	5	2	4	4	1	4	3	3	2	4	3	2	2	3	3	3	1	5	1	2	4	2	5	4	3	1	4	5	3.00
99	3	2	3	5	4	3	3	3	3	4	1	4	1	5	3	3	3	2	5	3	3	3	3	5	3	3	4	5	5	3.34
100	5	1	3	4	2	3	3	4	1	5	1	3	2	4	3	3	3	3	5	4	1	4	3	5	4	3	3	4	1	3.10

TABLE F.1 (continued)

Item	National Juror Number																													$\bar{X}$
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	
101	5	4	2	5	4	3	4	3	1	5	3	3	1	4	3	3	3	3	5	4	4	5	2	5	5	2	3	4	4	3.52
102	2	4	1	4	3	4	4	3	1	1	4	2	3	3	3	4	3	4	5	1	4	4	4	5	5	4	2	3	3	3.21
103	2	2	4	4	2	4	1	4	2	3	4	2	2	2	3	3	3	3	4	3	3	4	3	1	3	3	4	3	1	2.90
104	2	1	1	5	4	4	3	3	2	2	5	2	3	2	2	3	3	2	5	1	2	2	3	2	3	2	1	3	2	2.59
105	1	2	5	4	1	3	2	5	2	3	2	3	2	3	3	3	3	3	3	4	4	5	3	3	4	2	3	3	1	2.93
106	5	4	5	5	4	4	4	3	4	5	4	3	2	3	3	4	3	5	4	5	5	5	5	5	5	4	3	3	1	3.97
107	2	2	3	4	3	4	3	3	3	4	3	2	2	3	3	3	3	5	5	1	4	4	3	4	3	4	3	3	1	3.10
108	3	-	5	3	4	4	4	3	3	4	1	1	3	3	1	2	3	4	5	5	4	5	2	5	4	4	3	3	2	3.32
109	1	2	1	4	1	4	-	4	2	4	3	1	2	4	2	2	3	2	3	1	4	2	4	5	2	4	3	2	2	2.64
110	2	4	1	5	4	5	2	3	4	5	1	1	2	4	2	3	3	3	5	1	5	3	5	5	3	3	4	3	1	3.17
111	3	4	1	5	3	5	3	3	3	5	3	3	2	4	3	4	3	2	5	1	4	5	1	5	3	3	3	4	3	3.31
112	1	2	1	2	1	4	3	3	3	1	1	2	2	1	3	2	3	2	5	1	3	3	2	5	3	3	3	2	1	2.34
113	3	4	1	3	4	4	4	2	1	3	1	2	2	4	3	2	3	2	5	1	3	4	4	4	2	2	3	3	4	2.86
114	2	4	1	5	4	1	1	1	2	1	3	1	4	2	5	3	3	3	2	5	1	3	4	3	4	3	2	2	3	5	2.83
115	3	5	5	5	5	4	4	4	2	4	3	4	3	4	3	4	3	5	5	5	4	5	4	5	5	3	3	3	3	3.97
116	3	2	1	4	4	3	4	2	3	4	4	2	2	4	3	2	3	4	5	1	4	4	3	5	3	3	4	3	1	3.10
117	3	4	3	5	3	3	3	3	1	4	4	4	2	5	3	3	3	4	5	3	3	3	2	5	3	3	4	3	3	3.34
118	5	5	3	1	4	1	5	2	2	4	4	4	2	4	3	3	3	4	5	1	3	5	3	4	3	3	3	4	4	3.34
119	4	1	1	5	4	4	4	4	2	4	4	2	2	1	3	2	3	4	5	1	3	4	5	5	4	3	4	4	4	3.31
120	5	4	4	4	5	2	4	4	4	5	2	2	2	4	3	3	3	3	5	3	4	4	2	5	5	3	4	3	5	3.66
121	5	4	4	4	3	3	4	4	4	5	4	2	3	4	3	2	3	4	4	5	4	4	3	5	4	4	4	3	3	3.72
122	3	5	1	4	4	3	3	4	3	4	4	2	3	4	3	2	3	3	5	1	4	3	4	5	3	3	4	3	1	3.24
123	4	1	1	5	3	4	4	3	2	2	4	1	3	1	2	2	3	3	3	1	3	4	5	5	1	4	2	2	-	2.79
124	4	5	4	5	4	4	5	4	4	3	2	2	2	4	3	3	3	4	5	4	3	5	2	5	5	3	4	3	4	3.72
125	3	5	4	4	4	4	4	4	3	5	4	2	2	3	3	4	3	4	4	5	3	4	3	5	3	4	4	3	4	3.69

TABLE F.2

SCORE VALUES OF 99 SUBJECTS PARTICIPATING IN ITEM DISCRIMINATION ANALYSIS

Score Values	Score Values	Score Values
467	393	368
464	392	366
452	392	365
450	391	358
449	391	357
443	391	356
436	390	355
434	390	
433	389	——**
429	389	353
423	388	344
417	388	342
411	388	341
411	388	340
410	387	340
409	387	340
407	386	339
407	385	339
407	385	330
407	382	327
406	382	325
402	381	318
400	380	314
400	380	314
400*	379	311
——	375	309
400	374	308
398	374	305
398	373	296
398	373	294
397	371	287
395	371	283
394	370	263
394	369	196

*This number and above represented the high group.

