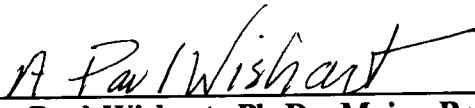


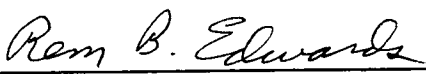
To the Graduate Council:

We are submitting herewith a dissertation written by Benjamin Franklin Orr entitled "A Comparative Study In Normative Ethics: Perceptual Differences of Educators, Physicians, and Ethicists Concerning Life and Death Issues." We have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Education.


A. Paul Wishart, Ph.D., Major Professor


Glenn C. Graber, Ph.D., Major Professor

We have read this dissertation
and recommend its acceptance:


Rem B. Edwards, Ph.D.


Ed. Roeske, Ph.D.

Accepted for the Council:


Associate Vice Chancellor
and Dean of The Graduate School

**A Comparative Study In Normative Ethics:
Perceptual Differences of Educators,
Physicians, and Ethicists Concerning
Life and Death Issues**

**A Dissertation
Presented for the
Doctor of Philosophy
Degree
The University of Tennessee, Knoxville**

Benjamin Franklin Orr

August 1992

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DEDICATION

This dissertation is dedicated in memorium to my parents and uncle

Rhodees Lane Orr, November 1975

Rees Price Orr, January 1982

and

James Wesley Orr, December 1991

without whom I could not have achieved my educational accomplishments.

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ABSTRACT

The legal and ethical issues generated from the changing public attitudes, law, and decision-making regarding life and death was the focus of this research study. The primary purpose of the study was to examine the perceptual differences of educators, physicians, and ethicists concerning five life-taking or life-giving issues:

abortion

capital punishment

euthanasia

artificial procreation, and

right to die/advance directives

The comparative study attempted to conclude two major determinants:

- (1) Was there a significant difference between the normative philosophical position of leading ethicists and the perceptions of educators and physicians regarding these issues; and
- (2) How consistent was the philosophical value of the educator's and physician's belief system?

Fundamentally the purpose of this research study was to understand in as many domains as possible what people meant and what they felt when they favored or opposed life and death issues.

The project was designed to develop a survey instrument for assessing the perceptions of three groups in a parallel study: (1) an expert sample group of leading ethicists, (2) a random sample of instructional staff from Knox County School System, and (3) a random sample of physicians from the Knoxville Academy of Medicine.

Data for the research were collected utilizing a self-administered, self-report sixty item questionnaire through a mail survey. The data were analyzed via item analysis and concept analysis applying t-tests, Pearson's Product Moment Correlation, MANOVA, ANOVAS, Factor Analysis of Variance, and Discriminant Analysis.

Results of the study were based on a response rate of : (1) 24 ethicists (83%), (2) 371 physicians (72%), and (3) 238 educators (70.4%). Analysis of the data provided substantial evidence for the following conclusions:

- (1) The bioethics survey instrument developed was a useful quantitative index of reasoning about life-taking and life-giving issues.*
- (2) A significant difference existed between the normative philosophical position of leading ethicists and the perceptions of educators and physicians regarding these issues ($p < 0.05$).*
- (3) The intercorrelation matrix provided evidence to support the consistency of the philosophical value of the sample populations' belief system.*

Evidence was also provided that identified areas of consensual agreement and that

inferred the issues due to scientific advancements were too complex to attempt to assess through single item inquiry. However, the citizenry when enlightened could understand the aspects surrounding the issues adequately to actively participate in the decision-making process to shape public policy.

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CHAPTER I

INTRODUCTION

Background for the Study

Since World War II, our post-industrial society has relied heavily on the continuous development of new, complex technology and has been strongly committed to the notion that investment both in the public and private sector in science and technology is *a priori* valuable and good. While advances in the development of science and technology have been associated with improving the average quality of life, such a commitment and investment has not been without repercussions. Accompanying these advances was the creation of a deluge of ethical dilemmas and complex social issues (Rich, 1990).

In a recent article, Robert F. Rich (1990) advanced the argument that our policy-making institutions and processes did not have the capacity to cope with these complex issues. Furthermore, he claimed that we, as a society, have not gone far enough in examining the normative question: Is the decision-making process that we employ effective in dealing with complex issues involving science and technology?

Rich felt that our traditional policy-making system was unable or unwilling to employ the same policy-making process for complex scientific or technological questions as we did with other complex policy questions. He based his claim on the

fact that scientific and/or technological policy-making authority was being delegated by our elected policy-makers to groups of professionals to make policy of tremendous consequence to the public with little regard for traditional political concerns of fairness and equity or to the balancing of diverse interests.

Because politicians were simply not confident about making decisions concerning complex controversial scientific and technological issues, the political decision-making system was stalled. As an alternative, decision-making authority was being "handed back" to the public via referenda (Rich, 1990).

Issues involving scientific advancements are increasingly an important part of our lives. If one subscribes to the argument set forth by Rich, then we as a society via referenda will be assuming greater social responsibilities as attentive citizens or key decision makers.

Despite all the rhetoric professed by science education to include values clarification, science as a discipline has failed to address sensitive scientific-societal issues primarily because the issues were too controversial or raised questions concerning the normative belief of a specific topic. Because science is not value-free, science education must incorporate rational decision-making to deal with science related societal issues involving value judgments along with the traditional "process" and "product" aspects of science. Failure to do so will produce citizens who are scientifically illiterate and incapable of voting on issues of scientific relevance.

Fletcher Watson (1980) at the first International Symposium on World Trends in Science Education argued that the myriad of ethical and social issues created by

science and technology can only be resolved by collective decision-making. Therefore, thoughtful decision-making must become a major integral part of any science curriculum (Aikenhead, 1985).

To what extent public participation is included in the decision-making process vis-a-vis referenda, collective decision-making, consensus development, or advocacy by competing interest groups, public attitudes do reflect society's ability to engage in decision-making. Conventionally, generalized belief systems are responsible for attitudes concerning specific issues (Sawyer, 1982). However, some people would argue that public attitudes concerning social issues are based on contextual or situational values instead of an underlying normative belief system.

It is within this framework that the following investigative study attempts to examine the perceptions of certain segments of society concerning specific science-related societal issues as compared to leading ethicists.

Statement of the Problem

In *London '89*, the Second International Conference on Health Law and Ethics, the keynoter, Justice Michael Kirby stated that democracy faces a challenge of great historical significance compared to the gauntlet thrown down by science and technology. The challenge will be society's ability to deal effectively with the bioethical issues posed by the uncertainties inherent in scientific and technological advancements. These challenges will severely test our determination

to maintain a free and democratic society, respectful of the lives and well-being of ourselves and our posterity (Capron, 1990, p. 17).

As set forth by Robert Rich and others, public expectations and values were increasingly in conflict with policy-makers' capacity to respond to the decision-making process concerning these issues. As a result the issues were being relegated to the public to decide. Evidence for such a claim was grounded in the referendum process that was spawned out of the Progressive Movement ideology, creating a mechanism intended to enable the electorate to take up, on its own, issues the legislature either could not or would not address. Such initiatives involving scientific and technological issues which have appeared on the public agenda over the past twenty years include: the production of new drugs to treat chronic and critical illnesses (e.g. AIDS and cancer); the development of biotechnology concerning recombinant DNA and human gene therapy; the development of military technology (e.g. "star wars", the Stealth bomber, and the SST); debate over the Superconductor Supercollider; technology for the control of solid and hazardous waste; and the development of technologies to prolong life (Rich, 1990).

The overriding issue concerning this mechanism for reaching critical decisions was, "can the stated values of the general public be useful in shaping public policy?" The argument that the decision-making task was best left to "experts" centers around a misguided belief that the complexities of scientific and technological issues were beyond the understanding of the average citizen (Colbert, 1990).

However, in a long tradition of arguments from Aristotle through Rousseau to John Dewey, the promise of participatory democracy had always been that it can provide a mechanism for transforming private perspectives into public vision (Jennings, 1990). The basic assumption was that lay people or non-experts could come to grips intelligently with the issues and find some common ground for reasonable agreement even in a pluralistic society (Hill, 1990). According to Hill (1990), the majority of citizens were pragmatists, gravitating toward centrist positions and avoiding the polar extremes. This tendency of the majority was motivated by an innate sense of privacy and a determination to exercise as much personal control as reasonably possible.

From this centrist majority can emerge reasonable solutions to the more contentious issues created by science-related technological advancements and for all its complexity can represent a common ground reflective of relevant experts on consensual values - the members of society. While public understanding of scientific and technological issues varies among different groups, people generally have a clear sense of their own values. By educating the public about these issues and involving them in the decision-making process, the values of technological advancement and human values of social justice can be rationally addressed.

In the face of national concern over the ethical and legal implications concerning complex issues created by scientific and technological advancements, none is more divisive than the controversy surrounding the legitimacy of life-taking and life-giving

actions in this country. Who lives, who dies, and by what means, are not merely medical questions; instead, they are societal issues requiring a societal response.

When an attempt is made to measure public opinion concerning life and death issues, the lines of public debate are demarcated between those who consider these issues as immoral acts tantamount to murder and those who oppose these issues as an infringement on the right of self-determination. Beliefs about life and death issues appear to vary along a continuum bordered by two distinct philosophies, a pro-life ideology and a pro-choice ideology.

For those confronted with making life and death decisions, the issues are far from simple. Such judgments or decision-making depend on many considerations as well as beliefs about the existential meaning of life. However, attempts to measure public opinion concerning these issues is a dynamic social process.

In a democratic society, consideration of public opinion plays an important role in the decision-making process and formulating public policies concerning these issues. Recent opinion polls reflect the dynamic nature of the American public's attitudes pertaining to life and death issues in view of scientific and technological advancements.

The important question is to what extent the citizenry has the ability to understand the aspects surrounding science-related societal issues such that they can actively participate in making informed decisions consistent with their values.

Purpose for the Study

The legal and ethical issues generated from the changing public attitudes, law, and decision-making regarding life and death was the focus of this research study. The primary purpose of the study was to examine the perceptual differences of educators, physicians and ethicists concerning five life-taking or life-giving issues:

- abortion
- capital punishment
- euthanasia
- artificial procreation, and
- right to die/advance directives.

The comparative study attempted to conclude two major determinants:

- (1) Is there a significant difference between the normative philosophical position of leading ethicists and the perceptions of educators and physicians regarding these issues; and
- (2) How consistent is the philosophical value of the educator's and physician's belief system?

Fundamentally the purpose of this research study was to understand in as many domains as possible what people meant and what they felt when they favored or opposed life and death issues.

Importance/Need of the Study

While a vast amount of literature and empirical research has been provided regarding each of the ethical issues under consideration, few studies have been conducted to ascertain the underlying belief systems and consistency of attitudes toward these specific issues collectively. This study was designed to examine the attitudinal and informational bases of people's opinions concerning life-taking and life-giving issues. The purpose was not merely to add information to be utilized in trend analysis of general levels of opinion. Instead, the study attempted to understand the basis, functions, and meaning of attitudes held by individuals as it pertains to the normative issue of community values and its relevance for effective participation in the decision-making process for establishing public policy.

Vidmar and Ellsworth (1974) contended that most studies of attitudes regarding these issues and public opinion polling had merely been used to determine if one favored or opposed an issue and did not provide adequate information concerning community standards. They argued that most typical single-question surveys could not measure intent, knowledge, reasoning, meaning, or ideology of respondents. Therefore, decision makers had no way of interpreting the relevance of public opinion poll data.

A study conducted in 1982 by Darwin Sawyer investigated three of the five issues (abortion, capital punishment, euthanasia), but fell prey to the criticism levied against single-question surveys. The study conducted by the President's Commission on informed consent and decision-making (1982) serves as a better paradigm.

The currently conducted research is the only empirical study to investigate the issues of abortion, capital punishment, euthanasia, right to die, and artificial procreation collectively and to compare the results to the normative philosophical position held by leading ethicists. Hopefully, the study reflects the basis and relevance of public opinion regarding the need for enlightened community standards for effective participation in decision-making and public policy.

Assumptions

1. The respondents will be honest in their responses. In order for any measurement of attitude to be valid the respondents must be honest in their response to the items. Because of confidentiality and group reporting of the data, individual respondents will not feel the need to falsify their responses.

2. Ethicists are uniquely qualified to determine the normative position for each of the issues to be investigated. While attitudes of any sector of the general public may reflect the opinion of the plurality, that opinion may or may not be the correct philosophically moral position. Therefore, the perceptions reflected by leading ethicists will be used as a standard to determine the normative position for each of the issues.

3. The public when informed can actively participate in the decision-making process for helping to shape public policy. Citizens Committees operate on the basic assumption that lay people or non-experts when informed can come to grips

intelligently with complex issues created by scientific technological advancement and find some common ground for reasonable agreement even in a pluralistic society.

4. Measurement of public opinion is a socially dynamic process. The concepts of attitude measurement proposed by L. L. Thurstone (1970) were accepted concerning this study: (1) opinion means a verbal expression of attitude, (2) interpretation of expressed opinion symbolizes an attitude, (3) opinions are used as a means for measuring attitudes.

Limitations of the Study

The employment of a self-administered, self-report questionnaire is a widely utilized procedure in survey research. However, there are specific limitations associated with this method of data collection.

First, self-report measures of attitude can only determine how knowledgeable individual respondents are about their attitudes and are willing to relate. Second, the response rate of mail questionnaires if low may adversely affect the representativeness of the sample from which data are collected. Third, once the questionnaire is received by the respondent, there is no assurance that data collected are actually responses of the intended respondent. Finally, the respondent may misinterpret a question, and the researcher is unable to assist in clarifying the item.

Delimitations of the Study

1. The sample of educators to be surveyed in the study was limited to instructional staff in a recently-merged metropolitan/county school system.

2. The questionnaire designed for the study was validated by seven experts in the educational and medical ethics field for content and construct validity.

3. The expert sample of bioethicists surveyed was restricted primarily to institutions in the southeastern and southwestern regions of the United States. This delimitation was an effort to help control the response rate. Respondents from institutions in the proximal geographic region from which the study originated are more likely to be responsive.

Definition of Terms

The following terms are defined to provide the context in which the terms are used throughout the study:

Attitude - the sum total of an individual's inclinations and feelings, prejudice or bias, preconceived notions, ideas, fears, threats, and convictions about any specific topic (Thurstone, 1970, p.2). An underlying disposition that enters into the determination of one's beliefs, feelings, and approach-avoidance actions with respect to an object (Cook & Selltiz, 1970, p. 4).

Opinion - the verbal expression of attitude or what symbolizes attitude (Thurstone, 1970, p. 128).

Attitude scale - an instrument which numerically measures the direction and intensity of an individual's attitude toward an object (Anastasi, 1970).

Thoughtful decision-making - decisions made while being consciously aware of the guiding values and current knowledge relevant to an issue (Aikenhead, 1980, p. 470).

Normative ethics - the study of moral arguments or statements about what instances or classes of conduct are right or wrong, good or bad (Hastings Center Report, 1980, p. 14).

Applied ethics - moral inquiry directed to making actual choices in moral conflicts within the domain of normative ethics (Hastings Center Report, 1980, p. 15).

Instructional staff - any licensed member of an educational system that is engaged in instruction fifty percent or more of the time.

Modified Likert Scale - a modification of the Likert technique allowing for alternatives in the number of response categories and/or modifications of the statement format. The scale developed for this study contains five response opportunities for each attitude statement.

Organization of the Study

This study is organized into five major chapters.

Chapter 1 includes an introduction to the study and is comprised of the following components: (1) background for the study, (2) statement of the problem, (3) purpose for the study, (4) importance/need of the study, (5) assumptions, (6) limitations of the study, (7) delimitations of the study, (8) definitions, and (9) organization of the study.

Chapter 2 provides a survey of the literature relevant to the study which will document previous research conducted to assist in establishing a framework for the current study. It will also delineate the uniqueness of this research compared to previous studies.

Chapter 3 presents the methods and procedures utilized in the developmental phases of the study: Phase 1 - Designing of the instrument, Phase 2 - Administering of the survey, Phase 3 - Analyzing of the data.

Chapter 4 contains implementation of statistical analysis on the data obtained from the study.

Chapter 5 summarizes the conclusions and implications of the study and offers recommendations for future research.

CHAPTER II

REVIEW OF LITERATURE

Previous Research

Despite nearly fifty years of scientific polling and substantial bodies of research, an understanding of the public's attitudes concerning life-taking and life-giving actions remains an elusive goal. According to Gayle Largey (1990), professor of sociology, "attempting to measure public opinion is akin to the Heisenberg principle in physics: the act of measurement leads to uncertainty in the observation" (p. 3).

Because of scientific technology, we are witnessing a revolution in ideas, concepts, values, traditions, ideologies, and human relationships. The interface of scientific advancements and ethical issues in the political and social arenas require comprehension of process and change as an integral part of understanding society's perceptions concerning life and death issues.

The laws and mores of Western civilization concerning life-taking and life-giving issues established norms based on the conviction that human life is sacred. Through scientific technology, we have created the conditions for suspension of mortality. As a society we must now ascertain if it is morally incumbent upon us willfully to offer an alternative to this course of action.

In reviewing the enormous amount of literature, four categories of review were germane to the investigative study: (1) the concept of attitude and opinion, (2) the relevance of public opinion and participation in decision-making regarding public policy, (3) trends in the public's attitude concerning life and death issues, and (4) science education, technology, and society.

Concept of Attitude and Opinion

According to L. L. Thurstone (1928), "the concept of 'attitude' is the sum total of a man's inclinations and feelings, prejudice or bias, preconceived notions, ideas, fears, threats, and convictions about any specified topic. The concept of 'opinion' means a verbal expression of attitude. Thus an opinion symbolizes an attitude, and we use opinions as the means for measuring attitudes" (p. 2).

Currently the most popular conception of attitude is that formulated by Katz and Stotland (1959) and by Krech, *et al.* (1962).

According to this view an attitude consists of three components: (1) cognitive, (2) emotional, and (3) action tendency. All of one's beliefs are subsumed under the cognitive component, and it is the evaluative beliefs that are the most critical to attitude as a dispositional concept. Therefore, the cognitive component of attitude is a very deep penetration of the normative order of society (p. 2).

The emotional component was the cognition of feelings about an object. The correlation of the cognitive and emotional components determined patterns of consistency and was an introjection of the perceived normative order.

The action tendency component incorporated the behavioral readiness of the individual to respond to an object. This conceptualization of attitude acted as a basis of inference for revealing an individual's beliefs, feelings, and action tendencies with respect to an object.

Relevance of Public Opinion and Participation in Decision-Making

The second category pertinent to the investigative study was the relevance of public opinion and participation in decision-making regarding public policy. While consensus on an issue does not necessarily mean it is the morally correct position, many studies have revealed the importance and ability of lay people or non-experts to come to grips intelligently with the issues and find some common ground for reasonable agreement even in a pluralistic society (Hill, 1990).

In John Naisbitt's book *Megatrends* (1982), Naisbitt outlined two incompatible but not necessarily contradictory trends in American culture. The first trend was a societal shift away from a representative democracy to a participatory democracy. While this trend implied that society wants more direct control of their own political destinies, this would require voters to participate in a decision-making process previously relegated to representative government.

The second trend according to Naisbitt was a shift from an industrial society to an information society. The question then became whether the two megatrends would parallel one another or if voters would become so inundated with information that making intelligent choices about scientific policy would become almost impossible (White, 1983).

The two trends have invited controversy and debate over the public's ability to participate in the decision-making process and to what extent the public should be informed. The case against informing the public was argued by Leon Trachtman and he based his case on three assumptions:

- 1) Knowledge is simply a good thing in itself.
- 2) People will be able to make more intelligent, personal consumer decisions if they have more knowledge of science and technology.
- 3) The very structure of a democratic society depends upon the existence of an enlightened citizenry. The political and social behavior of this citizenry in voting, in influencing elective and appointed officials, and in engaging in political and social activism, will be more constructive for society if it is informed by solid scientific understanding (Trachtman, 1983, pp 6-7).

Trachtman had no argument against these assumptions, but felt that they were not a basis for expenditure of funds to enlighten the public. Furthermore, because much of the information was self-contradictory this could create a confused public that

would either not actively participate in the decision-making process or if they did become activists would support the wrong causes.

It is to question the glib assumption that a scientifically informed public is a prerequisite for effective functioning of a democratic society in an age dominated by science and technology and the corollary of this assumption that a major policy commitment should be made to further public understanding of science (Trachtman, 1983, p. 8).

A similar line of reasoning pertaining to an enlightened public and participatory decision-making concerning public policy was advanced in a study conducted by Vidmar and Ellsworth (1974) on public opinion and the death penalty. Justice Thurgood Marshall, in his opinion in *Furman v. Georgia*, argued that the American people know almost nothing about capital punishment, and questioned the relevance of opinions based on ignorance or prejudice to any reasonable definition of enlightened community standards (Ellsworth & Ross, 1983, p. 121)

In the argument for the case of an enlightened public and participatory democracy, Isaac Asimov argued that not only were the assumptions stated by Trachtman valid, but in addition science and scientists needed the public's interest, financial support, and recruitment of their numbers from the public (Asimov, 1983).

Ian Barbour (1983) stated that there were two main objections to public participation. 1) Citizens who took part were not representative of the public and 2) public involvement resulted in delay and obstruction. He argued that public interest

groups might not represent the public, but operated independently from the main economic and bureaucratic power in our society defending environmental and human values that might otherwise be neglected.