**This number and below represented the low group.

TABLE F.3

PRETEST AND POSTTEST VALUES OF SUBJECTS IN FINAL PROGRAM

Group	I.D. Number	Student Pretest	Student Posttest	Parent Pretest	Parent Posttest
I	1	102	90		
I	2	124	138	141	137
I	3	140	150		
I	4	136	154	150	152
I	5	149	152		
I	6	140	124		
I	7	153	156		
I	8	118	120		
I	9	120	122	135	134
I	10	104	93		
I	11	140	137	134	119
I	12	128	127	149	152
I	13	136	137	123	128
I	14	123	112		
I	15	123	135		
I	16	149	151	147	153
I	17	142	154	160	156
I	18	143	127		
I	19	132	131	151	129
I	20	96	104		
I	21	129	125		
I	22	124	128	130	128
I	23	128	122	154	159
I	24	140	136		
II	25	150	154	136	143
II	26	139	139		
II	27	140	116		
II	38	108	106	120	127
II	29	151	125		
II	30	133	134	149	149
II	31	143	148		
II	32	139	134	128	128
II	33	130	142	143	139
II	34	144	142		
II	35	128	132		
II	36	97	96		
II	37	143	133		
II	38	124	125		

TABLE F.3 (continued)

Group	I.D. Number	Student Pretest	Student Posttest	Parent Pretest	Parent Posttest
II	39	121	121	132	128
II	40	106	107		
II	41	114	133		
II	42	124	107		
II	43	150	154	132	134
II	44	150	138		
III	45	86	121		
III	46	141	140	154	151
III	47	134	125	154	148
III	48	138	146		
III	49	111	122	142	153
III	50	119	115		
III	51	124	132		
III	52	123	121	130	128
III	53	83	125	133	131
III	54	147	144		
III	55	139	150	143	124
III	56	141	138	128	127
III	57	140	140	144	141
III	58	123	109		
III	59	137	134		
III	60	140	141	129	133
III	61	142	125	155	148
III	62	147	139	127	127
III	63	134	148	142	106
IV	64	124	131	139	134
IV	65	143	139	143	128
IV	66	130	139		
IV	67	144	135	133	129
IV	68	124	134	142	140
IV	69	115	134	141	135
IV	70	155	128	132	131
IV	71	127	141	142	139
IV	72	153	133	123	125
IV	73	111	142	156	141
IV	74	140	154		
IV	75	154	156	142	144
IV	76	106	99		
IV	77	136	145	145	133
IV	78	136	145	127	140

TABLE F.3 (continued)

Group	I.D. Number	Student Pretest	Student Posttest	Parent Pretest	Parent Posttest
IV	79	128	126	140	132
IV	80	125	133	128	142
IV	81	108	99	135	134
IV	82	129	135	128	107
IV	83	131	141		
IV	84	95	123	135	146
IV	85	114	111	150	134
III	86			142*	138*
III	87			130*	140*
III	88			135*	130*
IV	89			130*	128*

*These parent values were assigned separate identification numbers since their children did not complete the pretest and posttest series. However, their values were incorporated into their respective group values.

APPENDIX G

CORRESPONDENCE REGARDING PROGRAM DEVELOPMENT

March 22, 1973
Department of Health and Safety
The University of Tennessee
Knoxville, Tennessee 37916

Mr. Byrd Duncan
Route 1
Box 107
Briceville, Tennessee 37710

Dear Mr. Duncan:

Hello again. I telephoned your home tonight and your son informed me that you were at a meeting in Knoxville; for a man in his 70's you are certainly an example of a person with an amazing amount of energy and community concern. Let me mention again how much this impressed us when we visited your home last year.

As I mentioned to your son, I wanted to send you an outline of a particular program I would like to do in the Briceville community regarding prevention. I am a great believer in the value of the family and in the concept of prevention. I have also had the opportunity to speak with Dr. Dings, Carlton Salyer, Mr. Paul Bostic, and Mr. Patterson regarding the program.

I probably will not have an opportunity to come out and see you until June, but by that time, I should have the lesson plan completed (the first draft). I would like to give you a copy of the first draft and I would greatly appreciate your comments about it. If it would be convenient for you, I could call you at your home in June and make arrangements to visit with you again.

Let me say again how much I appreciate your deep concern for the health of your community; this truly impresses me. I look forward to meeting with you again.

Sincerely,

Gary D. Gilmore

Department of Health and Safety

December 14, 1973

Mrs. Rose M. Robinson
State Department of Education
813 Broadway at Gill
Knoxville, Tennessee 37917

Dear Mrs. Robinson:

Thank you for your attempts to contact me. I believe that it would be best for me to introduce myself and my program through this letter, considering your diversified schedule.

You were referred to me by Allen Murray at the State Department of Health. He indicated that you would be a key resource person regarding my educational program. I have developed a rating scale which requests your evaluation of a proposed family health education program emphasizing the concept of prevention. I have arranged for a pilot presentation of the program in January at the Briceville Elementary School. Prior to that, I would greatly appreciate your suggestions and recommendations for any program improvement.

This educational program represents a portion of my doctoral dissertation in Health Education at the University of Tennessee. At the completion of the research, I would like to share with you a summary of the completed program and the resultant statistical analyses.

Thank you very much for your time and consideration in this important matter.

Sincerely,

Gary D. Gilmore
Doctoral Teaching Assistant

THE UNIVERSITY OF TENNESSEE
College of Education
Knoxville, Tennessee 37916

School of
Health, Physical Education,
and Recreation

Department of Health and Safety

January 11, 1974

This is your invitation to come out on Thursday, January 17, at 7:30 p.m. for a very special program at the Briceville Elementary School. Your child will be participating in a health education program while at school next week; I would like you to have a similar opportunity on Thursday night. This program for parents will be geared to your health interests.

Along with the educational program, which includes a fine color movie, important printed material will be presented to you. It is all free of charge, and I will have the coffee pot on, as well.

When you get to Briceville Elementary School, come to Room Number 2. I am looking forward to seeing you this coming Thursday night.

Sincerely,

Gary D. Gilmore
Community Health Educator

Department of Health and Safety

December 6, 1973

Dr. Mildred E. Doyle
Superintendent, Knox County Schools
400 West Hill Avenue
Knoxville, Tennessee 37902

Dear Dr. Doyle:

I am writing to you in order to introduce myself and my doctoral dissertation program for consideration by the Knox County School Board. I am a doctoral candidate in the Health Education program at the University of Tennessee. My basic research involves the development, implementation, and evaluation of a family health education program, as outlined by the two enclosures.

It is my firm belief that this type of research can constitute a significant contribution to present community health education programs. In order to evaluate its significance, I would like to request a possible program initiation time of January 1974 for the fifth graders at Gibbs School. The evaluation of the program would be accomplished via the use of a 32 statement attitude scale (Likert-type) which would measure the preventive nature of an individual. I am developing this scale specifically for this research to be utilized as a pre-test, post-test, and post-post-test. No other recorded information about the students would be necessary.

If accepted by the Knox County School Board, a summary of the results and a detailed description of the program would be provided to you, Mr. Beecher Clapp, and Mr. Jim Thurman, at the completion of the research. I am most hopeful that the program could eventually be considered for possible inclusion in the school health curriculum. I am strongly emphasizing in this program the positive contribution to the students and their parents of developing a preventive attitude.

I realize that it is most difficult to convey in writing all of the various elements of this program. If at all possible, I would greatly appreciate meeting with you next week in order to discuss the program's major points. My telephone number at the Department of Health and Safety is 974-5041.

I greatly appreciate your time and consideration in this important matter. Thank you very much.

Sincerely,

Gary D. Gilmore, M.P.H.

cc: Mr. Beecher Clapp
Mr. Jim Thurman

Department of Health and Safety

January 14, 1974

Mr. Beecher Clapp
Director of Elementary Instruction
400 West Hill Avenue
Knoxville, Tennessee 37902

Dear Mr. Clapp:

I am writing to you regarding the health education program to which I made reference in my letter to Dr. Doyle on December 6, 1973; I sent a carbon copy of the letter to you. Dr. Doyle referred the matter and the program evaluation form to Mrs. Carolyn Sullivan, who in turn completed the form and mailed it to me. Mrs. Sullivan just called me today and stated that I should direct a letter to you in order to secure written approval for conducting the health education program at the Gibbs Elementary School.

Mr. Jim Thurman and I have discussed the possible dates in which to proceed with the program once your approval is secured; if it is agreeable with you, the dates of February 5, 6, and 7, 1974 appear to be the best. If you wish to contact me for any further clarification, I can be reached at 974-5041.

Thank you very much for your consideration in this important matter. I look forward to hearing from you.