Furthermore, single-interest groups unwilling to compromise might prevent policies that could have a greater beneficial effect for a wider public. Thus, extensive public debate by an informed electorate was an essential element of democratic self-government (Barbour, 1983).

The President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research (1982) unequivocally rejected the view that decision-making might only be suitable for and applicable to well-educated, articulate, self-aware individuals. This study concerning health care and decision-making served as a paradigm for the currently proposed study of bioethical issues. The President's Commission investigated a parallel study of physicians and public attitudes on the legal and ethical implications of informed consent. In the proposed investigative research, a parallel study of ethicists', physicians' and educators' perceptions of life and death issues will be compared.

Similarly, calls have been issued for Citizens Committees to establish statewide educational forums to create a more enlightened citizenry to cope with the daunting complexity of scientific advancements and public policy in a representative and pluralistic democracy (Hill, 1990; Rich, 1990; Aikenhead, 1985; Watson, 1980; Capron, 1990; Colbert, 1990). In both the 1979 and 1982 yearbooks of the Association for the Education of Teachers in Science, a major goal established for

science education should be to produce informed citizens prepared to deal responsibly with science-related societal issues (Gennaro and Glenn, 1979; Project Synthesis, 1982; Aikenhead, 1980, 1983, 1985).

In the final report of the Cambridge Experimentation Review Board on recombinant DNA research, the members concluded - "it is our sincere belief that a predominantly lay citizen group can face a technical scientific matter of general and deep public concern, educate itself appropriately to the task, and reach a fair decision" (Waddell, 1990, p. 394). Rhetoric must not only concern itself with the education of a cadre of rhetors, but with the education of the democratic audience as well. To quote Thomas Jefferson (1820):

I know of no safe depository of the ultimate powers of society but the people themselves; and if we think them not enlightened enough to exercise their control with a wholesome discretion, the remedy is not to take it from them, but to inform their discretion by education (Waddell, 1990, p. 396).

Public Opinion Trends Concerning Life and Death Issues

The third category relevant to the investigative study was the trends in the public's attitude concerning life and death issues. One of the most divisive issues confronting the American society is abortion. Copious studies have been conducted to determine the public's attitude concerning this issue primarily focusing upon

approval (Blake, 1971; 1977; Ebough & Haney, 1980; Jones & Westoff, 1973; Arney & Trescher, 1976; Granberg & Granberg, 1980). The studies revealed significant increases on the approval of legalized abortion between 1965 and 1975. However, the largest shift occurred between 1965 and 1970. Virtually no change occurred from 1975 to 1980, and a significant, though small, drop in approval from 1980 to 1985.

While there has been little change in the public's attitude since the Supreme Court's 1973 ruling on *Roe vs. Wade*, the latest Gallup Poll (April 1990) indicated the sharpest shift recorded in the last fifteen years. The percentage of Americans favoring legal abortions "under any circumstances" increased from twenty-four percent in 1988 to thirty-one percent in 1990. However, the majority of Americans (53%) continue to favor abortion only under certain circumstances. Fifty-five percent disapprove of the Supreme Court decision allowing states to restrict abortions and most Americans oppose a complete reversal of *Roe vs. Wade*.

Only once, since 1936, when the first scientific poll on the death penalty in the United States was conducted, has a majority of Americans opposed the death penalty, that year was 1966 (Bohm, 1987). Considerable research has been conducted on public support for capital punishment (Sarat & Vidmar, 1974, 1976; Kohlberg & Elfenbein, 1975; Jurow, 1971; Ellsworth & Ross, 1983; Warr & Stafford, 1984; Bohm & Aveni, 1985).

However, despite the overwhelming support for the death penalty, research indicated that people were generally uninformed about capital punishment. Since 1966, there has been an upward trend in public support for the death penalty, and the

most recent Gallup Poll (1986) indicates a seventy-two percent plurality -- up from sixty-two percent in 1978. While sixty-four percent of Americans held the belief that the death penalty was unfairly applied or discriminatory toward the poor, retribution was the most salient reason cited for their support. Even if evidence were presented to indicate capital punishment did not act as a deterrent, seventy-one percent still would favor the death penalty with lethal injection viewed by the public as the most humane method of execution.

With the pervasive secularization of Western culture, the debate regarding norms of life-taking and life-giving issues has focused not so much on the wrongness of the action, but what might follow from its acceptance or the claims concerning a "slippery slope." Such a claim had never been more prevalent than coping with the issue of active euthanasia.

During the past fifteen years we have evolved from situations in which it was a deviation from the medical and ethical standard to withdraw a respirator, nutrition, or intravenous fluids from a non-brain dead patient to the present environment, in which it is accepted practice or becoming the norm to withdraw such medical treatments in certain groups of patients. Apparently we are evolving toward active euthanasia (Sprung, 1990).

Historically, the greatest aberration of physician involvement with euthanasia occurred in Nazi Germany, with the direct medical killing and systematic genocide. The current campaign for the legalization of assisted suicide is counter to the long history of Anglo-American common law. However, there appears to be a trend in

public opinion to challenge opposition to euthanasia in Anglo-American law, medicine, and culture, and potentially, to reshape public policy (Rosenblum & Forsythe, 1990).

In 1936, a scientific poll indicated that only forty-six percent of the public favored euthanasia under government supervision for hopeless invalids (Ostheimer, 1980). As recently as 1985 an Associated Press-Media General Poll found that sixty-eight percent of the respondents believed that incurable patients ought to be permitted to end their lives by active means. This was further substantiated by a 1988 survey by the National Opinion Research Center.

Despite the medical profession's venerable position against medical killing, even physicians are re-evaluating their position on the issue of euthanasia. A recent survey of physicians in Colorado indicated that sixty percent believe active euthanasia would be justifiable and fifty-nine percent expressed a willingness to participate actively if it were legal. Similarly, the San Francisco Medical Society found seventy percent of physicians surveyed believe patients should have the option to request active euthanasia when confronted by an incurable terminal illness, and forty-five percent would carry out a patient's request for active voluntary euthanasia (Campbell & Crigger, 1989).

Closely related to the issue of active euthanasia is the right to die and the use of advance directives (e.g., living wills). At a time of many rapid changes in health care, one of the most remarkable changes is the dynamic shift of the American people's attitudes toward these issues. In a survey conducted by Harris Polls for the

Harvard Community Health Plan and the President's Commission for the Study of Ethical Problems in Medicine and Biomedical Behavioral Research, the majority of Americans believed that a patient with a terminal incurable disease ought to be able to tell his physician to let him die. This increased from sixty-two percent in 1973 to eighty-five percent in 1985.

The majority (64%) also preferred medical decisions to be made by a family member if they were unable to make a medical decision on their own as opposed to their physician. The preference for physicians to make the decision fell from thirty-one percent in 1982 to twenty-two percent in 1987. Pertaining to advance directives, a plurality of eighty-four percent in 1987 believed that the law should allow doctors to honor advance directives of terminally incurably ill patients. This was a sixteen percent increase from the sixty-eight percent in 1982 (Taylor, 1990).

The final issue to be considered in this empirical study was artificial procreation. Studies to ascertain the public's opinion concerning new reproductive technologies have not been undertaken to a large extent. Most studies have dealt with sex selection preference and genetic counseling. Therefore, trends over a period of time of public opinion regarding reproductive technologies need serious investigation.

Science Education, Technology, and Society

In a recent article on science education Ronald D. Simpson, Professor of science education at the University of Georgia, stated:

It is inescapable that every significant advance in science leads to questions of values and belief systems. It is no longer possible to pretend that science is a purely logical and value-free enterprise and that its implications are a different matter separate from the science itself. We must teach our students the basic principles of ethics and encourage them to examine science in light of these principles (Simpson, 1992, p.33)

Simpson's major point was that science as a discipline can no longer be taught just as a body of knowledge. Instead, we must teach science as a process that will create scientifically literate people to be intelligent on matters of national interest that involve science-based issues. Furthermore, we must prepare individuals to be intelligent users of science and producers of science for the future.

The question remains, "how can science education achieve this goal in a pluralistic society and optimize the advantages of science for the greatest number of people?" Because our society consists of such ethnic and socioeconomic diversity, conflicts arise between the teaching of science and individuals' right to hold their own beliefs or the right to insist that others be taught that belief at the exclusion of other competing positions.

There are two central approaches to moral or character education -- the direct approach to emphasize the values or character traits to be transmitted or the indirect approach to encourage students to define their own and others' values and to help

them define the moral perspectives that support those values (Benninga, 1988). The two most prevalent indirect approaches are the cognitive-developmental approach by Lawrence Kohlberg, which following John Dewey and Jean Piaget, links ethical growth to levels of cognitive maturity and the second approach developed by Louis Rath, Sidney Simon, Merrill Harmon, and Howard Kirschenbaum known as values clarification which emphasizes assisting learners in understanding their own attitudes, preferences, and values as well as the values of others (Noll, 1983).

Lawrence Kohlberg's cognitive-developmental theory was an extension of Dewey's notion of the social nature of education and Immanuel Kant's categorical imperative: one should act in such a way that one could wish the outcome of one's action to become a universal law of human conduct (Hospers, 1964). According to Kohlberg, an individual's moral reasoning consisted of six successive stages. As each stage was reached an individual's moral reasoning became capable of broader perspectives and his/her thinking about moral issues became more and more reversible. Kohlberg's theory was neither relativistic nor morally neutral (Benninga, 1988).

Howard Kirchenbaum's theory of values clarification consisted of seven steps: prizing one's beliefs and behavior (steps 1 and 2), choosing one's beliefs and behavior (steps 3, 4, and 5), and acting on one's beliefs (steps 6 and 7) (Raths, *et. al.*, 1966). Critics of this approach claimed its relativistic process undermined accepted values, induced no search for consensus, and did not distinguish between morality as a

generalizable system of norms as opposed to a system based on personal preference (Benninga, 1988).

Because science is not independent of society in a culture with widely differing values and beliefs, it is important that science be taught with its focus on its implications for society. Science literacy must include a familiarity with the broad sweep of science including a knowledge of the social and ethical implications of science and technology (Simpson, 1992).

CHAPTER III

RESEARCH DESIGN

Purpose for the Study

This empirical investigation was designed as a comparative study in normative ethics. The primary purpose of the study was to examine the perceptual differences of educators, physicians and ethicists concerning five life-taking or life-giving issues:

abortion

capital punishment

euthanasia

artificial procreation, and

right to die/advance directives

To achieve this purpose, the researcher developed an instrument to measure the perceptions of the sample populations. The methods and procedures utilized in the process for developing the instrument and conducting the study are described in this chapter.

Research Hypotheses/Questions

The investigative research attempted to explicate the following inquiries:

- (1) Is there significant difference between the normative philosophical position of leading ethicists and the perceptions of educators and physicians regarding life-taking and life-giving issues?
- (2) How consistent is the philosophical value of the educator's and physician's belief system, and
- (3) Does the citizenry understand the aspects surrounding science-related societal issues adequately to actively participate in the decision-making process to shape public policy?

Fundamentally this research study attempted to understand in as many domains as possible what people meant and what they felt when they favored or opposed life and death issues.

Methodology/Procedure

Development of this study consisted of four phases: Phase I - Selection of the sample population, Phase II - Design of the instrument, Phase III - Procedures for data collection, and Phase IV - Methods utilized for data analysis.

Phase I - Selection of the Sample Population

The population studied in this investigative research consisted of three groups:

- (1) an expert sample of leading ethicists,
- (2) a random sample of educators from the Knox County School System, Knoxville, Tennessee, and

- (3) a random sample of physicians from the Knoxville Academy of Medicine, American Medical Association.

The expert sample of twenty-nine leading ethicists (Appendix A) were arbitrarily selected from institutions primarily located in the southeastern and southwestern regions of the United States. This delimitation was an effort to assist in controlling the response rate. Respondents from institutions in the proximal geographic region to the center conducting the investigative research were more likely to be responsive.

The methodology utilized for the selection of educators was random sampling. Random sampling is the best single way to obtain the highest probability of a representative sample (Gay, 1987). The targeted population of educators was limited to instructional staff in the Knox County School System. An alphabetized listing by schools consecutively numbered (0000-2720) of all instructional staff was provided by the Office of Research and Development. The sample size determined on the basis of the total population was $n = 338$ and the participants in the sample were selected using a random digit table.

The same methodology and procedure was employed for selection of the sample population of physicians. The Knoxville Academy of Medicine provided an alphabetized list of its members. The individual members were assigned a number consecutively from 000 to 765. The total population of $n = 766$ physicians was utilized as the sample.

Phase II - Design of the Instrument

Since the fundamental purpose of this research investigation was to elicit the perceptions and beliefs of individuals concerning life and death issues, the selection and construction of the measuring instrument was very relevant. The type of survey instrument utilized was a self-administered self-report questionnaire designed to measure the attitudes of respondents regarding five bioethical issues: (1) abortion, (2) capital punishment, (3) euthanasia, (4) artificial procreation, and (5) right to die/advance directives. Although the survey instrument was originally developed by the researcher, many of the items were abridged or edited from survey instruments utilized in previous research collectively or individually for each concept (Appendix B).

The final draft of the questionnaire consisted of sixty items and demographic information (Appendix C). The items were close-ended statements representing the bipolar ideologies on each issue as well as items representing gradations along the continuum between the opposing philosophies. Items were designed to reflect a respondent's attitude regarding as many domains as possible (i.e. social, political, philosophical, economic, legal, religious, moral, scientific, etc.). A single overall open-ended question was included to afford the respondents the opportunity to express their opinion.

Item Construction

The items were constructed based on criteria or guidelines as outlined by Earl Babbie (1990) for conducting survey research:

- (1) Ensure the items are clear and unambiguous.
- (2) Avoid double-barreled statements.
- (3) Ensure information is provided for the respondent to answer reliably.
- (4) Ask relevant questions for the concepts being measured.
- (5) Avoid negative items.
- (6) Avoid "biased" items and terms.
- (7) Use short items and an appropriate readability level for the population surveyed.

Following these criteria, each item was carefully constructed for the five categories being measured. The number of items for each category was not a factor considered; however, the total number of items for the entire questionnaire was taken into consideration since the length of the survey instrument does have a bearing on the response rate. The questions were then randomly ordered under each respective category.

Reliability

Reliability of a measuring instrument is a measure of the consistency (Summers, 1970). The method for maximizing reliability for any questionnaire involves three primary criteria (Babbie, 1990):

- (1) Ask the respondents questions about which they are knowledgeable.
- (2) Ask questions relevant to the respondents.
- (3) Ensure the clarity of the items.

Reliability coefficients for items abridged or edited from previous research ranged from 0.73 to 0.90. Reliability of the survey instrument utilized in this investigation was established by the large sample size participating in the research investigation and through the use of two pilot study groups.

Validity

According to Earl Babbie (1990), validity refers to the extent to which an empirical measure adequately reflects the real meaning of the concept under consideration. More specifically, content validity refers to the degree to which a measure covers the range of meanings included within the concept. Construct validity is based on the way a measure relates to other variables within a system of theoretical relationships.

The survey instrument was reviewed by a panel of experts in the field of education, medicine, and medical ethics (Appendix D) for content and construct validity. Constructive criticism offered by this panel resulted in several revisions of the questionnaire before the final product was produced.

Pilot Studies

A pilot study is a miniaturized walk-through of the entire study design (Babbie, 1990). The survey instrument was field tested using two pilot study groups: (1)

undergraduate students in an introductory medical ethics class ($n=23$) and (2) graduate students in a philosophy of education class ($n=23$). The entire operational procedure and analysis of the research design was tested.

Although the results of the pilot study groups are not reported as a part of this document, the results are available and contributed to the clarity, reliability, length of time for administering, and refinement of the final survey instrument.

Format of Questionnaire

In designing any questionnaire, the researcher must consider the type of analysis that will be conducted on the data collected and how a given variable can best be measured. Although several techniques of measurement have been developed for measuring attitudes or beliefs (i.e. Thurstone scales, Guttman scales, semantic differential scales), the Likert scale appeared to be the most appropriate for use in this study.

Some of the strengths of the Likert scale are:

- (1) The ability to be used in a wide variety of settings,
- (2) The ability to be easily administered and scored,
- (3) The ability to be adapted or modified in its response alternatives and format,
- (4) The ability to measure communication value, objectivity, validity, reliability and interpretability for attitudes effectively, and
- (5) The most widely used technique of the attitude scales.

The questionnaire contained six categories corresponding to each life-taking or life-giving issue under investigation and an overall category. Each item was a closed-ended statement with a modified 5-point Likert scale response alternative. The response alternatives were arranged ordinally and consisted of the five choices: agree strongly, agree somewhat, disagree somewhat, disagree strongly, and not sure.

The order of the response alternatives was designed to force the respondents to express a position on each item. The "not sure" response was located last in the response alternatives to eliminate the concept of neutrality as opposed to the concept of a respondent being unsure of his or her belief concerning a given item or being totally unknowledgeable to make a choice.

Item sixty on the questionnaire was an open-ended question to afford the respondents an opportunity to express their own views overall to the issues being researched and their educational value. Demographic information was included to obtain a collective profile of each population being studied.

Phase III - Procedures for Data Collection

Approval to conduct the study was granted by the Committee for Research Participation, University of Tennessee, Knoxville. Permission was obtained to collect data from the director of Research and Evaluation, Dr. Samuel Bratton, Knox County School System and the Executive Board of the Knoxville Academy of Medicine.

The data collection process spanned a two month period which began January, 1992 through February, 1992. Individuals in each of the sample populations were

mailed a survey packet consisting of a cover letter (Appendix E), a questionnaire, and a business reply envelope. Additionally, the physicians were sent a letter of encouragement to actively participate in the study from Dr. Joseph B. Moon, President of the Knoxville Academy of Medicine.

The questionnaires were coded for each sample population to assist the researcher in follow-up efforts, but the confidentiality of the participants was maintained. First mailings produced approximately a 40% return. Ten to fourteen working days from the initial distribution, a follow-up letter and survey packet was mailed to all nonrespondents with the exception of the physician population.

Due to the expense incurred in any mail survey involving a large sample group (i.e. physicians), a method was utilized with the physician nonrespondents to achieve an acceptable percentage of at least 70% for generalizability of results. A sub-sample of the nonrespondents for physicians was randomly selected. According to L. R. Gay (1987), it has been statistically determined that a sub-sample of nonrespondents proportionally are representative of the nonrespondent population. Therefore, any response received from the nonrespondent sub-sample would represent similarly how that proportion of nonrespondents would have responded. The sub-sample of nonrespondents for physicians was coded and responses received were compiled proportionately as being representative of the physician nonresponse population.

Each sample population was assigned a code and the responses to each variable were recorded including the demographic information. The data was compiled and

analyzed by Ann Reed, Systems Analyst, at the University of Tennessee Computing Center.

Phase IV - Methods Utilized for Data Analysis

The data analyzed included the responses of the three sample populations: (1) ethicists, (2) physicians, and (3) educators. The final response rate for each of the respective sample populations was: (1) 24 ethicists (83%), (2) 371 physicians (72%), and (3) 238 educators (70.4%).

Data were analyzed by the University of Tennessee Computing Center on a mainframe using the *Statistical Package for the Social Sciences* (SPSS-X) and *SAS/Plus* which are employed internationally .

The following procedures were utilized in the data analysis for the responses to the Bioethics Survey (1992):

- (1) Descriptive statistics were calculated to provide summaries of the frequencies, percentages, means, and standard deviations for all variables by sample population and total population. This also included the demographic profile by sample population and total population for each item. Means for each variable were determined for all populations both as interval data and ordinal data.
- (2) Inferential statistics were calculated to provide t-tests for all items to determine whether there was a significant difference between the means of two independent samples. Means for each variable were determined and the

standard deviation was used to test the difference between means applying the statistical formula:

$$z = \frac{(\bar{x}_1 - \bar{x}_2) - \delta}{\sqrt{\frac{\sigma_1^2}{n_1} + \frac{\sigma_2^2}{n_2}}}$$

- (3) A correlation matrix for all items by selected populations was calculated using the Pearson Product Moment Correlation Coefficient to determine whether a relationship existed and to what degree between the quantifiable variables. The correlation coefficients were calculated by applying the statistical formula:

$$r = \frac{\Sigma XY - \frac{(\Sigma X)(\Sigma Y)}{N}}{\left\{ \Sigma X^2 - \frac{(\Sigma X)^2}{N} \right\} \left\{ \Sigma Y^2 - \frac{(\Sigma Y)^2}{N} \right\}}$$

- (4) The means were calculated for each sample population for each concept or category. The standard deviation was used to test the difference between means for significance.

- (5) Multivariate Analysis of Variance (MANOVA) was calculated for population effect to determine if a significant difference existed. This was followed by an Analysis of Variance (ANOVA) to determine if there was a significant variance attributable to treatment between groups or error variance within groups.
- (6) A Factorial Analysis of Variance (FANOVA) was performed using each of the concepts to determine a pattern among the variations and factor loadings for each variable. The procedure was used as a data reducing measure to determine pattern responses.
- (7) A Discriminant Analysis was calculated and plotted to illustrate any clustering of the sample populations due to their response pattern. The sample populations were superimposed on the plot to allow comparisons of the response patterns and areas of overlapping.

For each of the sample groups, the frequency of responses were compiled and the percentages calculated. These are represented in frequency and percentage tables.

Similarly, the mean and standard deviation was calculated by item analysis for each sample group. Analysis to test for difference between means was applied to compare each sample group with the expert sample (standard or norm) to test for a significant difference. Tables are formatted to reflect the results of the comparisons of the two sample groups with the expert sample as well as each other.

These tests were employed to determine if the results support rejecting or reserving judgment of the null hypothesis: *there is no significant difference between*

the perceptions of ethicists, physicians, and educators regarding life-taking and life-giving issues.

$$H_0: p = p_0$$

Or, to accept the alternative hypothesis: *there is a significant difference between the perceptions of ethicists, physicians, and educators regarding life-taking and life-giving issues.*

$$H_A: p \neq p_0$$

The results of the demographic information, based on percentages or frequencies in conjunction with other variables are graphically represented by histograms, bar graphs, or pie charts.

CHAPTER IV

STATISTICAL ANALYSIS OF THE DATA

This chapter contains the statistical analyses applied to the data and the results obtained from the study. The analyses were implemented based on specific assumptions concerning the data. Descriptive and inferential statistics were utilized to examine the data via the following processes: (1) item analysis, (2) concept analysis, and (3) demographic analysis.

Assumptions

The data were analyzed utilizing parametric tests. Certain assumptions must be met in order for parametric tests to be valid (Gay, 1987):

- (1) The variables being measured were normally distributed in the population,
- (2) The data represented or was treated as an interval level of measurement,
- (3) The samples were independently selected for the study or randomization was involved in the sample selection, and
- (4) The variances of the population comparison groups were equal.

Parametric tests had certain advantages over nonparametric tests. Parametric tests were more powerful and had a greater versatility in testing levels of significance as well as permitting the tests of extensive hypotheses.

Item Analysis

The first procedure in analyzing the data was to compile and summarize the results using descriptive statistics. The following statistical tests were applied in the item analysis: (1) frequency distributions and percentages, (2) means, (3) standard deviations, and (4) Pearson's Product Moment Correlation Coefficients.

The second procedure of the item analysis was to determine the level of significance using inferential statistics. The most appropriate test of significance for the scale of measurement represented by the data, sample selection, number of groups, and number of independent variables was the t test for independent samples.

Frequency Distributions and Percentages

The frequencies for each of the fifty-nine close-ended items for each response category of the 5-point Likert scale were compiled and recorded by sample population. Similarly, all of the responses for the open-ended item were recorded.

The frequency distributions were converted to percentage distributions for comparison of the responses for each item by sample population. Results for the frequency and percentage distributions for each item by population are located in Appendix F.

By comparison, strong differences of perceptions can be identified for the sample populations for specific items. For example, ethicists apparently strongly disagreed with physicians and educators on the concept of *personhood beginning at conception* [item 2], *abortion being morally equivalent to murder* [item 3], *federal funding of*

abortion clinics [item 6], *unrestricted abortion* [item 9], *research on RU-486* [item 14], and *equal rights of a developing fetus as a potential person compared to those of the mother* [item 15].

Similarly, disparity existed between ethicists' perceptions and physicians' or educators' perceptions of *capital punishment vs. life incarceration* [item 16], *the immorality of capital punishment* [item 17], *the purpose of the death penalty in society* [item 22], and *justification for capital punishment* [item 28]. In the case of euthanasia, perceptions differed primarily for the concept of *playing God* [item 36] and *active euthanasia being morally equivalent to murder* [item 39].

Less disparity occurred among the items representing artificial procreation and the right to die. Some disagreement existed concerning *procreation only by natural means* [item 41].

Means and Standard Deviations

While frequency and percentage distributions were adequate for summarizing and drawing comparisons between the responses of the sample groups, they were not adequate to determine if the differences were significant. Means were calculated for each item to measure the central tendency of the responses. The standard deviations for each item were determined as a measure of variability. These statistical results were then used to perform t-tests to determine the level of significance.

Means and standard deviations for responses by population were calculated as both interval data and ordinal data. As interval data the responses were coded with

"not sure" in a neutral position to treat each response based upon predetermined equal intervals. Results of the means and standard deviations were recorded in Appendix G.

Means were also calculated treating the data ordinally but utilizing the codes assigned to the responses on the questionnaire. This was done to provide for better comparisons of the means for each sample group to the actual ranked responses. Means calculated as ordinal data are listed in Appendix H.

The t Test for Independent Samples

When two or more groups were randomly selected, they were assumed to be the same at the conception of the study with respect to performance on the dependent variable. However, at the conclusion of the study if they were not essentially the same due to treatment, the null hypothesis would be rejected. If there were no essential differences, the null hypothesis would not be rejected or judgment would be reserved. The criterion was whether they were significantly different (Gay, 1987).

The t test for independent samples was used to determine if a significant difference existed between the means of the sample groups. The means by item analysis were tested independently for physicians and educators as compared to the means of the ethicists. The results of the t test are presented in Appendix G. Note: Items without an F' value represent all responses were the same for one class level.

At a 95% confidence level ($\alpha = 0.05$), significant differences between means ($p < 0.05$) were found among specific items for the sample groups compared to the

ethicists. Significant differences between groups occurred on the issues of *abortion and rape* [item 1], *personhood at conception* [item 2], *abortion as morally equivalent to murder* [item 3], *federal funding of family planning clinics* [item 6], *abortion and incest* [item 8] and, *abortion in regard to the physical health of a woman* [item 10].

The findings also indicated differences on *capital punishment as a violent example* [item 20] and *capital punishment as being justifiable* [item 28]. Only the concept of *playing God* [item 36] was significant for the category of euthanasia. *Procreation only by natural means* [item 41] and *establishment of legislative guidelines and policies for reproductive technologies* [item 48] were significant for the category of artificial procreation. A significant difference was expressed by physicians on *advance directives and agreement on treatment options* [item 57]. The overall item, *pertaining to the need and educational value of bioethical issues being incorporated as part of an interdisciplinary curriculum* [item 59], reflected a significant difference between the sample groups.

The results of the various statistical tests applied in the item analysis supported the research hypothesis. However, further analyses were performed to substantiate these findings.

Pearson's Product Moment Correlation Coefficients

The research question, pertaining to the philosophical consistency of the sample populations' belief system, was analyzed by applying Pearson's Product Moment

Correlation or Pearson r. The coefficient obtained by applying Pearson r is a measure of the degree of association between variables (Champion, 1981).

Each of the 59 variables were compared with one another by population based on the responses to measure the degree of association. A correlation matrix for each sample group is located in Appendix I. The results indicated a significant association between many of the variables at a $p < 0.05$ significance level.

Tables (I, III, and V) illustrate the ten paired variables with the most positive and most negative degrees of association for all variables by population. Tables (II, IV, and VI) represent the paired variables by category with an r value $\geq +0.70$ or ≤ -0.70 for each sample group.

Correlations between the paired variables indicated a significant association for all three sample populations. However, the ethicists as a group demonstrated a higher degree of consistency in their response to all variables.

Concept Analysis

The results of the item analysis yielded a significant difference. However, when more than two means are involved in a multiplicity of t tests, multiple comparison procedures are employed to determine which means were in fact significant. Multiple comparison techniques are a special form of the t test to account for possible error based on the combined variance of all the groups. This special t adjusted for the multiplicity of tests being executed and eliminated the chance of committing a type I error: the rejection of the null hypothesis that was really true (Gay, 1987).

TABLE I
Summary of Correlation Values for Total Paired Variables: ETHICISTS

Item	Paired Variables	r Value	Paired Variables	r Value
1	Q 1 - Q 8	1.00	Q 1 - Q15	-0.89
2	Q 3 - Q 6	0.84	Q 3 - Q 5	-0.85
3	Q 3 - Q15	0.89	Q 4 - Q39	-0.80
4	Q 4 - Q 9	0.78	Q 5 - Q15	-0.82
5	Q 4 - Q13	0.83	Q 8 - Q15	-0.89
6	Q 6 - Q15	0.83	Q 9 - Q27	-0.78
7	Q 6 - Q36	0.90	Q13 - Q39	-0.84
8	Q15 - Q36	0.80	Q30 - Q32	-0.77
9	Q17 - Q23	0.79	Q31 - Q34	-0.87
10	Q52 - Q54	0.88	Q43 - Q44	-0.82

p < 0.05

TABLE II
Summary of Correlation Values for Paired Variables by Category: ETHICISTS

Category	Item	Paired Variables	r Values $\geq + 0.70$ or r Values $\leq - 0.70$
Abortion (Q1 - Q15)	1	Q 1 - Q 8	1.00
	2	Q 1 - Q15	-0.89
	3	Q 3 - Q 5	-0.85
	4	Q 3 - Q 6	0.84
	5	Q 3 - Q15	0.89
	6	Q 4 - Q 5	0.78
	7	Q 4 - Q 9	0.78
	8	Q 4 - Q13	0.83
	9	Q 5 - Q 6	0.72
	10	Q 8 - Q15	0.89
Capital Punishment (Q16-Q28)	1	Q20 - Q23	0.74
	2	Q23 - Q17	0.79
Euthanasia (Q29-Q40)	1	Q30 - Q32	-0.77
	2	Q30 - Q38	-0.71
	3	Q31 - Q34	-0.86
Artificial Procreation (Q41-Q48)	1	Q43 - Q44	-0.82
Right to Die (Q49-Q58)	1	Q49 - Q51	0.75
	2	Q50 - Q54	0.71
	3	Q53 - Q54	0.88

p < 0.05

TABLE III
Summary of Correlation Values for Total Paired Variables: PHYSICIANS

Item	Paired Variables	r Value	Paired Variables	r Value
1	Q 1 - Q 8	0.78	Q 1 - Q 3	-0.55
2	Q 2 - Q 3	0.71	Q 1 - Q 6	-0.56
3	Q 3 - Q 6	0.64	Q 2 - Q 5	-0.57
4	Q 3 - Q15	0.64	Q 2 - Q12	-0.55
5	Q 4 - Q 5	0.83	Q 2 - Q13	-0.55
6	Q 5 - Q 9	0.66	Q 3 - Q 4	-0.57
7	Q 5 - Q12	0.70	Q 3 - Q 5	-0.62
8	Q 9 - Q12	0.77	Q 3 - Q12	-0.56
9	Q10 - Q11	0.75	Q 3 - Q13	-0.58
10	Q30 - Q31	0.76	Q 6 - Q13	-0.57
11			Q22 - Q28	-0.55
12			Q30 - Q36	-0.55
13			Q31 - Q34	-0.64
14			Q35 - Q36	-0.56

$p < 0.05$

TABLE IV
Summary of Correlation Values for Paired Variables by Category: PHYSICIANS

Category	Item	Paired Variables	r Values $\geq + 0.70$ or r Values $\leq - 0.70$
Abortion (Q1 - Q15)	1	Q 1 - Q 8	0.78
	2	Q 2 - Q 3	0.71
	3	Q 4 - Q 5	0.83
	4	Q 5 - Q12	0.70
	5	Q 9 - Q12	0.77
	6	Q10 - Q11	0.75
Capital Punishment (Q16-Q28)	None		
Euthanasia (Q29-Q40)	1	Q30 - Q31	0.76
Artificial Procreation (Q41-Q48)	None		
Right to Die (Q49-Q58)	None		

$p < 0.05$

TABLE V
Summary of Correlation Values for Total Paired Variables: EDUCATORS

Item	Paired Variables	r Value	Paired Variables	r Value
1	Q 1 - Q 8	0.85	Q 1 - Q 6	-0.62
2	Q 1 - Q13	0.73	Q 2 - Q 4	-0.64
3	Q 2 - Q 3	0.72	Q 2 - Q 5	-0.68
4	Q 4 - Q 5	0.92	Q 3 - Q 4	-0.68
5	Q 4 - Q12	0.73	Q 3 - Q 5	-0.67
6	Q 5 - Q12	0.74	Q 3 - Q12	-0.60
7	Q 8 - Q13	0.70	Q 6 - Q 8	-0.61
8	Q 9 - Q12	0.70	Q 6 - Q13	-0.61
9	Q10 - Q11	0.86	Q30 - Q39	-0.60
10	Q22 - Q23	0.74	Q31 - Q39	-0.64
11			Q35 - Q39	-0.66

$p < 0.05$

TABLE VI
Summary of Correlation Values for Paired Variables by Category: EDUCATORS

Category	Item	Paired Variables	r Values $\geq + 0.70$ or r Values $\leq - 0.70$
Abortion (Q1 - Q15)	1	Q 1 - Q 8	0.85
	2	Q 1 - Q13	0.73
	3	Q 2 - Q 3	0.72
	4	Q 4 - Q 5	0.92
	5	Q 4 - Q12	0.73
	6	Q 5 - Q12	0.74
	7	Q 8 - Q13	0.70
	8	Q 9 - Q12	0.70
	9	Q10 - Q11	0.86
Capital Punishment (Q16-Q28)	1	Q22 - Q23	0.74
Euthanasia (Q29-Q40)	None		
Artificial Procreation (Q41-Q48)	None		
Right to Die (Q49-Q58)	None		

$p < 0.05$

The concept analysis consisted of five statistical procedures being performed: (1) means and standard deviations, (2) multivariate analysis of variance (MANOVA), (3) univariate analysis of variances (ANOVAS), (4) factor analysis, and (5) discriminant analysis. Each of the individual multiple comparison techniques was utilized to reduce the data for easier comparison and more accurate results.

Means and Standard Deviations

The first procedure in the data reduction process of content analysis involved the calculation of means and standard deviations. The individual scores for all items included under each concept were calculated to determine an arithmetic mean and standard deviation for the five concepts. The results by population are presented in Table VII at a significance level of $p < 0.05$.

TABLE VII. Concept Means for All Variables by Population

CONCEPT	Ethicists		Physicians		Educators	
	M	SD	M	SD	M	SD
1. Abortion	3.24	0.38	3.30	0.44	3.31	0.48
2. Capital Punishment	3.01*	0.26	2.75	0.40	2.73*	0.45
3. Euthanasia	2.74	0.40	2.71*	0.32	2.87*	0.36*
4. Artificial Procreation	2.84	0.32	2.57*	0.53	2.74*	0.55
5. Right to Die / Advance Directives	2.78*	0.44	2.97*	0.38	3.14*	0.45

* $p < 0.05$ significance between population

M = mean

SD = standard deviation

These results substantiated that significant differences were present due to treatment as opposed to chance. However, it should be noted that the results of any means are subject to extreme scores. Thus, where the differences are located may not be as well defined as in an item analysis.

Multivariate and Univariate Analysis

Using the concept means, a multivariate analysis of variance (MANOVA) and a univariate analysis of variance (ANOVA) for each concept were performed to determine total population effect. Results of these analyses are presented in Table VIII.

TABLE VIII. Multivariate and Univariate Results for Population Effect

Analysis	F Value	p
MANOVA	6.10*	0.0001
ANOVAS		
1. Abortion	2.17	.07
2. Capital Punishment	3.30*	.01
3. Euthanasia	9.93*	.0001
4. Artificial Procreation	9.55*	.0001
5. Right to Die	10.81*	.0001

* Significant between groups

The F values in each analysis revealed a significant difference existed between groups (treatment variance) as opposed to within groups (error variance) due to chance. Therefore, the null hypothesis would be rejected, and it is concluded that the treatment (independent variables) had a significant effect on the dependent variable.

***Principal Factor Analysis of Variance
with Varimax Rotation***

Factor analysis of variance (FANOVA) was used to discover patterns among the independent variables due to interactions. This was accomplished by generating artificial dimensions (factors) that correlate highly with the real variables. The output of this analysis produced factor loadings based on observed relations among variables including the correlations between each variable and each factor (Babbie, 1990).

Table IX represents the factors generated; the positive, negative, and non-loading items for each factor; and the percent of variance that can be accounted for by each factor in the instrument. The directionality of the response patterns for each item was indicative of the position represented by that item. Positive loading items represented a more liberal position, and negative loading items represented a more conservative position.

TABLE IX. Results of Principal Factor Analysis with Varimax Rotation Based on Response Pattern

Factor	%	Positive Loading Items	Negative Loading Items	Non-Loading Items
F1 Abortion	21	Q 1 Q 8 Q11* Q 4 Q 9 Q12 Q 5 Q10* Q13	Q 2 Q6 Q 3 Q15	Q 7 Q14
F2 Euthanasia	30	Q29 Q33* Q51* Q30 Q35 Q31 Q37	Q32 Q38 Q34 Q39 Q36	Q40
F3 Capital Punishment	37	Q17 Q21 Q24 Q18 Q22 Q20 Q23	Q16 Q28 Q25 Q27	Q19 Q26
† F4 ⊖ Right to Die / Advance Directives	42	Q47* Q55* Q51* Q57* Q53* Q58*		Q49* Q54 Q50 Q56 Q52
F5 ⊕ Right to Die / Advance Directives	46	Q33* Q54 Q50 Q56 Q52		Q49* Q55* Q51* Q57* Q53* Q58*
F6 Artificial Procreation	49	Q10* Q44 Q11* Q42	Q46	Q41 Q47* Q43 Q48 Q45

† F4 Factor without any negative loading items but more conservative position

Items with loadings ≥ 0.40 correlation between item and factor

% - percent variance explained by each factor

* Items cross correlated among factors

Positive Loading Items representing more liberal position

Negative Loading Items representing more conservative position

Table X lists the paired sample populations that exhibited a significant difference ($p < 0.05$) for each factor in the concept analysis.

TABLE X. Significant Differences by Population for Each Factor

Factor	Population
F1 Abortion	Ethicists - Educators Educators - Physicians
F2 Euthanasia	Educators - Physicians
F3 Capital Punishment	Ethicists - Educators Ethicists - Physicians
F4 Right to Die / ⊖ Advance Directives	Ethicists - Educators Educators - Physicians
F5 Right to Die / ⊕ Advance Directives	No Significant Difference
F6 Artificial Procreation	Educators - Physicians

MANOVA significant @ $p \leq 0.05$

ANOVAS significant @ $p \leq 0.05$

Discriminant Analysis

The type of discriminant analysis performed to analyze the data was CANDISC or canonical discriminant analysis. CANDISC was used as a dimension-reduction technique that derived canonical variables from a categorical variable (population) and several quantitative variables (concepts) to summarize between - category variations.

The canonical discriminant analysis derived two linear combinations of the variables called canonical variates. The variable that defined the maximal multiple correlation with the groups was called the first canonical variate. The variable that defined the uncorrelated linear combination with the first canonical variate of highest possible multiple correlation with the groups is referred to as the second canonical variate (*SAS/STAT User's Guide*, 1989).

The analysis produced by graphing the two canonical variates was a plot for visual interpretation of the sample group differences. In Figure 1, the results are presented for the two sample populations, ethicists and physicians. In Figure 2, the physicians are superimposed upon the first plot to illustrate the differences for all three groups.

The figures illustrated the clustering patterns of the sample populations emphasizing areas of overlapping or consensus as well as areas of differences. Interpretation of the plot provided a description of a more liberal or conservative position. Clustered groups around the zero point of the ordinate and abscissa represent a more centrist position or consensus. The more positive plottings or more negative plottings respectively represent a more prominent liberal or conservative position or areas of differences between the groups.

Demographic Analysis

The demographic data were analyzed descriptively as frequency distributions and percentages. Appendix J contains graphical illustrations of the frequency distributions

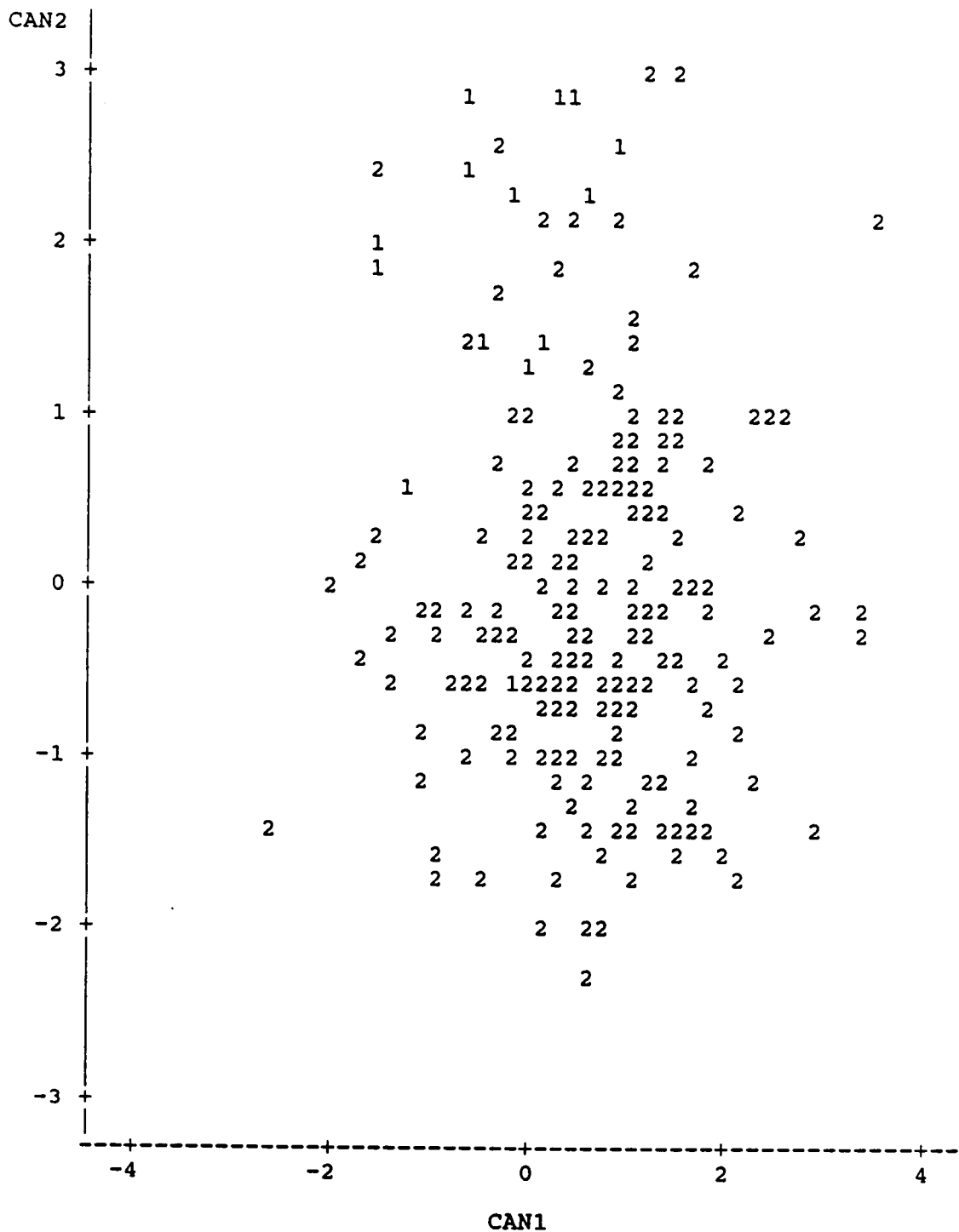


Figure I. Discriminant Analysis Plotting Canonical Variate 1 (Ethicists and Educators by Population) vs. Canonical Variate 2 (Concepts).