Sincerely,

Gary D. Gilmore, M.P.H.

cc: Mrs. Carolyn Sullivan
Mr. Jim Thurman

THE UNIVERSITY OF TENNESSEE
College of Education
Knoxville, Tennessee 37916

School of
Health, Physical Education,
and Recreation

Department of Health and Safety

February 1, 1974

I am in the process of developing a special health education program which involves fifth-grade students and their parents. At this time, the program is in the developmental stage, and I would like to invite your participation.

This is your invitation to come out Thursday, February 7, at 7:30 p.m. to the Gibbs Elementary School. At that time, a special program will be presented which will be geared to your health interests.

Along with the educational program, which includes a fine color movie, important printed material will be presented to you. It is all free of charge, and I will have the coffee pot on, as well.

I am looking forward to seeing you this coming Thursday night.

Sincerely,

Gary D. Gilmore
Community Health Educator

THE UNIVERSITY OF TENNESSEE
College of Education
Knoxville, Tennessee 37916

School of
Health, Physical Education,
and Recreation

Department of Health and Safety

February 7, 1974

I am in the process of developing a special health education program which involves fifth-grade students and their parents. At this time, the program is in the developmental stage, and I would like to invite your participation.

Enclosed is an inventory which can be completed by either parent. Please indicate in the upper right-hand corner which parent will fill out the inventory. The purpose of this form is to improve the health education program, and so your participation is most important.

The inventory enables you to respond according to your feelings toward each of the 32 statements. Please note that there are no correct answers; this inventory is interested in your feelings toward the statements.

The inventory may be returned by your child to the Gibbs Elementary School. I would like to thank you for your time and cooperation in this important matter.

Sincerely,

Gary D. Gilmore
Community Health Educator

THE UNIVERSITY OF TENNESSEE
College of Education
Knoxville, Tennessee 37916

School of
Health, Physical Education,
and Recreation

Department of Health and Safety

February 14, 1974

I wish to thank you for your recent response to the first inventory. I have enclosed a second inventory as a follow-up procedure. Please have the same person who completed the first inventory fill out this one.

Again, please respond according to your feelings toward each of the 32 statements. There are no correct answers which are being sought.

I again want to thank you most sincerely for your time and cooperation in this important matter.

Sincerely,

Gary D. Gilmore
Community Health Educator

February 7, 1974

Dear Parent:

Due to a scheduling conflict with the band concert tonight, the health education program will be held on Monday, February 11, at 7:30 p.m. Refreshments will be served, a fine color movie will be shown, and free printed material will be presented to you.

I certainly look forward to seeing you this Monday night.

Sincerely,

Gary D. Gilmore
Community Health Educator

Mr. Gilmore:

_____ Yes, I will be able to attend the health program this Monday night at 7:30 p.m.

_____ No, I will be unable to attend.

_____
NAME

February 13, 1974

Dear Parent:

We will have a second presentation of the health program tomorrow night (Thursday, February 14) at 7:30 p.m. to enable you to attend. Again, we will have the fine color movie, free printed material, and homemade cake and coffee prepared by my wife. The program will only last one hour.

If you have any transportation problems, please call Mrs. Martha Clapp today or tomorrow at Gibbs School (689-5562), and I will be glad to drive you to and from the School.

We will be using the 5th Level classroom, and you can enter by using the lobby doors at the covered entrance.

We look forward to seeing you Thursday night.

Sincerely,

Gary D. Gilmore
Community Health Educator

APPENDIX H

CORRESPONDENCE REGARDING EDUCATIONAL RESOURCES

April 6, 1973
Department of Health and Safety
The University of Tennessee
Knoxville, Tennessee 37916

Health and Welfare Division
Metropolitan Life Insurance Company
1 Madison Avenue
New York, New York 10010

Gentlemen:

I am presently developing a health education program which will be emphasizing the concept of prevention. There will be two separate programs involving fifth graders in one, and adults in another.

In order to graphically present the value of taking preventive measures, I am attempting to procure films (filmstrips or 16mm films) which emphasize the importance of preventive action (immunizations, screening procedures, personal health activities, etc.).

I would greatly appreciate any suggestions you may have with respect to your particular film library offerings. I would also appreciate a copy of your pamphlet entitled: "Memo To Parents About Immunization." Let me thank you in advance for any aid you may provide.

Sincerely,

Gary D. Gilmore

April 6, 1973
Department of Health and Safety
The University of Tennessee
Knoxville, Tennessee 37916

Tennessee Tuberculosis Association
Health Education Department
119 17th Avenue South
Nashville, Tennessee

Gentlemen:

I am presently developing a health education program which will be emphasizing the concept of prevention. As presently conceived, there will be two separate programs involving fifth graders in one, and adults in another.

In order to graphically present the importance of taking preventive measures, I am attempting to procure films (filmstrips or 16mm films) which relate prevention to certain disease conditions.