1-Ethicists

2-Educators

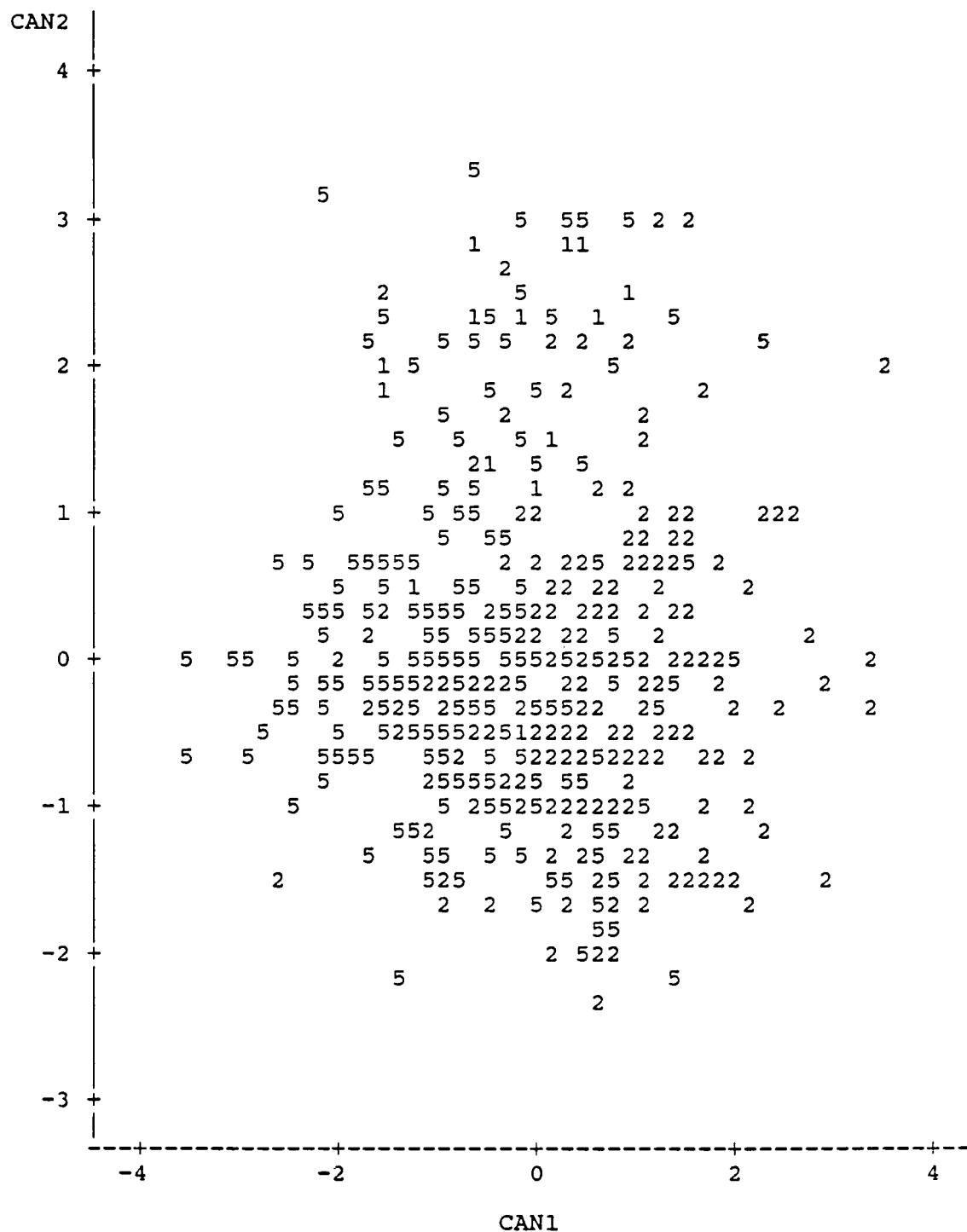


Figure II. Discriminant Analysis Plotting Canonical Variate 1 (Ethicists, Educators, and Physicians by Population) vs. Canonical Variate 2 (Concepts).

1-Ethicists

2-Educators

5-Physicians

and percentages by population for comparative purposes.

The demographic information was coded for compilation and histograms, bar graphs, and pie charts were utilized to graphically illustrate gender, age, ethnicity, religious preference, political preference, educational level, and years of experience or practice for the sample groups.

In general, the ethicists consisted of a disproportionate number of males, all white primarily 30 years or older with an education background at the doctorate level. The majority had 16+ years of experience and were politically affiliated as democrats. The greatest diversity among the ethicists was demonstrated by religious preference. Approximately 50% were Protestant, 16% Catholic, and 16% other.

The physicians also consisted of a disproportionate number of males (338), predominately white in the age bracket of 30 to 50 years or older. Over half of the physicians had 16+ years of practice with fairly equal distributions for the other intervals. The physicians were overwhelmingly republican or independent and 79% were Protestant.

As a group, the educators represented a slightly greater diversity. The educators consisted of a disproportionate number of females (190), predominately white in the 30 to 49 year age bracket. Approximately half of the educators held bachelor's degrees (49%) and 51% held a master's degree or higher. Fifty percent had 16+ years in the teaching profession with the other experience intervals approximately equal. The educators were fairly equally distributed in political preference with a slightly greater number of republicans and 90% of the educators were Protestant.

Summary

The two methods employed to analyze the data, item analysis and concept analysis, produced evidence for rejecting the null hypothesis and accepting the alternative hypothesis. Both methods verified that a significant difference existed between the perceptions of physicians and educators concerning life and death issues when compared to the normative philosophical position of ethicists.

Despite the fact that both methods supported the same conclusion, there were disparities in the results obtained from each method. These disparities can best be explained in view of the advantages of each method of analysis.

Item analysis produced a comparison of the results for each variable independently. This led to a possible significant difference due to the application of a multiplicity of t tests.

Concept analysis as a data reducing technique compensated for the multiplicity of tests executed. However, this procedure produced a comparison of the results utilizing multivariate analysis. This led to a failure to produce a distinct comparison for each situation represented by the individual concept variables.

Thus, the disparities exhibited between the two methods in effect were compensated for by the respective advantage of each procedure and the merits of each method must be evaluated on the basis of the research hypotheses under investigation.

CHAPTER V

CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Recapitulating, this study was grounded on the premise that scientific and technological advancements have created complex ethical issues that must be addressed. The argument was advanced that decision-making for establishing policies concerning these issues by elected policy-makers and professionals were being enacted with little regard for concerns of fairness and equity to society who was affected the most. As a result, there appeared to be an increased emergence of greater participatory democracy in the decision-making process. However, this argument impugned the citizenry's ability to understand these issues adequately to actively participate in the decision-making process to shape public policy. This investigative research was designed to compare educators', physicians', and ethicists' perceptions regarding life and death issues to provide a more adequate basis for determining inferences concerning this notion.

Conclusions

Analyses of the data in the context of the current and previously related research provided substantial evidence for the following conclusions:

(1) The findings supported the notion that *the bioethics survey instrument developed was a useful quantitative index of reasoning about life-taking and life-giving issues*. The instrument quantified a continuum of belief that was factor-analytically stable, bipolar, internally consistent, and reliable considering the dynamic attitudes of society concerning these issues.

The modified 5-point Likert scale was very appropriate for assessing attitude and opinion as previously conceived by Thurstone (1928), Katz and Stotland (1959), Krech, *et al* (1962), and Cook and Selltiz (1970).

(2) Both item analysis and concept analysis revealed *a significant difference existed between the normative philosophical position of leading ethicists when compared with the perceptions of educators and physicians regarding these issues*. Unlike Darwin Sawyer's (1982) study which stopped short of supporting the notion of a "pro-life" or "pro-choice" orientation, the findings of this study as well as Smetana (1981, 1982) and Parsons, *et al* (1990) delineated a more conservative or liberal position along a continuum based upon reasoning about the issues rather than simply assessing approval or disapproval.

While legal abortion and capital punishment are clearly more divisive issues; euthanasia, artificial procreation, and right to die issues appeared to be more discriminating in terms of their ability to differentiate among divergent belief systems. Similar findings were supported by Sawyer's (1982) study on public attitudes toward life and death.

The primary advantage of this study and others (Smetana, 1981, 1982); Tyler, 1982; Ellsworth and Ross, 1983; Fagan, 1986; Bohm, 1987; and Parsons, *et al*, 1990) compared to Sawyer's study was the specificity of the items concerning each issue to isolate relevant variations in situational content.

(3) *Evidence was also provided to support the consistency of the philosophical value of the sample populations' belief system.* The intercorrelation matrix revealed significant correlations among most of the fifty-nine paired variables for all three subgroups. The pattern of responses suggested the respondents were consistent in their belief system that was responsible for their attitudes toward specific instances. For example, capital punishment as a deterrent and justifiable retribution for a heinous crime are the most prominent reasons cited for the death penalty (Ellsworth and Ross, 1983). Ellsworth and Ross concluded from their study pertaining to public opinion and capital punishment that respondents indicated even if their factual beliefs were incorrect, their attitude would not be influenced. Respondents tend to endorse reasons consistent with their attitudes, but their attitude may not stem from a set of reasoned beliefs.

(4) *Results indicated distinct areas of consensual agreement among all three sample populations.* Items of significant difference were consistently the same for educators and physicians compared to the ethicists. This suggested that these items were more contextual and extenuating circumstances were used to justify these items on "discretionary grounds."

(5) Evidence from the study supports the notion that *the citizenry when enlightened could understand the aspects surrounding science-related societal issues adequately to actively participate in the decision-making process to shape public policy*. Ten of the fifty-nine items were significantly different for the two sample populations when compared to the standard population. Six of the ten significant items were not highly significant (See Appendix H) and from a multivariate analysis based on a multiple variant interaction indicated no significant difference. This would suggest greater consensus or common ground among the sample populations indicating the public's ability to understand science-related societal issues.

This conclusion was substantiated in a related study conducted by Craig Waddell (1990) of the Cambridge Experimentation Review Board on recombinant DNA research. It was concluded that a predominantly lay citizen group can confront a technical scientific matter of social public concern, educate itself appropriately to the task, and reach a fair decision. A similar conclusion was drawn by the President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research study (1982) conducted on informed consent. The commission unequivocally rejected the notion that decision-making was only suitable for and applicable to well-educated, articulate, self-aware individuals.

(6) The empirical evidence supported the claim that *science-related societal issues are too complex and intricate to confine assessing the relevance of public opinion to a single item inquiry of approval or disapproval*. Public opinion polls that asked people whether or not they favored the respective issues did not reveal much

about public opinion. Table XI contains the results of such a single item inquiry compared to national results. This would suggest that in public policy arenas, basic political-social values were the predominant influence upon public policy preferences. Citizens' policy preferences concerning these issues were a reflection of their basic values, not a result of their specific concerns or what they meant when they favored or opposed a specific issue. Similar conclusions were supported by related research studies by Tyler and Weber (1982), Sawyer (1982), and Ellsworth and Ross (1983). A general purpose question that inquired about support for an issue with no further specificity was not useful in assessing the public's acceptance of particular alternatives.

TABLE XI. National Comparison of Public Opinion for Single Item Issues by Population

Issue	Ethicists	Physicians	Educators	National*
Abortion under any circumstances	26%	33%	35%	31%
Retention of 1973 Supreme Court ruling	58%	30%	30%	53%
Capital punishment justifiable	16%	64%	46%	72%
Physician-assisted suicide	21%	22%	42%	68%
Artificial procreation	95%	68%	54%	**
Right to die/Advance directives	53%	72%	57%	84%

*Gallup Poll 1986, 1990, 1991; Associated Press - Media General Poll 1985, 1992; National Opinion Research Center, 1988; Harris Poll, 1987.

**According to a telephone inquiry to the American Fertility Society (June 1992), a national survey of public opinion regarding artificial procreation has never been conducted; therefore, results are not available.

Implications of the Study

In a recent Associated Press Poll (June, 1992), Americans supported legal abortion by two to one and one in four would base their vote on a candidate's position on the abortion issue. The U.S. Supreme Court ruling (June 29, 1992) on a Pennsylvania law restricting abortion rights upheld parental notification for teenage abortions, upheld a twenty-four-hour waiting period for an abortion, and upheld full disclosure of all alternatives to abortion through informed consent; but did not uphold the spousal right to be informed. While the ruling fell short of reversing *Roe vs. Wade* (1973), it did empower the individual states to enact more restrictive abortion laws.

Michael Coleman, a death row inmate for rape and murder, was executed (May, 1992) in the State of Virginia. His appearance on practically every major "talk show" professing his innocence to win public support for a stay of execution was unprecedented.

"Dr. Death," Jack Kevorkian, is currently waiting trial for his active participation in the assisted suicide of Sherry Miller and Marjorie Wantz (Worsnop, 1992). Derek Humphry, author of *Final Exit* (1991) and co-founder of the Hemlock Society, espoused the right of terminally ill persons to obtain a doctor's assistance in committing suicide. November 1991, Washington state voters rejected Initiative 119, a ballot proposal legalizing competent patients with less than six months to live to enlist physician assisted suicide.

A Maryville, Tennessee couple, Mary Sue and Junior Davis, currently (June, 1992) have their case involving the dispute over the disposition of seven cryopreserved embryos resulting from an in vitro fertilization program being re-argued before the Tennessee Supreme Court, and it probably will be considered by the U.S. Supreme Court. The question at stake is the forced paternity of Mr. Davis. In a related issue, the right of an individual conceived through a sperm donor program to know who his/her biological father is in lieu of the donor's anonymity is presently being challenged.

As recently as 1989, the first case before the Supreme Court concerning the refusal of life-sustaining treatment or persistently vegetative patient--the Cruzan Case was argued. The case embodied the fundamental constitutional right to refuse life sustaining medical treatment, the right to exercise this decision through a surrogate, and if a compelling state interest can override the patient's right.

Each of the examples cited above is illustrative of but a few of the kaleidoscope of social issues that create ethical dilemmas confronting society. The common thread underlying all these cases is the issue of life and death decisions. Fundamental to this commonality are the principles of autonomy, privacy, and self-determination--the right to control one's body, destiny, and health care.

As these elemental forces created by scientific and technological advancement and social justice grate against each other, significant social change or progress will be marked by contentious struggles with issues of personal choice, individual liberty, and balancing certain decisions against the greatest common good.

The current tendency of the majority appears to be people's innate sense of privacy and a determination to exercise as much personal control as reasonably possible. The challenge will be to our social, legal, economic, political, religious, and educational institutions to better inform the citizenry to be able to cope with the complexity of these science-related societal issues and public policy in a representative and pluralistic democracy.

According to Niklass Luhman, (1984), a contemporary legal and social theorist, "the evolutionary potential of a legal system will be measured by the extent to which its institutions can accommodate rapid social and technological change."

David Jabbari (1990) has recently proposed a new approach for the role of law in these issues called 'reflexive legal regulation'. According to Jabbari, reflexive law aims to encourage democratization of legal decision-making mechanisms. Rather than simple majoritarian democracy, reflexive law demands consensus on the basis of public and expert participation. This process of legal regulation must be continually responsive, or 'reflexive' to changes in technology and expert and public opinion for molding public policy.

To enlighten the public, science education must be as concerned with the interaction of science, technology, and society as it is with the results of scientific investigations in order for future generations to make important value-laden decisions. Howard Kirschenbaum who championed the education movement known as "values clarification" has recently admitted a major flaw in the theory of values clarification itself--the theory is not and never has been "value free" (Kirchenbaum, 1992).

Kirschenbaum is now advocating a comprehensive model of values education. This approach utilized the aspects of both traditional approaches and new approaches to values education and synthesized them into a comprehensive model. The model is comprehensive in four respects:

- (1) It is comprehensive in its content. It is meant to include all value-related issues--from choice of personal values to ethical questions to moral issues,
- (2) The model is also comprehensive in its methodology. It includes inculcating and modeling values, as well as preparing individuals for independence by stressing responsible decision-making and other life skills,
- (3) The comprehensiveness is interdisciplinary throughout all facets of the school environment, and
- (4) Comprehensive Values Education is all inclusive of the community (Kirschenbaum, 1992, p. 775).

The comprehensive approach is both conservative and progressive, but more importantly it recognizes common goals and values. To implement the model a curriculum which integrates science, technology, and society that is oriented toward problem-based learning would be most appropriate. Such a curriculum would enable students to pursue scholarly exploration including the integration of knowledge and skills as well as allowing the instructor to function as a learning facilitator.

Recommendations for Future Study

The following suggestions are made for possible future investigation:

(1) The investigative study could be conducted on a national level providing a more accurate measurement of public opinion for each of the concepts. The data could be analyzed according to predetermined geographical regions to determine if there were significant differences. The broad based study could either demonstrate the value of the bioethics survey instrument or indicate the need for possible revisions.

(2) Further research is needed to determine the attitudes of sample populations based upon their demographic profile (i.e., analysis by religious preference, years of experience, age, gender, etc.).

(3) Further investigation is needed to confirm areas of consensus and areas of disagreement. This could be achieved by a variety of methods: modifying the wording of the statements, altering the position represented by an item to administer to a different sample, ordering of the items (i.e., alternating conservative and liberal statements).

(4) The survey instrument could be used in an educational setting as a pretest prior to a bioethics class and a posttest to measure significant changes in attitude or beliefs.

(5) Further study of the relationship of attitude as an affective component of socio-political preference or cognitive component of concern for each of the concepts is needed.

(6) Further empirical investigation is needed to determine if attitudes of respondents are based on discretionary or non-discretionary grounds. This could be accomplished by categorizing the items according to domains and testing for goodness-of-fit using Chi Square.

(7) Although the data revealed significant correlations to the consistency of the response pattern of the sample populations, further investigation would support the relationship between attitude and consistency of philosophical value.

A Concluding Observation

A scientifically informed citizenry is a prerequisite for effective functioning of a democratic society in an era dominated by scientific and technological advancement. To quote Frederick Antczak (1985):

In democracy, the people rule--that is, they rule insofar as they make their own decisions. Life in an increasingly technologized society imposes increasing demands on society's decision makers. If in such an era democracy's decisions are to be made intelligently and effectively, the public must somehow be reconstituted intellectually (pp. 197-198).

The alternative would be to abandon the fight and admit defeat. However, I must concur with Isaac Asimov who stated, "Never! As for myself, I may be defeated at

last, but I intend to struggle to the end. I will not surrender, embrace ignorance, and kiss its hideous face" (Asimov, 1983, p. 9).

BIBLIOGRAPHY

BIBLIOGRAPHY

- Aikenhead, Glen S. (1985). Collective decision making in the social context of science. *Science Education*, 69 (4), 453-475.
- Anastasi, A. (1986). Evolving concepts of test validation. *Annual Reviews of Psychology*, 37, 1-15.
- Angell, Marcia, MD. (1990, October 25). New ways to get pregnant. *The New England Journal of Medicine*, 323 (17), 1200-1202.
- Antczak, Frederick J. (1985). *Thought and character: The rhetoric of democratic education*. Ames: Iowa State University Press.
- Asimov, Isaac. (1983, Winter). Informing the public why bother? The case for. *National Forum The Phi Kappa Phi Journal*, 63 (1), 8-9.
- Babbie, Earl. (1990). *Survey research methods* (2nd ed.). Belmont, CA: Wadsworth.
- Balloch, Jim. (1992, March 22). Abortion attitudes are steady over past 3 years. *The Knoxville News-Sentinel*, p. F1.
- Barbour, Ian G. (1983, Winter). Democracy and expertise in a technological society. *National Forum The Phi Kappa Phi Journal*, 63 (1), 3-5.
- Baum, Rudy M. (1991, March 11). RU-486: Abortion controversy in U.S. clouds future of promising drug. *Chemical & Engineering News*, 69 (10), 7-14.
- Benninga, Jacques S. (1988, February). An Emerging synthesis in moral education. *Phi Delta Kappan*, 69, 415-418.
- Bohm, Robert M. (1987, September). American death penalty attitudes: A critical examination of recent evidence. *Criminal Justice and Behavior*, 14 (3), 380-396.
- Bonnicksen, Andrea L. (1988, December). Embryo freezing: Ethical issues in the clinical setting. *Hastings Center Report*, 9 (7), 7-12.
- Bonnie, Richard J. (1990, May/June). Healing-Killing conflicts: Medical ethics and the death penalty. *Hastings Center Report*, 9 (7), 12-18.