I would greatly appreciate any suggestions you may have with respect to your particular film library offerings. Is there a separate film listing from your National Association? I would appreciate a copy of it if one is available. Let me thank you in advance for any aid you may provide.

Sincerely,

Gary D. Gilmore

June 12, 1973
Department of Health and Safety
The University of Tennessee
Knoxville, Tennessee 37916

Amy Dyer
Tennessee Tuberculosis & Respiratory Disease Association
Post Office Box 399
Nashville, Tennessee 37202

Dear Mrs. Dyer:

Thank you very much for the 1973 Catalog you sent to me in April. I would greatly appreciate copies of the following materials, if they are available (just one copy of each): "Air Pollution, The Facts," "Common Cold, The Facts," "Dust Diseases, The Facts," "You've Had Your Tuberculin Test," "This is Mr. TB Germ." "What's Your RD I.Q.?" and "What's Your TB I.Q.?" The order numbers for each of these Leaflets are respectively: 0030, 0190, 0280, 1310, 1000, 1210, and 1220.

I also look forward to previewing the film, "Breathing Easy," when it is available. I wish to thank you very much for your help and the service you are providing.

Sincerely,

Gary D. Gilmore

THE UNIVERSITY OF TENNESSEE
College of Education
Knoxville, Tennessee 37916

School of
Health, Physical Education,
and Recreation

Department of Health and Safety

November 29, 1973

Mr. César A. Portocarrero
Chief, Public Information Office
Pan American Health Organization
525 Twenty-Third Street, N.W.
Washington, D.C. 20037

Dear Mr. Portocarrero:

I wanted to write to you and personally thank you for sending me the film "Health Begins at Home." After carefully previewing it, I have come to believe that this film could be a significant addition to a health program I will be presenting to fifth graders and their parents during the dates of January 8-18, 1974.

I would be most grateful if you could send the film again for use during the above-mentioned dates. I would also like to request that in sending the film to our office, it would be most helpful to our campus post office if you would include "Department of Health and Safety" in my address.

I wish to express my sincere gratitude to you and your staff for the excellent service you provide. Thank you very much.

Sincerely,

Gary D. Gilmore
Doctoral Teaching Assistant

THE UNIVERSITY OF TENNESSEE
College of Education
Knoxville, Tennessee 37916

School of
Health, Physical Education,
and Recreation

Department of Health and Safety

November 29, 1973

Claude M. Eberhart, M.D.
Associate Medical Director
Health and Welfare Division
Metropolitan Life
One Madison Avenue
New York, N.Y. 10010

Dear Dr. Eberhart:

Several months ago I had the opportunity to preview your Metropolitan Life film entitled, "Looking at Children." I was very impressed with it, and felt that it could be a significant addition to a community health education program which I will be conducting during the dates of January 8-18, 1974. I would be most grateful if you could send the film again for use during those dates.

I also had the opportunity to examine your brochure entitled, "Memo to Parents about Immunization." I found this to be a valuable compendium of necessary information regarding prevention. If it would be at all possible, I would greatly appreciate using 100 copies of this brochure in the program.

I wish to express my sincere gratitude to you and your staff for the excellent service you provide. Thank you very much.

Sincerely,

Gary D. Gilmore
Doctoral Teaching Assistant

APPENDIX I

CORRESPONDENCE REGARDING INSTRUMENT DEVELOPMENT

March 22, 1973
Department of Health and Safety
The University of Tennessee
Knoxville, Tennessee 37916

William C. Meise, Ph.D.
Slippery Rock State College
Slippery Rock, Pennsylvania

Dear Dr. Meise:

I am presently in the planning phase of my doctoral dissertation which deals with the development of a family health education program incorporating the concept of prevention. I plan to present a program to parents and their fifth-grade children which hopefully will aid them in discovering the concept of prevention as it relates to their healthful well-being. Basic to this research is the utilization of an instrument which will serve as a pre-test and post-test for the measurement of attitudinal change among the parents and their children as a result of the educational program.

I noted a specific reference to your "Scale for the evaluation of opinions toward healthful living" in Cyrus Mayshark's text, Health Education in Secondary Schools. I have a feeling that this may be of significant aid in developing or securing an instrument which will measure attitudinal change. Would it be possible for you to send a reprint which describes your evaluation procedure? I would also be most grateful for any comments you may have regarding other instruments for the measurement of attitudinal change you may have utilized in your research.

I wish to gratefully thank you for any aid you may provide.

Sincerely,

Gary D. Gilmore

SLIPPERY ROCK STATE COLLEGE
School of Health, Physical Education and Recreation
Slippery Rock, Pennsylvania 16057

April 5, 1973

Mr. Gary D. Gilmore
Department of Health and Safety
The University of Tennessee
Knoxville, Tennessee 37916

Dear Mr. Gilmore:

In response to your letter of March 22, 1973, please find enclosed a copy of "A SCALE FOR THE MEASUREMENT OF ATTITUDES TOWARD HEALTHFUL LIVING". As you describe in your elementary school project it might be possible that this scale would be valuable in the evaluation of adult attitudes. However, for elementary children, you would have to go to another instrument. At any rate, you can evaluate the sample copy enclosed.

If I can be of any further assistance, please advise.

Sincerely yours,

/s/ William C. Meise

William C. Meise, Dean

WCM:dew

Enclosure

March 22, 1973
Department of Health and Safety
The University of Tennessee
Knoxville, Tennessee 37916

Walter C. Klein, HSD
Southern Illinois University
Alton, Illinois

Dear Dr. Klein:

I am presently in the planning phase of my doctoral dissertation which deals with the development of a family health education program incorporating the concept of prevention. I plan to present a program to parents and their fifth-grade children which hopefully will aid them in discovering the concept of prevention as it relates to their healthful well-being. Basic to this research is the utilization of an instrument which will serve as a pre-test and post-test for the measurement of attitudinal change among the parents and their children as a result of the educational program.

I have had the opportunity to carefully read your study in the December 1961 Research Quarterly entitled "Development of a Health Knowledge and Understanding Test for Fifth Grade Pupils." I have a feeling that the portion of your instrument dealing with prevention may be of significant value to my research. Would it be possible for you to send a reprint which describes your evaluation instrument? I would also be most grateful for any comments you may have regarding other instruments for the measurement of attitudinal change you may have utilized in your research.

I wish to gratefully thank you for any aid you may provide.

Sincerely,

Gary D. Gilmore

April 4, 1973
Department of Health and Safety
The University of Tennessee
Knoxville, Tennessee 37916

CTB/McGraw-Hill
Del Monte Research Park
Monterey, California 93940

Gentlemen:

I am presently in the development stage of my doctoral dissertation research topic which involves a particular health education program dealing with the concept of prevention. I am interested in locating instruments which will measure attitude and knowledge change resulting from an educational program.

I have had the opportunity to review your Health Behavior Inventory for the elementary level students. I have found it to be a clear and concise instrument. Do you publish inventories which also measure health attitudes and knowledge in elementary level students (I will be specifically working with fifth-grade students)?

Regarding another study I will be conducting, would you also have inventories which measure the health attitudes and knowledge of adults?

I would be interested in your specific fees for the utilization of these inventories. Thank you very much.

Sincerely,

Gary D. Gilmore

THE UNIVERSITY OF TENNESSEE
College of Education
Knoxville, Tennessee 37916

School of
Health, Physical Education,
and Recreation

September 24, 1973

Dr. Gerald Edwards, Chairman
Department of Health & Physical Education
Adelphi University
Garden City, New York 11530

Dear Dr. Edwards:

I am writing to you in request of your aid with respect to my current research. At present, I am in the final phase of my doctoral research here in the Department of Health and Safety at The University of Tennessee. My doctoral committee includes Dr. Bert Jones as my major advisor, Dr. Robert Kirk, Dr. Bill Wallace, and Dr. Charles Comeaux. My dissertation research involves the development and evaluation of a family health educaton program which incorporates the concept of prevention. Based on my initial research, I have found it necessary to develop an attitudinal inventory (Likert-type) which will enable the detection of attitudinal change.

I would like to request your expert assistance in the evaluation of this inventory, regarding its efficacy in measuring attitudes toward prevention. I have designed a simplified rating scheme, and the overall evaluation time probably would not exceed thirty minutes. I certainly realize how valuable your time is, and thus I have made the evaluation procedure as time-saving as possible.

Would you please indicate your decision on the enclosed postcard. If you agree to aid in this evaluation, I will forward the inventory to you within two weeks.

Let me sincerely thank you in advance for your consideration in this matter.

Sincerely,

Gary D. Gilmore
Doctoral Teaching Assistant

GDG:lp
Enclosure

Mr. Gary D. Gilmore
Department of Health and Safety
The University of Tennessee
1914 Andy Holt Avenue
Knoxville, Tennessee 37916

Mr. Gilmore:

In response to your request:

Yes, I will be able to participate.

No, I will be unable to participate.

_____
NAME

_____
ADDRESS

_____

THE UNIVERSITY OF TENNESSEE
College of Education
Knoxville, Tennessee 37916

School of
Health, Physical Education,
and Recreation

Department of Health and Safety

November 21, 1973

Mrs. Patsy Vittetoe
Reading Supervisor
Department of Instruction
Knoxville City Schools
101 East Fifth Avenue
Knoxville, Tennessee 37917

Dear Mrs. Vittetoe:

Enclosed are 200 copies of the Attitudinal Inventory of Prevention. As we discussed last week, 100 of these should be completed by fifth graders at the low socio-economic level, with the remaining 100 to be completed by the students' parents (one parent for each student). Even though it is stated on the Inventory, it would be very important to reemphasize to the students and their parents that they are to express their feelings toward each statement, rather than considering this to be a test with correct and incorrect answers. Also, no name or other identifying information, outside of the "student" or "parent" classification, is necessary on the Inventory.