- Campbell, Courtney S. & Crigger, Bette-Jane. (1989, January/ February). Mercy, murder, & morality: Perspectives on euthanasia. *Hastings Center Report*, 18 (2), 1.
- Capron, A. M. (1990, Spring/Summer). Reflections on health law and ethics. *Law, Medicine & Health Care*, 18 (1-2), 15-19.
- Carton, Robert W., MD. (1990, April 25). The road to euthanasia. *The Journal of the American Medical Association*, 263 (16), 2221.
- Cassel, Christine K. MD & Meier, Diane E., MD. (1990, September 13). Morals and moralism in the debate over euthanasia and assisted suicide. *The New England Journal of Medicine*, 323 (11), 750-752.
- Champion, Dean J. (1981). *Basic statistics for social research* (2nd ed.). New York: McMillan Publishing Co., Inc.
- Charo, Alta R. (1988, Spring). Legislative approaches to surrogate Motherhood. *Law, Medicine & Health Care*, 16 (1-2), 96-110.
- Clarke, Adele E. (1990, February). Controversy and the development of reproductive sciences. *Social Problems*, 37 (1), 18-31.
- Colasanto, Diane. (1989, October). Pro-choice position stirs increased activism in abortion battle (Report No. 289). New York: Gallup Report.
- Colbert, Treacy. (1990, September/October). Public input into health care policy: Controversy and contribution in California. *Hastings Center Report*, 20 (5), 21.
- Dagi, T. F. (1990). Letting and making death happen: Is there really no difference? The problem of moral linkage. *The Journal of Medical Humanities*, 11 (2), 81-88.
- Davidson, Kent W., MD. (1989, November 3). Physicians' attitude on advance directives. *Journal of American Medical Association*, 262 (17), 2415-2419.
- Dillman, Don A. (1978). *Mail and telephone surveys - The total design method*. New York: John Wiley & Sons.
- Ellsworth, Phoebe C. & Ross, Lee. (1983, January). Public opinion and capital punishment: A close examination of the views of abolitionists and retentionists. *Crime & Delinquency*, p. 116-169.

- Ethics Committee, American Fertility Society. (1986, September). Ethical considerations of the new reproductive technologies. *Official Journal of the American Fertility Society*, 46 (3), 15-785.
- Fagan, Ronald W. (1986). Police attitudes toward capital punishment. *Journal of Police Science and Administration*, 14 (3), 193-200.
- Fisher, Roy H. (1990). Should living wills be legalized? *Canadian Medical Association Journal*, 142 (1), 23-26.
- Fletcher, John C. (1988, Spring). What are society's interests in human genetics and reproductive technologies? *Law, Medicine & Health Care*, 16, (1-2), 131-137.
- Freund, John E. (1988). *Modern elementary statistics* (7th ed.). Englewood, NJ: Prentice-Hall.
- Gallup, George. (1990, April). Americans shift toward pro-choice position (Report No. 295). New York: Gallup Report.
- Gay, L. R. (1987). *Educational research: Competencies for analysis and application*. Columbus, Ohio: Charles E. Merrill.
- Gennaro, Gene & Glenn, Allen D. (1979). Exploring value issues in science teaching. In Michael R. Abraham (Eds.). *1979 AETS Yearbook* (pp. 285-299). Columbus, OH: ERIC Clearinghouse.
- Goldberg, Howard. (1992, June 10). Abortion called key for fourth of voters. *The Knoxville News-Sentinel*, pp. A1, A9.
- Gratton, Claude. (1990). Letting and making death happen, withholding and withdrawing life-support: Morality irrelevant distinctions. *The Journal of Medical Humanities*, 11 (2), 75-78.
- Harms, N. C., et al. (1982). *Project synthesis final report*. Boulder, CO: National Science Foundation.
- Hastings Center Report*. (1980). New York: The Institute of Society, Ethics and the Life Sciences.
- Hill, Patrick. (1990, September/October). Giving voice to the pragmatic majority in New Jersey. *Hastings Center Report*, 20 (5), 20.

- Hospers, John. (1964). *Human conduct: An introduction to the problems of ethics*. New York: Harcourt, Brace, and World.
- Hugick, Larry. (1989, July). Majority critical of abortion decision, but most Americans favor some new restrictions. (Report No. 286). New York: Gallup Report.
- Jabbari, David. (1990). The role of law in reproductive medicine: A new approach. *Journal of Medical Ethics*, 16, 35-40.
- Jefferson, Thomas. (1820, September 28). Letter to W. C. Jarvis.
- Jennings, Bruce. (1990, September/October). Democracy and justice in health policy. *Hastings Center Report*, 20 (5), 3-4.
- Kirschenbaum, Howard. (1992, June). A comprehensive model for values education and moral education. *Phi Delta Kappan*, 73 (10), 771-776.
- Klein, Joe. (1992, June 8). Whose values? *Newsweek*, 19-22.
- Largey, Gale P. & Feil, Richard N. (1990, July/August). Knowing the public mind. *Hastings Center Report*, 20 (4), 3-4.
- Lauritzen, Paul. (1990, March/April). What price parenthood? *Hastings Center Report*, 20 (2), 38-45.
- Ledford, Bruce R. (1991, Winter). The battle of beliefs in the age of manipulation. *National Forum Phi Kappa Phi Journal*, 72 (1), 33-35.
- Luhmann, Niklass. (1984). On law and social theory. *Modern Law Review*, 47, 603.
- Macklin, Ruth. (1991, January/February). Artificial means of reproduction and our understanding of the family. *Hastings Center Report*, 21 (1), 5-11.
- Maestri, William F. (1989, November). Abortion in America: Public faith, public policy. *Linacre Quarterly*, 51-60.
- Making Health care decisions: The ethical and legal implications of informed consent. (1982). *President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research*. Washington, DC: U. S. Government Printing Office.

- McCrary, Van S. & Botkin, Jeffrey R. (1989, November 3). Hospital policy on advance directives. *The Journal of the American Medical Association*, 262 (17), 2411-2414.
- Noll, James Wm. (1983). *Taking Sides: Clashing Views on Controversial Educational Issues* (2nd ed.). Guilford, Connecticut: Dushkin Publishing Group, Inc.
- Oye, Robert K., MD, & Bellamy, Paul E. MD. (1989, June). Attitudes of hospitalized patients toward life support: Survey of 200 medical inpatients. *The American Journal of Medicine*, 86, 645-648.
- Parker, Malcolm. (1990). Moral intuition, good deaths and ordinary medical practitioners. *Journal of Medical Ethics*, 16, 28-34.
- Parsons, Nancy K., Richards, Herbert C., & Kanter, Geoffrey D. (1990). Validation of a scale to measure reasoning about abortion. *Journal of Counseling Psychology*, 37 (1), 107-112.
- Raths, Louis E.; Harmin, Merrill; & Simon, Sidney B. (1966). *Values and teaching*. Columbus, Ohio: Charles E. Merrill.
- Regelson, William, MD. (1990, August 22/29). Beyond abortion: RU-486 and the needs of the crisis constituency. *Journal of the American Medical Association*, 264 (8), 1026-1027.
- Reichel, William & Dyck, Arthur. (1989, December 2). Euthanasia: A contemporary moral quandary. *The Lancet*, 1321-1322.
- Rich, Robert F. (1990, Fall). Policymaking for science and technology. *Phi Kappa Phi Journal*, 16-19.
- Robertson, John A. (1989, November/December). Resolving disputes over frozen embryos. *Hastings Center Report*, 19 (6), 7-12.
- Robinson, Jane. (1990, Spring/Summer). Euthanasia: The collision of theory and practice. *Law, Medicine & Health Care*, 18 (1-2), 105-107.
- Rosenblum, Victor G., JD & Forsythe, Clarke D., JD. (1990). The Right to assisted suicide: Protection of autonomy or an open door to social killing. *Issues in Law & Medicine*, 6 (1), 3-31.
- Sagan, Carl & Druyan, Ann. (1990, April 22). Is it possible to be pro-life and pro-choice? *Parade Magazine*, 4-8.

- SAS/STAT User's Guide*. (1989) (4th ed.) Vol. 1. Cary, North Carolina: SAS Institute, Inc., 6 (1), 45, 387-388.
- Sawyer, Darwin O. (1982). Public attitudes toward life and death. *Public Opinion Quarterly*, 46, 521-533.
- Simpson, Ronald D. & Anderson, Wyatt W. (1992, Winter). Science education and the common good. *National Forum The Phi Kappa Phi Journal*, 72 (1), 30-33.
- Singer, Peter A., MD., & Siegler, Mark, MD. (1990, June 28). Euthanasia - A critique. *The New England Journal of Medicine*, 322 (26), 1881-1883.
- Skovron, Sandra, & Scott, Joseph. (1989, October). The death penalty for Juveniles: An assessment of public support. *Crime & Delinquency*, 35 (4), 546-561.
- Sprung, Charles L., MD, JD. (1990, April 25). Changing attitudes and practices in forgoing life-sustaining treatments. *Journal of the American Medical Association*, 263 (16), 2211-2215.
- Staff. (1985, April). Public endorses 'right to die' court ruling (Report No. 235). New York: Gallup Report.
- Staff. (1985, December). The Death penalty: Growing public support found for the death penalty (Report No. 243). New York: Gallup Report.
- Staff. (1986, January/February). Support for death penalty highest in half-century (Report No. 232 & 233). New York: Gallup Report.
- Staff. (1986, January/February). The death penalty: 7 in 10 favor death penalty for murder (Report No. 244 & 245). New York: Gallup Report.
- Staff. (1989, February). Attitudes on abortion little changed since supreme court's 1973 ruling (Report No. 281). New York: Gallup Report.
- Staff. (1989, July 24). Abortion poll: 2 to 1 want it kept legal. *The Knoxville News-Sentinel*, p.p. A1, A7.
- Strike, Kenneth A. (1988, October). The ethics of teaching. *Phi Delta Kappan*, 70 (2), 156-158.
- Summers, Gene F. (1970). *Attitude measurement* (2nd ed.). Chicago: Rand McNally & Co.

- Taylor, Humphrey. (1990, June 28). Withholding and with-drawal of life support from the critically ill. *The New England Journal of Medicine*, 322 (26), 1891-1892.
- Thurston, L. L. (1928, January). Attitudes can be measured. *American Journal of Sociology*, 33, 529-554.
- Trachtman, Leon. (1983, Winter). Informing the public why bother? The case against. *National Forum The Phi Kappa Phi Journal*, 63 (1), 6-8.
- Tyler, Tom R. & Weber, Renee. (1982). Support for the death penalty; Instrumental response to crime, or symbolic attitude? *Law & Society*, 17 (1), 20-43.
- Veal, Kaye Franklin. (1989, October 23). Tennesseans appear to have fixed attitudes on abortion. *The Knoxville News-Sentinel*, p. A1.
- Vidmar, Neil & Ellsworth, Phoebe C. (1974, June). Public opinion and the death penalty. *Stanford Law Review*, 1245-1270.
- Waddell, Craig. (1990, November). The role of pathos in the decision-making process: A study in the rhetoric of science policy. *Quarterly Journal of Speech*, 76, 381-400.
- Watson, F. (1980). Science education for survival. In C. P. McFadden (Ed.), *World trends in science education*. Halifax, Canada: Atlantic Institute of Education.
- White, Stephen W. (1983, Winter). Science and democracy. *National Forum The Phi Kappa Phi Journal*, 63 (1), 2.
- Worsnop, Richard L. (1992, March 29). Assisted exit: The rising support for doctor-aided suicide. *The Knoxville News-Sentinel*, p.p. F1, F5.

APPENDICES

APPENDIX A

Leading Bioethicists

Ackerman, Terrence F. PhD	Center for the Health Sciences University of Tennessee, Memphis
Beauchamp, Tom PhD	Kennedy Institute of Ethics Georgetown University
Benjamin, Martin PhD	Center for Ethics & Humanities Michigan State University
Brody, Baruch, PhD	Center for Ethics Baylor College of Medicine
Brody, Howard, MD PhD	Dept. of Family Practice Michigan State University
Caplan, Arthur PhD	Director, Center for Biomedical Ethics University of Minnesota
Carter, Michele RN PhD	Bioethics Program National Institutes of Health
Childress, James F. PhD	Dept. of Religious Studies University of Virginia
Churchill, Larry R. PhD	School of Medicine University of North Carolina
Cohen, Carl PhD	University of Michigan Medical Center
Cranford, Ronald E. MD	Dept. of Neurology Hennepin County Medical Ctr.
Daniels, Scott PhD	Dept. of Health & Human Services Washington, DC
Engelhardt, H. Tristram MD PhD	Center for Ethics in Medicine Baylor College of Medicine
Fletcher, John ThD	Health Sciences Center University of Virginia
Fry, Sara T. RN PhD	Assistant Professor University of Virginia School of Nursing
Hackler, Chris PhD	Director, Medical Humanities Division University of Arkansas College of Medicine
Hardwig, John PhD	East Tennessee State University

Keller, Albert H. Rev.	Dept. of Family Practice Medical University of South Carolina
Lachs, John PhD	Dept. of Philosophy Vanderbilt University
McCartney, James J. PhD	School of Medicine University of Florida
Mosley, Ray PhD	Dept. of Community Health & Family Medicine University of Florida
Moskop, John PhD	Dept. of Medical Humanities East Carolina University
Pellegrino, Edmund D. MD	Director, Kennedy Institute of Ethics & Prof Medical Humanities Georgetown University Medical Center
Pence, Gregory E. PhD	Department of Philosophy University of Alabama, Birmingham
Redmon, Robert PhD	Department of Philosophy Virginia Commonwealth University
Self, Donnie J. PhD	Humanities in Medicine Dept. Texas A&M University - College of Medicine
Vawter, Dorothy PhD	Center for Biomedical Ethics University of Minnesota
Veatch, Robert M. PhD	Director, Kennedy Institute of Ethics Georgetown University
Zaner, Richard PhD	Director, Center for Clinical & Research Ethics Vanderbilt University Medical Center

APPENDIX B

Selected References For Constructing Questionnaire

Items were abridged from:

- Davidson, Kent W. *et al.* (1989, November 3). Physicians attitudes on advance directives. *Journal of the American Medical Association*, 262 (17), 2415-2419.
- Ellsworth, Phoebe C. & Ross Lee. (1983, January). Public opinion and capital punishment: A close examination of the views of abolitionists and retentionists. *Crime & Delinquency*, 29 (1), 116-169.
- Fagan, Ronald W. (1986). Police attitudes toward capital punishment. *Journal of Police Science & Administration*, 14 (3), 193-200.
- Singer, Peter A. & Siegler, Mark. (1990, June 28). Euthanasia - a critique. *New England Journal of Medicine*, 322 (26), 1881-1882.
- Staff. (1989, February). *Attitudes on abortion little changed since Supreme Court's 1973 ruling* (Report No. 281). New York: Gallup Report.
- Staff. (1990, April). *Americans shift toward pro-choice position* (Report No. 295). New York: Gallup Report.
- Tyler, Tom R. & Weber, Renee. (1982). Support for the death penalty; instrumental response to crime or symbolic attitude? *Law & Society*, 17 (1), 22-44.

APPENDIX C

Survey Instrument

Bioethics Questionnaire

The University of Tennessee, Knoxville



INSTRUCTIONS: For each of the statements below, circle the number which best reflects your opinion concerning each issue, using the following key:

- 1 (agree strongly)
- 2 (agree somewhat)
- 3 (disagree somewhat)
- 4 (disagree strongly)
- 5 (not sure)

ABORTION

1.	Abortion should be legal if the pregnancy is the result of rape.	5	4	3	2	1
2.	Personhood begins at conception.	5	4	3	2	1
3.	Abortion is morally equivalent to murder.	5	4	3	2	1
4.	Abortion should be legal if the family is unable to afford the child.	5	4	3	2	1
5.	Abortion should be legal if the woman is single.	5	4	3	2	1
6.	Federal funding should be withheld from family-planning clinics that provide counseling about abortion.	5	4	3	2	1
7.	Abortion is a medical operation on pregnant women.	5	4	3	2	1
8.	Abortion should be legal if the pregnancy is the result of incest.	5	4	3	2	1
9.	Abortion should be unrestricted legally based on a woman's rights during the first six months (two trimesters) of her pregnancy.	5	4	3	2	1
10.	Abortion should be legal if a woman may suffer severe physical health damage.	5	4	3	2	1
11.	Abortion should be legal if a woman's life is endangered.	5	4	3	2	1
12.	Abortion should be legal regardless of the circumstances.	5	4	3	2	1
13.	Abortion should be legal if there is a chance of the fetus having a serious birth defect.	5	4	3	2	1
14.	Research on RU-486 (i.e., the French abortion pill) as a potential anticancer and anti-Cushing's agent should be impeded because of its use as an abortifacient.	5	4	3	2	1
15.	A developing fetus, as a potential person, has equal rights to those of the mother.	5	4	3	2	1

CAPITAL PUNISHMENT

16.	Executing a person is not as cruel as spending a life incarcerated.	5	4	3	2	1
17.	It is immoral for society to take a life regardless of the crime the individual has committed.	5	4	3	2	1
18.	Some individuals sentenced to death could be rehabilitated, thus contributing to society.	5	4	3	2	1
19.	Capital punishment involves the risk of executing an innocent individual.	5	4	3	2	1
20.	Capital punishment sets a violent example which could contribute to violence and killing in our society.	5	4	3	2	1
21.	Only the poor and unfortunate are likely to be executed.	5	4	3	2	1
22.	The death penalty serves no purpose for society.	5	4	3	2	1
23.	Capital punishment should be abolished.	5	4	3	2	1
24.	A medical professional's participation in a capital case, including the capital sentencing, is ethically objectionable.	5	4	3	2	1
25.	Capital punishment acts as a deterrent to prevent crime.	5	4	3	2	1
26.	Capital punishment is just retribution for the victim or family.	5	4	3	2	1
27.	Given the cost of life imprisonment, capital punishment is economically justified.	5	4	3	2	1
28.	The death penalty is a justifiable punishment for a terrible crime.	5	4	3	2	1

EUTHANASIA

29.	The right of a patient to refuse life-sustaining medical treatment is morally no different than assisting a terminally ill patient to commit suicide.	5	4	3	2	1
30.	Patients should have the right to control their medical treatment including the right to request and receive active euthanasia.	5	4	3	2	1
31.	Legally, physicians should be allowed to assist competent terminally ill patients to commit suicide by lethal injection.	5	4	3	2	1
32.	Legalization of active euthanasia is likely to result in persons being euthanized without their consent.	5	4	3	2	1
33.	Legalizing active euthanasia would allow the patient a measure of control over the process of dying.	5	4	3	2	1
34.	Physician-assisted suicide would undermine public confidence and trust in medicine as a healing profession.	5	4	3	2	1
35.	Active euthanasia is an act of mercy.	5	4	3	2	1
36.	Assisting an individual who is terminally ill or suffering to commit suicide is playing God.	5	4	3	2	1
37.	Euthanasia should be legalized to save families the financial or emotional strain of chronically ill or dying patients.	5	4	3	2	1
38.	Society's good served by the prohibition of active euthanasia outweighs the private right of an individual to commit assisted suicide.	5	4	3	2	1
39.	Active euthanasia is morally equivalent to murder.	5	4	3	2	1
40.	Present practices which deny patients the chance to choose the time and manner of their death destroy confidence in physicians.	5	4	3	2	1

Please turn over and complete the other side.

Dr. A. Paul Wishart / Frank Orr
University of Tennessee
College of Education
10 Claxton Education Building
Knoxville, TN 37996-3400
(615) 974-5037 or 974-2431

Dr. Glenn C. Graber
Center for Applied and Professional Ethics
Department of Philosophy
812 McClung Tower
Knoxville, TN 37996-0480
(615) 974-7213

Please return this completed survey in the self-addressed envelope. Thank you for your assistance.