This is the last test stage for the Inventory, from which the final draft will be developed. I would like to emphasize that you have played an integral part in the initial evaluation of this Inventory, and I wish again to express my sincere gratitude to you. Thank you very much.

Sincerely,

Gary D. Gilmore
Doctoral Teaching Assistant

APPENDIX J

NATIONAL JURY

NATIONAL JURY

Rosemary Amos, Ed.D.
Chairman
Allied Health Sciences
403 Franklin Hall
Kent State University
Kent, Ohio 44240

Dr. Herman Bush
Chairman
Department of School and Public Health
Eastern Kentucky University
Richmond, Kentucky 40475

Marion T. Carr, H.S.D.
Department of Health and Physical Education
Physical Education Center
University of South Carolina
Columbia, South Carolina 29208

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Chairman
Health Education Department
Box 5122
The University of Southern Mississippi
Hattiesburg, Mississippi 39401

Robert Samuel Cobb, Ph.D.
Chairman
Department of Health Science
Mankato State University
Mankato, Minnesota 56001

Marilyn Crawford, Ed.D.
Head
Department of Physical and Health Education
Division of Natural Sciences
Madison College
Harrisonburg, Virginia 22801

William H. Creswell, Jr., Ph.D.
Head
Department of Health and Safety Education
117 Huff Gym
University of Illinois
Champaign, Illinois

John T. Fodor, Ed.D
Coordinator
Department of Health Science
California State University
1811 Nordhoff Street
Northridge, California 91324

Gene B. Fulton, Ph.D.
Department of Health Education
University of Toledo
Toledo, Ohio 43606

Robert Gobin, Ph.D.
Director of Professional Preparation in Health and Physical Education
University of Vermont
Burlington, Vermont 05401

Jack E. Hansma, Ed.D.
Director, Health Education
Department of Health, Physical Education and Recreation
College of Arts and Sciences
Baylor University
Waco, Texas 76703

Dr. Edward J. Hart
Department of Health Education
Divison of Health, Physical Education and Recreation
State University of New York
Cortland, New York 13045

Jessie Helen Haag, Ed.D.
Professor of Health Education
Department of Physical and Health Education
Bellmont Hall, Room 222
The University of Texas
Austin, Texas 78712

Robert Kaplan, Ph.D.
Professor of Health Education
School of Health, Physical Education and Recreation
The Ohio State University
Columbus, Ohio 43210

Dr. Marvin R. Levy
Chairman, Health Education
Department of Health, Physical Education and Recreation
Temple University
Philadelphia, Pennsylvania 19122

Donald J. Ludwig, H.S.D.
Chairman
Department of Health and Safety Education
Indiana University
Bloomington, Indiana 47401

Dr. Richard L. Maughan
Department of Health Science
University of Northern Colorado
Greeley, Colorado 80639

Richard K. Means, Ed.D.
Professor, Health Education
Department of Health, Physical Education and Recreation
Auburn University
Auburn, Alabama 36830

Dr. William C. Meise
School of Health, Physical Education and Recreation
Slippery Rock State College
Slippery Rock, Pennsylvania 16057

Jack L. Richardson, Ph.D.
Head
Health Education Department
Eastern Illinois University
Charleston, Illinois 61920

Warren E. Schaller, H.S.D.
Chairman
Department of Physiology and Health Science
Ball State University
Muncie, Indiana 47306

Joe Fred Sills, Ph.D.
Chairman
Department of Community Health
University of Kentucky Medical Center
University of Kentucky
Lexington, Kentucky 40504

Warren E. Smith, Ed.D.
Professor of Health Education
School of Health, Physical Education and Recreation
University of Oregon
Eugene, Oregon 97403

Marian K. Solleder, Ph.D.
Professor, Health Education Division
School of Health, Physical Education and Recreation
University of North Carolina
Greensboro, North Carolina 27412

Richard D. Spear, H.S.D.
Chairman
Department of Health and Safety
Indiana State University
Terre Haute, Indiana 47809

Robert J. Synovitz, H.S.D.
Chairman
Department of Health Sciences
Western Illinois University
Macomb, Illinois 61455

C. Harold Veenker, H.S.D.
Chairman
Health Education Section
Lambert Building, Room 110
Purdue University
West Lafayette, Indiana 47907

Ray Watters, H.S.D.
Chairman
Health Sciences Faculty
213 Richards Building
Brigham Young University
Orem, Utah 84601