DEMOGRAPHIC INFORMATION

GENDER: ☐ Male ☐ Female		AGE: ☐ 18-29 years ☐ 30-49 years ☐ 50 and older		ETHNICITY: ☐ White ☐ Asian/Pacific Islander ☐ Black ☐ Hispanic/Spanish Surname ☐ American Indian/Alaskan Native ☐ Other: _____		RELIGIOUS PREFERENCE: ☐ Protestant ☐ Catholic ☐ Jew ☐ Other: _____		POLITICAL PREFERENCE: ☐ Democrat ☐ Independent ☐ Republican		YEARS OF PRACTICE EXPERIENCE: ☐ 1-5 years ☐ 6-10 years ☐ 11-15 years ☐ 16+ years		MEDICAL SPECIALTY: _____	
--	--	--	--	---	--	---	--	--	--	--	--	---------------------------------	--

OVERALL

59.	To what extent do you feel bioethical issues created by scientific and technological advancements should be approached through careful interdisciplinary inquiry and well-developed educational programs to facilitate students in thoughtful decision-making?	5 4 3 2 1
60.	Briefly list your reasons for giving the above response:	

RIGHT TO DIE / ADVANCE DIRECTIVES (e.g., Living Wills)

49.	Removing artificial nutrition and hydration from a person in a persistent vegetative state is a deliberate act of killing.	5	4	3	2	1
50.	Advance directives facilitate physician-family agreement on treatment options.	5	4	3	2	1
51.	Advance directives will lead to acceptance of active euthanasia.	5	4	3	2	1
52.	Widespread use of advance directives would help contain medical expenditures.	5	4	3	2	1
53.	Prolonging life is more important than honoring a patient's request to withhold "heroic" treatment.	5	4	3	2	1
54.	Patients would worry less about unwanted treatment after making an advance directive.	5	4	3	2	1
55.	Advance directives represent unwarranted extension of the law into the practice of medicine.	5	4	3	2	1
56.	It is important for patients to be able to influence their medical treatment should they lose competence.	5	4	3	2	1
57.	Advance directives would usurp the medical profession's authority over treatment decisions.	5	4	3	2	1
58.	A potential problem with advance directives is that patients could change their minds about "heroic" treatment after becoming terminally ill.	5	4	3	2	1

ARTIFICIAL PROCREATION

41.	Procreation should only be by natural means of coital reproduction.	5	4	3	2	1
42.	Society has an obligation to assist infertile couples to have the opportunity to procreate via new reproductive technologies.	5	4	3	2	1
43.	Noncoital methods of reproduction (i.e., artificial insemination, in vitro fertilization, surrogacy) are equivalent to "baby-selling."	5	4	3	2	1
44.	Federal funding should be provided to research the safety and efficacy of noncoital reproductive methods for treatment of infertility.	5	4	3	2	1
45.	Legally, a surrogate mother should have the right to void a surrogacy contract relinquishing custody and parental rights.	5	4	3	2	1
46.	The fundamental right to procreate does not entail a fundamental right to all reproductive means necessary to achieve that end.	5	4	3	2	1
47.	The general acceptance of artificial means of procreation is a highly probable route to widespread use of genetic engineering.	5	4	3	2	1
48.	Legislative guidelines and policies are needed to govern the new methods of reproductive technologies.	5	4	3	2	1

INSTRUCTIONS: For each of the statements below, circle the number which best reflects your opinion concerning each issue, using the following key: 5 (agree strongly)

- | | |
|---|---------------------|
| 1 | (not sure) |
| 2 | (disagree strongly) |
| 3 | (disagree somewhat) |
| 4 | (agree somewhat) |
| 5 | (agree strongly) |

INSTRUCTIONS: For each of the statements below, circle the number which best reflects your opinion concerning each issue, using the following key:

- 5
- (agree strongly)
- 4
- (agree somewhat)
- 3
- (disagree somewhat)
- 2
- (disagree strongly)
- 1
- (not sure)

ARTIFICIAL PROCREATION

41.	Procreation should only be by natural means of coital reproduction.	5	4	3	2	1
42.	Noncoital methods of reproduction (i.e., artificial insemination, in vitro fertilization, surrogacy) are equivalent to "baby-selling."	5	4	3	2	1
43.	Society has an obligation to assist infertile couples to have the opportunity to procreate via new reproductive technologies.	5	4	3	2	1
44.	Federal funding should be provided to research the safety and efficacy of noncoital reproductive methods for treatment of infertility.	5	4	3	2	1
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46.	The fundamental right to procreate does not entail a fundamental right to all reproductive means necessary to achieve that end.	5	4	3	2	1
47.	The general acceptance of artificial means of procreation is a highly probable route to widespread use of genetic engineering.	5	4	3	2	1
48.	Legislative guidelines and policies are needed to govern the new methods of reproductive technologies.	5	4	3	2	1

RIGHT TO DIE / ADVANCE DIRECTIVES (e.g., Living Wills)

49.	Removing artificial nutrition and hydration from a person in a persistent vegetative state is a deliberate act of killing.	5	4	3	2	1
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52.	Widespread use of advance directives would help contain medical expenditures.	5	4	3	2	1
53.	Prolonging life is more important than honoring a patient's request to withhold "heroic" treatment.	5	4	3	2	1
54.	Patients would worry less about unwanted treatment after making an advance directive.	5	4	3	2	1
55.	Advance directives represent unwarranted extension of the law into the practice of medicine.	5	4	3	2	1
56.	It is important for patients to be able to influence their medical treatment should they lose competence.	5	4	3	2	1
57.	Advance directives would usurp the medical profession's authority over treatment decisions.	5	4	3	2	1
58.	A potential problem with advance directives is that patients could change their minds about "heroic" treatment after becoming terminally ill.	5	4	3	2	1

OVERALL

59.	To what extent do you feel bioethical issues created by scientific and technological advancements should be approached through careful interdisciplinary inquiry and well-developed educational programs to facilitate students in thoughtful decision-making?	5	4	3	2	1
60.	Briefly list your reasons for giving the above response: _____					

DEMOGRAPHIC INFORMATION

GENDER:

☐ Male

AGE:

☐ 18-29 years

☐ Female

☐ 30-49 years

☐ 50 and older

ETHNICITY:

☐ White

☐ Black

☐ American Indian/Alaskan

☐ Asian/Pacific Islander

☐ Hispanic/Latino American

☐ Other:

RELIGIOUS PREFERENCE:

☐ Protestant

☐ Catholic

☐ Jew

☐ Other:

POLITICAL PREFERENCE:

☐ Democrat

☐ Independent

☐ Republican

HIGHEST EDUCATIONAL LEVEL ATTAINED:

☐ Bachelor's degree

☐ Master's degree

☐ Ed.S.

☐ Doctorate

YEARS OF TEACHING EXPERIENCE:

☐ 1-5 years

☐ 6-10 years

☐ 11-15 years

☐ 16+ years

Please return this completed survey in the self-addressed envelope. Thank you for your assistance.

Dr. A. Paul Wishart / Frank Orr

University of Tennessee

College of Education

10 Claxton Education Building

Knoxville, TN 37996-3400

(615) 974-5037 or 974-2431

Dr. Glenn C. Graber

Center for Applied and Professional Ethics

Department of Philosophy

812 McClung Tower

Knoxville, TN 37996-0480

(615) 974-7213

APPENDIX D

Expert Panel Validating The Survey Instrument

Dr. L. B. Cebik, PhD	Philosophy/Medical Ethics University of Nebraska
Dr. Jeff Collmann, PhD	Anthropology/Philosophy/ Biomedical Imaging Center University of Adelaide, Australia
Dr. Rem B. Edwards, PhD	Philosophy/Medical Ethics Emory University
Dr. Glenn C. Graber, PhD	Philosophy/Medical Ethics University of Michigan
Dr. Michael Lavin, PhD	Philosophy/Medical Ethics Stanford University
Dr. Ed Roeske, PhD	Social Foundations/Philosophy Ohio State University
Dr. A Paul Wishart, PhD	Science Education/Geology University of Texas

APPENDIX E

Cover Letters



Center for Applied and Professional Ethics
Glenn C. Graber, *Director*

College of Liberal Arts
Department of Philosophy
801 McClung Tower
Knoxville 37996-0480
(615) 974-7213

January 6, 1992

Dear <Name>:

This is an invitation to participate in a study designed to examine perceptions of educators, physicians, and leading ethicists concerning life-giving and life-taking bioethical issues. This exploratory research is being conducted by the Center for Applied and Professional Ethics in conjunction with the Department of Curriculum and Instruction, College of Education at the University of Tennessee, Knoxville.

Because of the limited number of ethicists selected, your assistance and response is essential for the success of this research project. Completion of the survey form will require approximately thirty minutes and should be returned in the self-addressed stamped envelope by January 17, 1992. Your return of the questionnaire implies your consent to comply with regulations governing research involving human subjects.

To maintain your confidentiality all responses and information will be secured. A code number has been assigned to be utilized by the researchers for follow-up purposes.

The findings of the research will be shared with the scientific community. However, the results will be reported only as group data and your name will not be associated with your responses. Study results will be made available to you upon request. We would appreciate your returning the questionnaire even if you are unable to respond to all items.

Thank you for your assistance. As a professional ethicist, you are uniquely qualified to ascertain the normative philosophical ethics concerning these issues and your perceptions are highly valued. Please feel free to contact us at any time if you have further questions concerning the project or your participation.

Dr. A. Paul Wishart/Frank Orr
University of Tennessee
College of Education
10 Claxton Education Building
Knoxville, TN 37996-3400
(615) 974-5037 or 974-2431

Dr. Glenn C. Graber, Director
Center for Applied & Professional Ethics
University of Tennessee
Philosophy Department
812 McClung Tower
Knoxville, TN 37996-0480
(615) 974-7213



Center for Applied and Professional Ethics
Glenn C. Graber, *Director*

College of Liberal Arts
Department of Philosophy
801 McClung Tower
Knoxville 37996-0480
(615) 974-1255

January 6, 1992

Dear <Name>:

This is an invitation to participate in a study designed to examine perceptions of educators, physicians, and leading ethicists concerning life-giving and life-taking bioethical issues. This exploratory research is being conducted by the Center for Applied and Professional Ethics in conjunction with the Department of Curriculum and Instruction, College of Education at the University of Tennessee, Knoxville.

Because of the limited number of physicians selected, your assistance and response is essential for the success of this research project. Completion of the survey form will require approximately thirty minutes and should be returned in the self-addressed stamped envelope by January 17, 1992. Your return of the questionnaire implies your consent to comply with regulations governing research involving human subjects.

To maintain your confidentiality all responses and information will be secured. A code number has been assigned to be utilized by the researchers for follow-up purposes.

The findings of the research will be shared with the scientific community. However, the results will be reported only as group data and your name will not be associated with your responses. Study results will be made available to you upon request. We would appreciate your returning the questionnaire even if you are unable to respond to all items.

Thank you for your assistance. As a professional physician, your perceptions concerning these issues are highly valued. Please feel free to contact us at any time if you have further questions concerning the project or your participation.

Dr. A. Paul Wishart/Frank Orr
University of Tennessee
College of Education
10 Claxton Education Building
Knoxville, TN 37996-3400
(615) 974-5037 or 974-2431

Dr. Glenn C. Graber, Director
Center for Applied & Professional Ethics
University of Tennessee
Philosophy Department
812 McClung Tower
Knoxville, TN 37996-0480
(615) 974-7213



Knoxville Academy of Medicine

422 W. CUMBERLAND AVENUE
KNOXVILLE, TENNESSEE 37902-2301
PHONE (615) 524-4676
FAX (615) 546-7392

JOSEPH B. MOON, M.D.

President

WILLIAM S. MUSE, Jr., M.D.

President Elect

DAVID N. RANKIN, M.D.

Secretary

CLARK E. JULIUS, M.D.

Treasurer

MEMORANDUM

TO: All Members, Knoxville Academy of Medicine
FROM:  Joseph B. Moon, MD, President
DATE: November 26, 1991

Enclosed you will find a questionnaire from Frank Orr, graduate student in Medical Ethics. It takes a few minutes to complete the form, but I think you will find it to be provocative.

I thank you for your time.



Center for Applied and Professional Ethics
Glenn C. Graber, *Director*

College of Education
Curriculum and Instruction
301 Claxton Education Building
Knoxville, Tennessee 37996-3400
(615) 974-3165

January 6, 1992

Dear <Name>:

This is an invitation to participate in a study designed to examine perceptions of educators, physicians and leading ethicists concerning life-giving and life-taking bioethical issues. This exploratory research is being conducted by the Center for Applied and Professional Ethics in conjunction with the Department of Curriculum and Instruction, College of Education at the University of Tennessee, Knoxville.

Because of the limited number of educators selected who meet the selection criteria, your assistance and response is essential for the success of this research study. Completion of the survey form will require approximately thirty minutes and should be returned in the self-addressed stamped envelope by January 17, 1992. Your return of the questionnaire implies your consent to comply with regulations governing research involving human subjects.

Participation in the study has been approved by the Office of Research in your school system. A code number has been assigned to be utilized by the researchers for follow-up purposes. To maintain your confidentiality all responses and information will be secured.

The findings of the research will be shared with the scientific community. However, the results will be reported only as group data and your name will not be associated with your responses. We would appreciate your returning the questionnaire even if you are unable to respond to all items.

Thank you for your assistance. As a professional educator, your perceptions concerning these issues are highly valued. Please feel free to contact us at any time if you have further questions concerning the project or your participation.

Dr. A. Paul Wishart/Frank Orr
University of Tennessee
College of Education
10 Claxton Education Building
Knoxville, TN 37996-3400
(615) 974-5037 or 974-2431

Dr. Glenn C. Graber, Director
Center for Applied & Professional Ethics
University of Tennessee
Philosophy Department
812 McClung Tower
Knoxville, TN 37996-3400
(615) 974-7213

APPENDIX F

Distribution of Frequency and Percentage
for Each Variable, Bioethics Survey, 1992

I. ABORTION

	Agree Strongly		Agree Somewhat		Disagree Somewhat		Disagree Strongly		Not Sure	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
1. Abortion should be legal if the pregnancy is the result of rape.										
Ethicists	15	78.95	4	21.05	0	0.00	0	0.00	0	0.00
Physicians	290	80.11	32	8.84	12	3.31	21	5.80	7	1.93
Educators	169	71.91	26	11.06	18	7.66	17	7.23	5	2.13
2. Personhood begins at conception.										
Ethicists	0	0.00	0	0.00	3	15.79	15	78.95	1	5.26
Physicians	88	24.44	31	8.61	71	19.72	131	36.39	39	10.83
Educators	87	36.55	26	10.92	47	19.75	50	21.01	28	11.76
3. Abortion is morally equivalent to murder.										
Ethicists	0	0.00	2	10.53	0	0.00	17	89.47	0	0.00
Physicians	54	15.00	38	10.56	42	11.67	206	57.22	20	5.56
Educators	63	26.69	29	12.29	32	13.56	93	39.41	19	8.05
4. Abortion should be legal if the family is unable to afford the child.										
Ethicists	9	47.37	5	26.32	1	5.26	3	15.79	1	5.26
Physicians	108	30.00	75	20.83	43	11.94	118	32.78	16	4.44
Educators	60	25.42	31	13.14	27	11.44	97	41.10	21	8.90
5. Abortion should be legal if the woman is single.										
Ethicists	11	57.89	4	21.05	0	0.00	2	10.53	2	10.53
Physicians	132	36.87	71	19.83	31	8.66	111	31.01	13	3.63
Educators	67	28.51	36	15.32	22	9.36	93	39.57	17	7.23
6. Federal funding should be withheld from family-planning clinics that provide counseling about abortion.										
Ethicists	1	5.26	0	0.00	1	5.26	17	89.47	0	0.00
Physicians	45	12.53	16	4.46	36	10.03	248	69.08	14	3.90
Educators	32	13.56	16	6.78	32	13.56	135	57.20	21	8.90

	Agree Strongly		Agree Somewhat		Disagree Somewhat		Disagree Strongly		Not Sure	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
7. Abortion is a medical operation on pregnant women.										
Ethicists	8	47.06	1	5.88	1	5.88	1	5.88	6	35.29
Physicians	212	59.89	79	22.32	22	6.21	22	6.21	19	5.37
Educators	93	40.09	69	29.74	15	6.47	40	17.24	15	6.47
8. Abortion should be legal if the pregnancy is the result of incest.										
Ethicists	15	78.95	4	21.05	0	0.00	0	0.00	0	0.00
Physicians	273	75.83	42	11.67	12	3.33	29	7.78	5	1.39
Educators	164	68.91	28	11.76	14	5.88	23	9.66	9	3.78
9. Abortion should be unrestricted legally based on a woman's rights during the first six months (two trimesters) of her pregnancy.										
Ethicists	11	57.89	1	5.26	3	15.79	2	10.53	2	10.53
Physicians	109	30.28	62	17.22	66	18.33	114	31.67	9	2.50
Educators	71	30.21	34	14.47	29	12.34	82	34.89	19	8.09
10. Abortion should be legal if a woman may suffer severe physical health damage.										
Ethicists	14	73.68	4	21.05	0	0.00	0	0.00	1	5.26
Physicians	296	81.77	42	11.60	11	3.04	10	2.76	3	0.83
Educators	158	67.23	46	19.57	12	5.11	15	6.38	4	1.70
11. Abortion should be legal if a woman's life is endangered.										
Ethicists	19	100.00	0	0.00	0	0.00	0	0.00	0	0.00
Physicians	324	90.00	24	6.67	5	1.39	5	1.39	2	0.56
Educators	180	75.63	33	13.87	9	3.78	11	4.62	5	2.10
12. Abortion should be legal regardless of the circumstances.										
Ethicists	5	26.32	4	21.05	2	10.53	1	5.26	0	0.00
Physicians	118	32.87	63	17.55	36	10.03	130	36.21	12	3.34
Educators	82	34.60	36	15.19	24	10.13	86	36.29	9	3.80

	Agree Strongly		Agree Somewhat		Disagree Somewhat		Disagree Strongly		Not Sure	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
13. Abortion should be legal if there is a chance of the fetus having a serious birth defect.										
Ethicists	14	73.68	2	10.53	2	10.53	1	5.26	0	0.00
Physicians	233	64.36	61	16.85	23	6.35	36	9.94	9	2.49
Educators	130	54.85	44	18.57	20	8.44	27	11.39	16	6.75
14. Research on RU-486 (i.e., the French abortion pill) as a potential anticancer and anti-Cushing's agent should be impeded because of its use as an abortifacient.										
Ethicists	0	0.00	0	0.00	0	0.00	19	100.00	0	0.00
Physicians	17	4.72	11	3.06	41	11.39	269	74.72	22	6.11
Educators	22	9.44	19	8.15	31	13.30	95	40.77	66	28.33
15. A developing fetus, as a potential person, has equal rights to those of the mother.										
Ethicists	1	5.26	1	5.26	1	5.26	15	78.95	1	5.26
Physicians	45	12.57	35	9.78	83	23.18	171	47.77	24	6.70
Educators	46	19.33	36	15.13	50	21.01	81	24.03	25	10.50

II. CAPITAL PUNISHMENT

	Agree Strongly		Agree Somewhat		Disagree Somewhat		Disagree Strongly		Not Sure	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
16. Executing a person is <u>not</u> as cruel as spending a life incarcerated.										
Ethicists	1	5.26	0	0.00	4	21.05	9	47.37	5	26.32
Physicians	68	19.05	88	24.65	72	20.17	54	15.13	75	21.01
Educators	37	15.74	60	25.53	42	17.87	55	23.40	41	17.45
17. It is immoral for society to take a life regardless of the crime the individual has committed.										
Ethicists	3	15.79	6	31.58	6	31.58	3	15.79	1	5.26
Physicians	36	9.97	16	74.43	63	17.45	235	65.10	11	3.05
Educators	23	9.66	31	13.03	51	21.43	123	51.68	10	4.20

	Agree Strongly		Agree Somewhat		Disagree Somewhat		Disagree Strongly		Not Sure	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
18. Some individuals sentenced to death could be rehabilitated, thus contributing to society.										
Ethicists	4	21.05	8	42.11	2	10.53	0	0.00	5	26.32
Physicians	24	3.59	120	17.94	91	13.60	89	13.30	34	5.08
Educators	17	7.14	65	27.31	68	28.57	51	21.43	37	15.55
19. Capital punishment involves the risk of executing an innocent individual.										
Ethicists	10	52.63	8	42.11	1	5.26	0	0.00	0	0.00
Physicians	106	29.28	201	55.52	34	9.39	14	3.87	7	1.93
Educators	67	28.27	116	48.95	31	13.08	15	6.33	8	3.38
20. Capital punishment sets a violent example which could contribute to violence and killing in our society.										
Ethicists	2	10.53	12	63.16	1	5.26	3	15.79	1	5.26
Physicians	16	4.44	25	6.94	87	24.17	216	60.00	16	4.44
Educators	12	5.04	35	14.71	52	21.85	127	53.36	12	5.04
21. Only the poor and unfortunate are likely to be executed.										
Ethicists	2	10.53	7	36.84	6	31.58	1	5.26	3	15.79
Physicians	20	5.54	90	24.93	93	25.76	147	40.72	11	3.05
Educators	16	6.75	59	24.89	59	24.89	89	37.55	14	5.91
22. The death penalty serves no purpose for society.										
Ethicists	2	10.53	4	21.05	9	47.37	1	5.26	3	15.79
Physicians	18	4.99	14	3.88	75	20.78	244	67.59	10	2.77
Educators	15	6.30	23	9.66	56	23.53	130	54.62	14	5.88
23. Capital punishment should be abolished.										
Ethicists	7	36.84	6	31.58	2	10.53	3	15.79	1	5.26
Physicians	23	6.35	12	3.31	47	12.98	268	74.03	12	3.31
Educators	20	8.40	19	7.98	36	15.13	144	60.50	19	7.98

	Agree Strongly		Agree Somewhat		Disagree Somewhat		Disagree Strongly		Not Sure	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
24. A medical professional's participation in a capital case, including the capital sentencing, is ethically objectionable.										
Ethicists	7	36.84	6	31.58	4	21.05	0	0.00	2	10.53
Physicians	77	21.51	61	17.04	70	19.55	119	33.24	31	8.66
Educators	8	3.40	23	9.79	49	20.85	71	30.21	84	35.74
25. Capital punishment acts as a deterrent to prevent crime.										
Ethicists	0	0.00	2	10.53	7	36.84	6	31.58	4	21.05
Physicians	104	28.73	161	44.48	38	10.50	32	8.84	27	7.46
Educators	67	28.27	88	37.13	27	11.39	30	12.66	25	10.55
26. Capital punishment is just retribution for the victim or family.										
Ethicists	2	10.53	1	5.26	9	47.37	5	26.32	2	10.53
Physicians	57	15.88	121	33.70	76	21.17	81	22.56	24	6.69
Educators	223	9.75	57	24.15	52	22.03	76	32.20	28	11.86
27. Given the cost of life imprisonment, capital punishment is economically justified.										
Ethicists	1	5.56	3	16.67	2	11.11	10	55.56	2	11.11
Physicians	88	24.58	100	27.93	59	16.48	71	19.83	40	11.17
Educators	56	23.73	89	37.71	27	11.44	40	16.95	24	10.17
28. The death penalty is a justifiable punishment for a terrible crime.										
Ethicists	3	15.79	3	15.79	5	26.32	6	31.58	2	10.53
Physicians	230	63.89	92	25.56	10	2.78	21	5.83	7	1.94
Educators	110	46.22	72	30.25	23	9.66	21	8.82	12	5.04