Carl E. Willgoose, Ed.D.
Professor of Education
704 Commonwealth Avenue
Boston University
Boston, Massachusetts 02115

APPENDIX K

COUNTY AND STATE JURY

COUNTY AND STATE JURY

Mr. Larry Baker
Director
Primary Care Centers
Tennessee Department of Health
Nashville, Tennessee

P. M. Dings, M.D.
Health Officer
Anderson County Health Department
Clinton, Tennessee

Mrs. Margie Gulley
Director
Pupil Personnel Services
Anderson County Schools
Clinton, Tennessee

Mr. Thomas Kendrick
Public Health Educator
Tennessee Department of Health
Knoxville, Tennessee

Mrs. Julie Lange
School and Public Health Nurse
Knox County Health Department
Knoxville, Tennessee

Mrs. Yvonne McCracken
County School Health Nurse
Anderson County Schools
Clinton, Tennessee

Mr. Marshall McGhee
Fifth-Grade Instructor
Briceville Elementary School
Briceville, Tennessee

Mr. C. Allen Murray
Public Health Educator
Tennessee Department of Health
Knoxville, Tennessee

John Painter, M.D.
Director
Area Medical Office
United Mine Workers of America Welfare and Retirement Fund
Knoxville, Tennessee

Mr. Calvin Patterson
Principal
Briceville Elementary School
Briceville, Tennessee

Mr. Hollis Perkins
Fifth-Level Chairman
Gibbs Elementary School
Corryton, Tennessee

Mrs. Rose Robinson
Specialist in Health Education
Tennessee Department of Education
Knoxville, Tennessee

Mr. Carlton Salyer
Health Administrator
Anderson County Health Department
Clinton, Tennessee

Mrs. Carolyn Sullivan
Director
Health, Physical Education, and Driver Education
Knox County Department of Public Instruction
Knoxville, Tennessee

Mr. James Thurman
Principal
Gibbs Elementary School
Corryton, Tennessee

Mrs. Brenda Vowell
Public Health Nurse
Anderson County Health Dept.
Clinton, Tennessee

APPENDIX L

BROCHURES USED IN FINAL PROGRAM

BROCHURES USED IN FINAL PROGRAM

Air Pollution Explained: Pollution and Your Health. National Tuberculosis and Respiratory Disease Association, 1969.

Dust Diseases (Silicosis and Other Pneumoconioses). National Tuberculosis and Respiratory Disease Association, 1970.

Food for a Healthy Mother and Baby. Ross Laboratories, 1970.

Food for Fitness. U.S. Department of Agriculture, 1971.

How Teeth Grow. Procter and Gamble Company, 1964.

Infant Care. Office of Child Development, U.S. Department of Health, Education and Welfare, 1963.

Malnutrition and Learning. National Institute of Child Health and Human Development, 1973.

Memo to Parents about Immunizations. Metropolitan Life Insurance Company, 1972.

Personalized Weight Control. National Dairy Council, 1966.

Prenatal Care. Office of Child Development, U.S. Department of Health, Education and Welfare, 1962.

Protect Your Child (Immunization Schedule). Knox County Health Department.

Stress and Your Health. Metropolitan Life Insurance Company, 1967.

TB: The Facts. National Tuberculosis and Respiratory Disease Association, 1969.

Watching Your Child's Health. Metropolitan Life Insurance Company, 1969.

VITA

Gary David Gilmore is the son of John Sylvester Gilmore and Ruth Morris Gilmore. He was born in 1943 in Neptune, New Jersey, later receiving his primary and secondary education in that state.

In 1962 he entered Hope College, Holland, Michigan, graduating in 1966 with Bachelor of Arts degree in biology. From 1966 to 1967 he attended Union Theological Seminary in Richmond, Virginia. From 1967 to 1968 he attended the University of Minnesota, Minneapolis, receiving his Master of Public Health degree in Public Health Education.

Immediately following graduation from the University of Minnesota, he began work as an Assistant Public Health Educator for the Bergen County Health Department, Hackensack, New Jersey. In June 1969, he entered the United States Army to fulfill his service obligation, and served for three years as a Preventive Medicine Specialist involved in epidemiology, communicable disease control, biostatistics, and public health education. Following the completion of his tour of duty, he was awarded the Army Commendation Medal.

In the fall of 1972, he began further graduate studies in the Department of Health and Safety at the University of Tennessee, Knoxville. He received a doctoral teaching

assistantship for two years. He was awarded the Doctor of Philosophy degree in Health Education on June 7, 1974.

He is a member of the American Public Health Association, and has contributed articles to professional journals. He is also a member of the national honor societies of Phi Kappa Phi and Alpha Epsilon Delta.

He is married to the former Elizabeth Jean Eckman of Oradell, New Jersey. They have one son, Scott David.