III. EUTHANASIA

	Agree Strongly		Agree Somewhat		Disagree Somewhat		Disagree Strongly		Not Sure	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
29. The right of a patient to refuse life-sustaining medical treatment is morally <u>no different</u> than assisting a terminally ill patient to commit suicide.										
Ethicists	3	16.67	2	11.11	1	5.56	12	66.67	0	0.00
Physicians	27	7.50	35	9.72	62	17.22	224	62.22	12	3.33
Educators	25	10.64	32	13.62	45	19.15	113	48.09	20	8.51
30. Patients should have the right to control their medical treatment including the right to request and receive active euthanasia.										
Ethicists	4	21.05	7	36.84	3	15.79	5	26.32	0	0.00
Physicians	79	21.88	93	25.76	87	24.10	91	25.21	11	3.05
Educators	100	42.02	71	29.83	18	7.56	32	13.45	17	7.14
31. Legally, physicians should be allowed to assist competent terminally ill patients to commit suicide by lethal injection.										
Ethicists	3	15.79	7	36.84	2	10.53	7	36.84	0	0.00
Physicians	43	11.91	84	23.27	65	18.01	139	38.50	30	8.31
Educators	53	22.27	55	23.11	40	16.81	67	28.15	23	9.66
32. Legalization of active euthanasia is likely to result in persons being euthanized without their consent.										
Ethicists	3	16.67	7	38.89	5	27.78	1	5.56	2	11.11
Physicians	45	12.50	95	26.39	98	27.22	89	24.72	33	9.17
Educators	31	13.03	71	29.83	55	23.11	44	18.49	37	15.55
33. Legalizing active euthanasia would allow the patient a measure of control over the process of dying.										
Ethicists	7	38.89	10	55.56	1	5.56	0	0.00	0	0.00
Physicians	102	28.73	186	52.39	34	9.58	22	6.20	11	3.10
Educators	76	32.07	119	50.21	14	5.91	15	6.33	13	5.49

	Agree Strongly		Agree Somewhat		Disagree Somewhat		Disagree Strongly		Not Sure	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
34. Physician-assisted suicide would undermine public confidence and trust in medicine as a healing profession.										
Ethicists	4	21.05	6	31.58	5	26.32	3	15.79	1	5.26
Physicians	100	27.78	111	30.83	65	18.06	63	17.50	21	5.83
Educators	46	19.41	56	23.63	56	23.63	55	23.21	24	10.13
35. Active euthanasia is an act of mercy.										
Ethicists	5	27.78	7	38.89	1	5.56	2	11.11	3	16.67
Physicians	71	19.83	137	38.27	64	17.88	57	15.92	29	8.10
Educators	66	27.97	88	37.29	35	14.83	28	11.86	19	8.05
36. Assisting an individual who is terminally ill or suffering to commit suicide is playing God.										
Ethicists	1	5.26	0	0.00	5	26.32	13	68.42	0	0.00
Physicians	53	14.93	87	24.51	73	20.56	111	31.27	31	8.73
Educators	42	17.65	47	19.75	49	20.59	77	32.35	23	9.66
37. Euthanasia should be legalized to save families the financial or emotional strain of chronically ill or dying patients.										
Ethicists	0	0.00	5	27.78	4	22.22	8	44.44	1	5.56
Physicians	16	4.44	71	19.72	74	20.56	178	49.44	21	5.83
Educators	29	12.39	55	23.50	42	17.95	92	39.32	16	6.84
38. Society's good served by the prohibition of active euthanasia outweighs the private right of an individual to commit assisted suicide.										
Ethicists	4	21.05	1	5.26	11	57.89	3	15.79	0	0.00
Physicians	59	16.53	70	19.61	86	24.09	99	27.73	43	12.04
Educators	22	9.40	33	14.10	58	24.79	70	29.91	51	21.79
39. Active euthanasia is morally equivalent to murder.										
Ethicists	2	11.11	0	0.00	5	27.78	11	61.11	0	0.00
Physicians	59	16.53	48	13.45	71	19.89	158	44.26	21	5.88
Educators	27	11.34	29	12.18	46	19.33	113	47.48	23	9.66

	Agree Strongly		Agree Somewhat		Disagree Somewhat		Disagree Strongly		Not Sure	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
40. Present practices which deny patients the chance to choose the time and manner of their death destroy confidence in physicians.										
Ethicists	1	5.26	6	31.58	6	31.58	6	31.58	0	0.00
Physicians	13	3.63	59	16.48	102	28.49	166	46.37	18	5.03
Educators	10	4.27	25	10.68	71	30.34	85	36.32	43	18.38

IV. ARTIFICIAL PROCREATION

	Agree Strongly		Agree Somewhat		Disagree Somewhat		Disagree Strongly		Not Sure	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
41. Procreation should <u>only</u> be by natural means of coital reproduction.										
Ethicists	0	0.00	0	0.00	1	5.26	18	94.74	0	0.00
Physicians	14	3.87	18	4.97	77	21.27	246	67.96	7	1.93
Educators	11	4.70	31	13.25	47	20.09	127	54.27	18	7.69
42. Society has an obligation to assist infertile couples to have the opportunity to procreate via new reproductive technologies.										
Ethicists	3	15.79	6	31.58	5	26.32	5	26.32	0	0.00
Physicians	104	28.65	77	21.21	77	21.21	91	25.07	14	3.86
Educators	67	28.51	83	35.32	39	16.60	31	13.19	15	6.38
43. Noncoital methods of reproduction (i.e., artificial insemination, in vitro fertilization, surrogacy) are equivalent to "baby-selling."										
Ethicists	0	0.00	1	5.26	5	26.32	13	68.42	0	0.00
Physicians	11	3.05	15	4.16	68	18.84	256	70.91	11	3.05
Educators	4	1.70	20	8.51	39	16.60	158	67.23	14	5.96
44. Federal funding should be provided to research the safety and efficacy of noncoital reproductive methods for treatment of infertility.										
Ethicists	6	31.58	9	47.37	3	15.79	1	5.26	0	0.00
Physicians	64	17.53	107	29.32	72	19.73	104	28.49	18	4.93
Educators	45	19.15	84	35.74	40	17.02	42	17.87	24	10.21

	Agree Strongly		Agree Somewhat		Disagree Somewhat		Disagree Strongly		Not Sure	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
45. Legally, a surrogate mother should have the right to avoid a surrogacy contract relinquishing custody and parental rights.										
Ethicists	3	15.79	5	26.32	5	26.32	5	26.32	1	5.26
Physicians	229	6.11	26	7.22	86	23.89	184	51.11	42	11.67
Educators	10	4.24	22	9.32	41	17.37	112	47.46	51	21.61
46. The fundamental right to procreate does <u>not</u> entail a fundamental right to all reproductive means necessary to achieve that end.										
Ethicists	13	68.42	3	15.79	2	10.53	1	5.26	0	0.00
Physicians	147	40.61	103	28.45	40	11.05	42	11.60	30	8.29
Educators	36	45.32	66	28.09	40	17.02	37	15.74	56	23.83
47. The general acceptance of artificial means of procreation is a highly probable route to widespread use of genetic engineering.										
Ethicists	0	0.00	5	26.32	6	31.58	6	31.58	2	10.53
Physicians	28	7.69	92	25.27	113	31.04	91	25.00	40	10.99
Educators	20	8.55	69	29.49	65	27.78	34	14.53	46	19.66
48. Legislative guidelines and policies are needed to govern the new methods of reproductive technologies.										
Ethicists	5	26.32	12	63.16	1	5.26	0	0.00	1	5.26
Physicians	79	21.58	127	34.70	70	19.13	69	18.85	21	5.74
Educators	67	28.63	87	37.18	38	16.24	10	4.27	32	13.68

V. RIGHT TO DIE/ADVANCE DIRECTIVES

	Agree Strongly		Agree Somewhat		Disagree Somewhat		Disagree Strongly		Not Sure	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
49. Removing artificial nutrition and hydration from a person in a persistent vegetative state is a deliberate act of killing.										
Ethicists	0	0.00	4	22.22	1	5.56	13	72.22	0	0.00
Physicians	23	6.35	41	11.33	58	16.02	237	65.47	3	0.83
Educators	18	7.63	31	13.14	49	20.76	125	52.97	13	5.51
50. Advance directives facilitate physician-family agreement on treatment options.										
Ethicists	10	52.63	6	31.58	2	10.53	0	0.00	1	5.26
Physicians	260	71.63	91	25.07	3	0.83	5	1.38	4	1.10
Educators	133	57.08	73	31.33	8	3.43	2	0.86	17	7.30
51. Advance directives will lead to acceptance of active euthanasia.										
Ethicists	0	0.00	3	15.79	9	47.37	6	31.58	1	5.26
Physicians	19	5.22	80	21.98	87	23.90	147	40.38	31	8.52
Educators	35	15.02	65	27.90	57	24.46	41	17.60	35	15.02
52. Widespread use of advance directives would help contain medical expenditures.										
Ethicists	4	21.05	12	63.16	0	0.00	2	10.53	1	5.26
Physicians	160	44.20	149	41.16	20	5.52	15	4.14	18	4.97
Educators	65	28.26	106	46.09	19	8.26	10	4.35	30	13.04
53. Prolonging life is more important than honoring a patient's request to withhold "heroic" treatment.										
Ethicists	0	0.00	0	0.00	0	0.00	19	100.00	0	0.00
Physicians	6	1.65	2	0.55	32	8.79	315	86.54	9	2.47
Educators	8	3.42	11	4.70	50	21.37	154	65.81	11	4.70
54. Patients would worry less about unwanted treatment after making an advance directive.										
Ethicists	4	21.05	12	63.16	1	5.26	1	5.26	1	5.26
Physicians	161	44.48	159	43.92	18	4.97	7	1.93	17	4.70
Educators	112	48.28	80	34.48	15	6.47	3	1.29	22	9.48

	Agree Strongly		Agree Somewhat		Disagree Somewhat		Disagree Strongly		Not Sure	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
55. Advance directives represent unwarranted extension of the law into the practice of medicine.										
Ethicists	1	5.26	0	0.00	4	21.05	14	73.68	0	0.00
Physicians	19	5.23	31	8.54	92	25.34	210	57.85	11	3.03
Educators	2	0.87	25	10.82	72	31.17	91	39.39	41	17.75
56. It is important for patients to be able to influence their medical treatment should they lose competence.										
Ethicists	19	100.00	0	0.00	0	0.00	0	0.00	0	0.00
Physicians	220	60.77	111	30.66	8	2.21	11	3.04	12	3.31
Educators	124	52.99	91	38.89	6	2.56	4	1.71	9	3.85
57. Advance directives would usurp the medical profession's authority over treatment decisions.										
Ethicists	2	10.53	1	5.26	2	10.53	14	73.68	0	0.00
Physicians	14	3.85	50	13.74	98	26.92	191	52.47	11	3.02
Educators	19	8.26	56	24.35	65	28.26	66	28.70	24	10.43
58. A potential problem with advance directives is that patients could change their minds about "heroic" treatment after becoming terminally ill.										
Ethicists	2	10.53	7	36.84	6	31.58	4	21.05	0	0.00
Physicians	44	12.09	177	48.63	80	21.98	44	12.09	19	5.22
Educators	29	12.39	108	46.15	41	17.52	21	8.97	35	14.96

V. OVERALL

	Agree Strongly		Agree Somewhat		Disagree Somewhat		Disagree Strongly		Not Sure	
	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%	<i>f</i>	%
59. To what extent do you feel bioethical issues created by scientific and technological advancements should be approached through careful interdisciplinary inquiry and well-developed educational programs to facilitate students in thoughtful decision-making?										
Ethicists	17	94.44	1	5.56	0	0.00	0	0.00	0	0.00
Physicians	173	52.91	108	33.03	18	5.50	7	2.14	21	6.42
Educators	101	46.99	57	26.51	13	6.05	12	5.58	32	14.88

60. Briefly list your reasons for giving the above response.
Ethicists
I think it should be done primarily to facilitate patient and surrogate decision-making rather than student decision-making and only in some cases does interdisciplinary work help. Don't know what you're asking - what alternatives do you have in mind? Informed personal decision making and development of sensible public policy requires such educational programs. So that persons can assume more appropriate responsibility for their own lives, and respect the responsibility of others. The issues are best explored in an interdisciplinary way - because the issues are mixes of medical, legal, ethical and social aspects. Also the entrepreneurial spirit in the practice of medicine in the U.S. is all pervasive. The power professionals exercise obligates them to exercise it thoughtfully and responsibly. The question is very poorly worded but if it supports education then I am for it. There is no other alternative. A multidisciplinary approach captures the pluralistic nature of these issues and inquiry about "right" and "good" standards of action are conduct from this perspective challenges those theories of decision making which inappropriately separate theory from the practice setting. 1. Importance of developing practical reason; 2. importance of seeing other points of view; 3. importance of collaboration; 4. importance of developing consensus.

60. Briefly list your reasons for giving the above response.

Ethicists

Since professionals will be involved in making ethical decisions and in discussing these decisions with patients, they should become aware of the issues and alternative positions and be able to discuss them knowledgeably.

What else is there. Certainly the misleading and ill-formed questions on this questionnaire reinforces the value of making distinctions and giving reasons rather than simply requesting agreement or disagreement with simplistic slogans.

Who could object to anything that is "thoughtful" or "well-developed" or "careful"?

Moral choices are prompted by opportunity, and options. The implications of both need exploration before informed choice is possible. Education and inquiry should be the routes to examining the implications of all potential choices.

60. Briefly list your reasons for giving the above response.

Physicians

Sound thought and reasoning is imperative. Otherwise a breed or clone of people could be developed to take over the world. Same with animals.

Medical ethics should have a board of legal, medical, religious and scholarly, input as modeled after North _____ Hospitals

Since these issues impact upon several disciplines the logical approach is thus interdisciplinary inquiry.

BioEthicists never seem to solve anything.

Should not be a total single decision for physician or other influences --- entire family.

The above situation always involves hindsight. It's practically of no help to the physician on the spot.

The question asks "to what extent do you feel etc. etc." and it does not fit with the answer alternatives of level of agreement or disagreement. I do think that careful interdisciplinary inquiry etc., etc. is very desirable.

some of the questions in this questionnaire are ambiguous and some are of a "catch 22" nature and some miss the point entirely.

I feel these issues are best left to doctors and patients without government interference.

It is important to understand when use of technology is appropriate from a humanitarian stand point.

Decisions of this nature should be left to families and doctors - *not* the government!

Value of response is inherent in the quality of the statement.

60. Briefly list your reasons for giving the above response.

Physicians

All members of society need to be involved in these decisions; we need a general increase in "awareness level" I'm not sure that bioethics "specialists" are an advantage unless used as a supplemental voice, though.

Man should follow laws made by God. He should not try to take position of God. Consult Qoran (holy book) for answers.

All members of society need to be involved in these decisions; we need a general increase in "awareness level" I'm not sure that bioethics "specialists" are an advantage unless used as a supplemental voice, though.

Extremely complex issues involving science, ethics, religion, philosophy, law, etc. Many of which have never been faced before.

This would decrease abuse of these advancements.

I'm all for *dialogue* but not limited to science and technology which have a poor long term track record - its faith in itself is flawed.

Technological skills need to be balanced with decision-making skills for proper applications. Talent in decision-making is more effectively developed through practical experience than in the classroom, however.

Preclude the government meddling in the process: set up a committee of ethicists, AMA, American bar, and council, united churches to render a policy. Procure some input from the country of Holland.

I do not believe anyone can make major life and death decisions alone without support from our peers. The more help and pre approval we have, the easier it is to sleep.

Poorly worded question. Unable to give satisfactory answer.

Inter-disciplinary correlation needed but doctor/patient relationship is primary. The doctor/patient relationship cannot be legislated.

The people participating in the program would be like it is now - not the people who care for patients and have to implement the action on the patients.

Intelligent use of technology can only be accomplished by well-informed/educated users. Also interdisciplinary approaches to ethics are needed to examine all aspects of a situation.

Only able to make decisions if informed.

1. Need for moral and ethical consensus. 2. To avoid Medico-legal confusion.

Physicians abilities change with rapid improvements in technology - we must study impact on patients of our culture to use technology wisely.

We need to know the most about what we're doing and potential ramifications to be sure what we're doing will provide the desired results.

60. Briefly list your reasons for giving the above response.

Physicians

Without education regarding "Bio-tech" advances patients, families, health care workers can't benefit from what they have to offer.

It is important to weigh all sides of the issues before making decisions of this importance.

Seriously doubt that most "professional ethicists" are of more use than any educated arm chair philosopher - they seem willing to participate from the ivory tower without the clinical experience/responsibility.

Too often decisions concerning these issues are not based on relevant facts and available scientific knowledge.

The sentence was so long I wasn't really sure what you were asking.

History of American medicine ----

Complex problem which can only be approached in interdisciplinary method.

Better educated, more aware of options, more aware of differing opinions = better decisions. Need to know how one feels about self, your own "ethics" so can make an "objective" decision.

res ipsa loquitur

Scientific and technological advancement often have a potential impact on society which goes far beyond their initial purpose. Far-sighted approaches requires insight from outside the area in which the development is made to adequately begin to assess overall impact, assertions, decisions regarding funding, legal and ethical concerns, etc.

I believe many physicians are unwilling or unable to make life or death decisions due to a combination of ignorance and a sense that society will not support their decisions.

Physicians must have a broad base of understanding to intelligently deal with these issues with patients.

That is a logical statement.

Through awareness, responsiveness. One cannot learn to address an issue without first *thinking* about it.

Only through understanding of a subject from an inter-disciplinary perspective can good ethical decisions be made.

I think inquiry and discussion and education are the *only* way to go, for both. The public and medicine and the law.

1. Children are not being taught right from wrong according to God and Law. 2. Our societies morals are vanishing. 3. Changes need to start in educating children and students.

Education is essential for consensus and sound judgement.

Knowledge and morality plus religious beliefs are good basis for decision making.

60. Briefly list your reasons for giving the above response.

Physicians

The problem with "careful interdisciplinary inquiry" is that the person(s) arranging such inquiry often choose those individuals from the disciplines who support their philosophical learnings. The "facilitation" of "thoughtful decision-making" in reality often beams "indoctrination" to a particular view. If a truly balanced inquiry were feasible, then such inquiry could be useful.

Sounds so reasonable and there is dual division concerning these issues.

To find truth in patients wishes mixed with good medical care and responsibility.

1. The only acceptable scientific approach. 2. Legislation should play as small a part as possible (with legislation comes the mandatory bureaucratic involvement)

Well designed study helps make each of us better able to control his/her life choices and on the general commitment a more aware individual choice is more apt to be formed.

Every clinical situation differs, but a common framework to assist in decision making might be helpful.

Only by thoughtful advance consideration of the effects of new technology can we control advances i.e. most everything we *can* do is something we *should* do!

Given the medicolegal climate plus prevailing religious attitudes, no agreements will be reached without debate.

Common sense dictates it!

Unsure what this question is asking. I feel these issues (except abortion) need to be debated and our society as a whole needs to decide these issues. I feel strongly that abortion should be a fundamental right for every woman.

Currently there is a lack of knowledge, thought, and imagination among care providers, patients, and guardians about such matters.

This is a poorly worded question. Of course anyone considering a question should examine all aspects of it. However one must also question the legitimacy of "careful interdisciplinary inquiry and well developed educational programs" as these can reflect the prejudices of the designers while masquerading as impartial. Also, will these students have any power to change things, as though they may be well versed in theory and philosophy, only those who work with it day in and day out, can truly come to know it.

The technology is going to continue to advance concerning further and more complex issues - it all boils down to quality of life!

Students often lack the personal life experiences to help advance society or elderly or ill victims decide/deal with but any discussion gets us closer to the year's policy - never done with the issues.

More education will help to dispel bias and unfounded beliefs in the general population.

60. Briefly list your reasons for giving the above response.

Physicians

All of the above issues attain complexity not envisioned before they are studied carefully.
Rational thought should take precedence over traditions not well-thought out.

The thought that goes into a situation that is well based leads to better understanding.

Because ethology always lags scientific advancement these social decisions must be made to facilitate effective care giving.

Comprehensive dissertation and consideration of technological advances should reduce pseudo ethical obstacles to their practical application.

It's better than laws.

The more views the better - The problem is an expanding one - moral awareness from different backgrounds will have different good moral answers - These are beyond the codification of the law. The answer is that which leaves "The Family" and "The Patient" with the least guilt and the sense they have done the "right thing".

Bioethical breakthroughs require social scientists and humanities based scholars to provide a sounding board as to the potential implications and complications of the technologies, prior to its acceptance as an in vivid tool. Debate is necessary prior to teaching the tool to societies next generations of decision makers.

No one group of persons alone, not doctors, not religion reps., and especially not politicians and lawyers, should make life and death decisions involving *active* measures - *research* itself is scientific inquiry and should be unhampered unless obvious infringement on others rights.

I feel medical science is very ahead of social science and we create moral and ethical dilemmas almost every day as science advances.

Extremely important issue.

Important issues should be given due consideration.

I believe people should be aware of the issues. However, moral law as given by God should be the final judgement.

Technological possibilities have (and will continue to) go beyond societal and cultural (ethical) guidelines for dealing with them - in medicine.

The better someone understands the issues and their ramifications the better decisions they could make.

It will be a large part of future medical practice.

For all to gain better understanding of it.

Ethical decision-making is too great a responsibility for one individual or family in many cases.

Understanding is necessary for national decisions.

Gray zone, no absolutes, all shades of gray.

60. Briefly list your reasons for giving the above response.

Physicians

That's the way we do it all.

The moral and ethical development of an individual occurs before as well as during years of medical training and beyond. These issues like the religious preference should be left to the individual to pursue as one sees appropriate or needed.

We are going to need all the help we can in working through these very difficult issues. They will not go away.

Science and medical technology have exceeded our moral and religious realms - as Ian Malcom says in *Jurassic Park*: "As (science) gains in power, it proves itself incapable of handling the power." Crichton, Michael: *Jurassic Park*. Ballantine Books, New York, 1990, pg. 313.

Dollars, more and more of which are from taxes, no matter how much you have, high tech medicine can easily devour it!! Can society keep providing "Rolls-Royce" care to people who have never worked in their life!??

I do not understand the question. It is too complicated as stated. Put it in English. If you are asking about patient participation in their medical care they yes they should be involved.

New technology has changed everything, including the definition of death. Guidelines need to be set where to draw the line in treatment decisions and thought needs to be given to these issues for students as part of medical training.

Fuzzy garbled question. Fuzzy answer.

This is the only way to have control.

All aspects should be considered in family, patient and decision making.

Discussing ethical issues and mock cases is helpful, however, there are no learnable hard and fast principles which will dictate correct action in every case.

1. Make student aware that this problem will occur and must be faced. 2. May help form opinions as to how to act in a given situation since many factors play a role in each patient's case. 3. Make students later more comfortable and decisive when decisions must be made, avoiding later equivocation.

Not sure.

Many of these issues are important not only to the individual struggling with a physical problem but also to the general public facing up to the bioethical moralities of mankind.

Issues are so complex that multi disciplines need to be involved, *if* their contributions are examined.

Most multi disciplinary groups just make the situation more confused.

Overall better planning of society's moral, ethical values, less disruption especially medical-legal values and direction.

60. Briefly list your reasons for giving the above response.

Physicians

In coming years, these advances will increase the number of situations in which the physician and/or patient find their desires (inherent) in conflict with societal "norms." Prior experience in such decision making may serve to familiarize the physician with acceptable approaches to resolving such conflicts.

Science is out pacing law and education and public knowledge and perceptions .
Interdisciplinary approach is a must to keep up with rapid changes. Students must know all sides of new issues.

The complexity of the issues warrants the above.

Most of these issues should remain between physician and patient. Not in courts, legislatures or public forum. Proliferation of "ethicists" leads to their pushing for intrusion into the process.

These issues involve not only foundational morality and theological proscriptions, but additional situational ethics and need to be carefully discussed by interdisciplinary thinkers and "doers."

Problems created by these advances deserve study and an interdisciplinary approach.

To fit society's moral codes.

Science should not be restricted by non-scientists. After it is developed then it can be the subject of laws.

Certainly. When taught in classrooms usually would be taught by those with "liberal" as opposed to "conservative" philosophy. (i.e. Unbalanced teaching/perceived need to please the teacher)

I don't think "interdisciplinary" thinking should have anything to do with a personal code of ethics, nor should religion be a deciding factor.

Bio ethical issues should be handled by the patient, his family and his physician with *no* input by government, lawyers or others.

These are all decisions that must be made on an individual basis involving scientific, legal and spiritual concepts. Wrong decisions are inevitable, but more right decisions will be made if we are armed with forethought. Laws and/or dogma are "copouts."

Need to begin discussion during educational periods.

Religious beliefs and medical ethics.

Not offered now in most med schools - too vital to be left to chance/hit and miss educational attempts.

Depends on program - directives etc. There are many scientific advancements still to be discovered.

We all need to be well informed before these decisions are made.

60. Briefly list your reasons for giving the above response.

Physicians

Careful thought in advance helps clarify thinking, making decisions more consistent but in real life situations, "grey areas" always exist requiring a "case-by case" approach most of the time. This does not diminish the need for ethical thought, just makes it that much more necessary.

Imperative in order to control rising health costs.

I don't really understand the question.

Multidisciplinary approach brings a balanced view and educates public and non-physicians about medical ethical issues common in everyday medical practice.

A tempered approach to bioethics is warranted in that the science of medicine must be integrated with the art of medicine. The educational program should not dictate particular viewpoints, however.

All opinions should be heard and considered in law. How society addresses these controversial issues. Once decisions are made education plays a big role in providing understanding of how decisions were made and how to apply those decisions.

This needs to be done more in training years.

The only way to explore the awareness aspects of the question. Need input from academic and other contributory disciplines.

So that decision making can be as logical in these areas as in other areas of medical practice.

The issues require a lot of thought and reflection before being confronted by a specific case.

Question is too confusing. Poorly formulated.

Confusing question.

Poorly worded question.

Major problem is unrealistic. Public expectations forcing pretermimed intensive/expensive care.

I believe present medical education and experience allows the physician to address new bioethical issues. I believe a great deal of interdisciplinary inquiry and education is hogwash and simply interposes blockades in the physician/patient/family relationship.

Doctors need training in all issues concerning life and death.

Such programs have been lacking in most medical centers until recent years. Bioethical problems are commonly encountered by all physicians who participate in direct patient care. More and more the important questions in the application of new technologies is not what *can* we do, but what *should* we do in any given situation.

I'm not sure this can be done without biases of "instructors" being inserted into the process.

Are these "teachable" and by whose standards?

60. Briefly list your reasons for giving the above response.

Physicians

I am unsure that I as a physician have the right to judge what others may decide to do or have done to them.

Only through education of all concerned and by sharing views can we make any progress morally to approach the scientific progress we've made.

The knowledge of new technical achievements should be an important part of the decision making process which I think is fundamentally a moral issue.

High tech medicine is becoming prohibitively expensive. Our limited resources must be rationed as morally and ethically as possible.

Doctors have for many years, been giving termination of life in humane circumstances. The physician and the family often can reach satisfactory conclusion without involving legal entanglement.

The student over a prolonged career will accept and participate in those procedures which he believes and is comfortable carrying out.

1. You cannot make decisions without understanding the issues. 2. It is important to understand other positions. 3. You examine your own position the closest when you have to defend or debate it.

Thoughtful consideration of potential uses or abuses of technology, availability, funding, limitations, etc. needs to be undertaken before the physician finds himself in a moral dilemma.

Courses should be developed for presentation, extent depends on intellectual level of student and students need for decision making data.

These issues are indeed complex and require enlightened, compassionate thought processes (nourished by the educated understanding of the meaning of life itself). We need all the help we can get to make such decisions.

Logical approach.

No profession has the exclusive prerogative of making certain life and death decisions.

But I'm not sure it can be done. Like slavery and abortion, religion and emotions tend to take over such discussions.

Little rationale currently available for decision making . Formal approach would be useful.

Only by doing the above can intelligent and logical decisions be made.

If physicians are not capable of leading the ethical discussion of such issues it will be decided in the courts (i.e. lawyers) frightening thought if there ever was one).

Most people including government officials are unqualified to provide interdisciplinary inquiry or education programs because they lack basic morals -this will end up being as confusing as the other above mentioned issues.

60. Briefly list your reasons for giving the above response.

Physicians

The questions might well arise more and more frequently.

The issues are complex and the answers are not self-evident. Important to consider the alternatives.

I think many of us are "too busy" to think through and develop clear opinions and concepts about the real issues involved. The above would help.

Is there any other way. Each case will always be *unique*. There is no right or wrong. There are no answers for the above issues.

More issues can be more thoroughly examined and resolved in an optimal manner through dialogue with persons of different backgrounds and points of view.

The question is confusing and is not worded well.

In our society scientific issues have been proposed as "truth" when in fact it only represents the present status of knowledge and scientific achievements.

Any answer would depend on the individual(s) making these decisions or developing these programs/courses.

Decisions are complicated and multifactorial requiring a wide knowledge base.

It is far better for professionals to deal with these issues than to leave the deciding to the government and the judicial system.

To bring different points of view to focus on the subject. Also to begin considering these issues early in a physician's training.

No one group has all the information needed to make the "Right" decisions with out input from others as the issues are medical, ethical and economic.

59 is not well stated for answering by the key above. As modified above I support inquiry and educational programs strongly.

To deal with problems before they arise; funnel that knowledge/responsibility through careful, thoughtful review panels to disperse to the *medical* community.

Increased insight into ethical issues assists all physicians and society in making sound moral decisions.

Assuming you mean students in the sense of medical students. Physicians of the future will have to face these problems increasingly and will need all the help they can get. Also, one needs to counteract the efforts of the lunatic fringe.

Six heads are better than one. I would not exclude the issues to the above approach but think it should be included.

Decisions are so complex and cross so many boundaries that all viewpoints should be represented and considered.

Discussion with experts in fields above.

60. Briefly list your reasons for giving the above response.

Physicians

The mixture of medicine and law creates mistrust of physicians and patients - only a non biased approach would make a distinction.

Fundamental political decisions are needed.

I have much less trouble with the issues than I have dealing with the problem. Which has more to do with terms like precedent, standard of care and statute of limitation.

Multiple inputs are necessary so downside and benefits can be understood.

Without laws to regulate use of technology you are breeding more legal encounters, more confusion and more emotional turmoil.

If the idea is to help me and my patients great, generally more intrusion is less helpful however.

I personally do not believe a course can be designed to teach medical ethics. Experience with dealing with patients and being honest and straight forward will accomplish more than all the ethics courses will accomplish, all the lawyers accomplish. The fewer specialists involved the easier the decisions will be accomplished "too many cooks spoil the broth."

Traditional programs have tended to place the physician in the sole position of treatment decision maker. Society now demands that individuals be given discretion over some of the decisions made. Students must learn to adequately function in this new environment.

1. Logic. 2. Education of all concerned. 3. Cooperation of all concerned.

The medical professional needs to be prepared for decisions that were not necessary or possible just a few years ago.

Students should be aware of the limits of the scientific and technological treatments to give the patient a *life*.

At the point "professionals" begin to interact/influence patients/clients their "baseline" ideas are probably "ingrained." Programs can help them integrate new information into their ideas/beliefs and help their patients make more informed decisions in these very difficult areas.

The whole concept of life, death, dying, rights obligations, responsibilities is so complex that no one person or one field of discipline can know it all.

Knowledge is the absence of ignorance.

It is fine to introduce these subjects in generalities but full courses on the subject should only be accountable to the "interested" student.

Personal rights and privacy come first; not others values.

The fields of interest are in such a rapid period change as to preclude meaningful decisions at present. There must be some measure of stability and perspective in a field before our "ethical classroom" can safely be derived. Study, yes but "deciding" no.

Making an academic discipline without endless discussions is of little utility.

60. Briefly list your reasons for giving the above response.

Physicians

All scientific disciplines should be responsive and responsible to society.

These are important issues both for the patient and the physician. Handling these issues for many of us has been intuitive since they were not covered in medical school.

Question unclear.

Such education just creates dialogue about conflicting issues of science, church, state. The zone of the true "clearest" choice in any case is almost never black and white. Final choices in the above issues cannot be made without examining the case. Some people can *never* make these choices. Education may only vocalize them but not make one point of view dominate or make them go away.

NO - Too much is made of ethics.

Well informed - Good decisions

multi discipline approach

the question is confusing and is not worded well

In our society scientific issues have been proposed as truth when in fact it only represents the present status of the knowledge and scientific achievements.

Doubt realistic decisions can come from such a process.

Obviously, careful interdisciplinary inquiry and well developed educational programs facilitate thoughtful decision making.

Otherwise the main method of decision making will be by laws drafted by legislators. Bioethical questions are not the sole turf of physicians, but they must work with others in society.

To help develop guidelines to assist people in making informed decisions.

Easy to let economic and comfort considerations over shadow ethical considerations. Science and technology courses too often neglect ethical and moral considerations and pursue goal of maximum gain or pleasure.

Decision making must be based upon a standard - secular humanists have no uniform standards - indeed Christian standards are based upon God's commandments which should be the guide for man's decisions.

To support this project.

There are so many variables in individual decisions that those not "on the firing line" (non M.D.'s) who do not know the patient their circumstances and family circumstances cannot make broad pronouncements and decisions covering all contingencies.

All of us wear out. Our life on earth is limited. When we can no longer function, then it is time to let go on earth - and according to our beliefs, achieve our reward for the time spent on earth.

60. Briefly list your reasons for giving the above response.

Physicians

Should to a great extent - Makes sense to me.

This is necessary for the physician to function as a humanistic caretaker for his fellow man.

The overriding issue needs to be respect for life from the moment of conception until the moment it returns to the Father. We need continued education about these difficult bioethical issues with this mandate always in mind.

Very complex issues involving medical, ethical, legal considerations; rapid evolution of these issues due to changing medical and societal knowledge.

Responses are conditioned rather than directed by knowledge.

As a physician very little training to address points concerning morals, bioethical issues, etc.

The better one's education the better decisions made.

Issues are complex and opinions need to be formulated on facts.

I really do not understand the question. (Especially the last prepositional phrase). I generally believe that multi/interdisciplinary approaches to such complex problems is the best way. "Science and Medicine" cannot adequately deal with these issues without the direct input of humanities/social sciences.

These are all life and death situations which are very morally stressing issues. Once the decision is made to end or begin a life, it is for keeps. It is important the student understand all the options and consequences so he/she can live at peace.

I choose not to respond. 1) One more tenured non-teaching PhD is considered low on my priority scale of need. 2) Questions are taxing personally.

Governmental guidelines

Ideally, real thought and preparation will make proper decisions possible. Not put pressure on family at this emotional time or at all.

I don't think these issues should be only discussed/controlled by religious organizations.

Subjectivity is less rational; information is needed to be objective.

Basically R&D should have a free hand - society can then decide how to use information. I'm not sure lay groups should control R&D and thus possibly decrease advances.

I assume you refer to "medical" students. I believe such approach is the only one I can think of.

60. Briefly list your reasons for giving the above response.

Educators

Terms are relative to unclear, i.e. "interdisciplinary inquiry", etc.

Should be governed by religion and family of a person. Too many government regulations on what should and should not be taught.

Bioethical issues such as those surveyed above are so complex and reach across all interdisciplinary boundaries so they *must* be approached this way to prevent misuse of any of the procedures described.

Depends on age and *maturity* of students involved.

Important to have scientific, moral, ethical and religious disciplines informing such decisions.

An intelligent thoughtful decision can be achieved when a person has been taught to think. Teaching *toward* the above directives is a subtle form of brain-washing.

I think students should be given all the issues (pro and con) in order to have a basis to make their decisions.

There must be a consensus on approaching these issues or ethics break down.

We are being held responsible for teaching too many things in education but their families deal with moral/ethical issues.

Everyone has a mind and should be responsible for the choices he/she makes.

These are decisions we face personally and as a society and careful decision making is a necessity. The process of decision making needs to advance with new technology.

Most of these issues are highly controversial. Decision making should only be undertaken after careful consideration of all aspects available to us. Emotional decisions or decisions made from only one view point can not be as intelligent.

The skills and knowledge of numerous disciplines should be considered when establishing positions of life or death of individuals and the long reaching implications of these positions.

Society and the government must become aware of the general opinion of the public in order to make the decisions this survey is inquiring about.

All changes and particularly bioethical ones demand many views and well thought through possibilities. Brain storming preserves the mix of ideas and doesn't limit possibilities.

I believe the individual should make decisions which effect their life and death. When an individual proves to be unable to make those decisions, society makes them.

I feel each person has the right to choose and every case is different for each person.

A lot would depend on how the material was presented.

In order to make the most responsible intelligent decision involving one's personal life and that of others, a person in today's complex society needs to have as much information as is available at that point in time.

60. Briefly list your reasons for giving the above response.

Educators

Think it is important to give students information concerning above issues - not sure how it could be taught without bias and/or great deal of controversy.

I believe students need to be aware of these issues and taught about them by professionals. Facts are worth much more than heresay, and I feel that it is society's responsibility to educate its young on all aspects of life.

Although I believe adolescents should know these options are available to them, I don't agree that we should develop programs to teach them. We have enough programs and are getting too far away from basic education.

I have just been through a terminal illness with my mother who had a living will and DNR and was well versed and knew what she wanted. We need to be educated to learn our avenues and not to abuse them.

My students are much too young - high school seniors, college students yes.

The better students and the general public are informed - the better they are able to make intelligent decisions.

More logical/sound decisions can be made if person is taught to think through rather than to react emotionally. Knowledge/decision making skills yield better decisions.

People should be informed, but at what level of education is intended is not stated here.

1. Allows for informed choice, 2. provides for the full realm of possibilities. 3. cannot be slanted either pro or con - cannot dictate or legislate morality.

We as citizens are faced more and more with these decisions and need to be able to form educated, thought-out personal opinions and decisions.

Informed decision making is crucial for individuals.

These advancements and issues must be addressed in medical schools. I'm not sure about their place in the university classrooms that are not medically oriented.

Educating the public is the only way for individuals to make intelligent decisions about controversial subjects.

These issues first should be based upon their religious beliefs. Right now I don't feel these issues have any place in educational programs at any level.

Every one should have the right to make their own decisions (morally acceptable to most decent people). There are so many gray areas that each situation needs to be decided on an individual basis. There are no black and white answers to some of these difficult questions.

The average person does not understand medical language and scientific language, It is important people understand fully when making directives about ones life or a loved ones life.

Students should be aware of advancements but some students are susceptible to outside influences (family, peers, teachers) instead of being in control of their own mind.

60. Briefly list your reasons for giving the above response.

Educators

It is very difficult for anyone to form an opinion based on anything other than instinct or tradition if he/she has no facts on which to base that opinion.

Education can always be found to out-weight *fear*. Knowing what to do and when to set into motion proper pieces of life's puzzle.

A better informed person will be able to make a more logical decision about their future life.

Students must know all the options and what they entail before they can make a competent, logical decision.

Being well informed about all options and possible consequences will aid in making wiser decisions.

The more thought and study given a subject the more likely students will be able to see a variety of aspects to an issue.

Each person should be well informed and thoroughly understand the decisions he/she is making in order to make the best decision for that person.

Educational programs develop methods for critical thinking. If we educate our youth, on these issues we will have adults that are better able to understand and make decisions on the above issues.

Without proper education, an individual cannot choose what is best for themselves.

Education will lead to a better understanding of these difficult issues. Once we know every angle we can justify our decisions.

I'm not sure every topic presented in this questionnaire needs to be covered in schools - but I feel very strongly that abortion and topics of that nature should be presented objectively so choices can be made with little hesitation or at least less confusion.

Persons need to know all risks, ends and implications of decisions they make. They must also accept all risks and results of their decisions. They must know the consequences and be able to live with them.

A lot would depend upon the age and emotional maturity of the student. I don't know if the present educational system can handle any more teaching burdens good or otherwise. I have also seen very few *well* developed educational programs.

There are often many misconceptions to bio-ethical issues. Often you receive one sided views when looking for information.

By making the options known and the results of those options people would be able to combine that with their own values to make decisions they can live with.

I decide for themselves what they want to believe or reject. The Bible says to search the scriptures, test them, see if they are true. So the above is Bible based. You may change your mind on some things and get stronger on others.

60. Briefly list your reasons for giving the above response.

Educators

These are important issues, but I'm not sure most undergraduates are mature enough to make long-lasting decisions. These are very emotional issues and opinions about them change over time as you age and mature.

Because it is such an important matter to all concerned.

1. Better informed people make better decisions. 2. These are topics not openly discussed in a home setting.

Education is the KEY to good, meaningful, serious decisions - exploration of options is necessary for science and humanity to progress.

I think both sides of these issues should be presented and that decisions may not really be known until oneself is in these positions.

Educated individuals given facts and information should be able to make their own educated decisions based on personal circumstances.

There are *many more* relevant and important topics for discussion!!

It is very difficult to have a curriculum on these or other moral issues without it being slanted one way or the other. Students should be taught how to analyze and solve general problems, then when moral, political, economic, etc. issues are presented they will be able to weigh both sides and make a decision.

Our ethics and philosophies must not stagnate but must keep pace with technology, carefully balancing the need of the individual and the good of society.

Education on these issues cannot help but make students more responsible citizens.

The more technical advances the more choices individuals will need to make. They need to understand the procedures to make decisions.

Students will have to make these decisions for themselves and others.

The more knowledge a person has, the better choices he/she can make about their life and the direction they want it to take.

I feel that God is the supreme and encourages and facilitates these advancements. Along with prayer to make sure our intentions are the best and education, we should be able to make decisions that give life more meaning.

I think such questions belong in the family and church. Education already has enough responsibility to teach the basics.

To be informed is to be prepared for all situations.

I feel that education would help to lessen problems if faced with bioethical situations in the future.

People can't make intelligent decisions if they are ignorant of the facts.

60. Briefly list your reasons for giving the above response.

Educators

Given facts - yes. Used as an attempt to influence by the instructor's own values or lack of them - no.

The lay person needs to be aware and well informed to be able to make an intelligent decision concerning these all important issues which might affect his life. Well-developed educational programs are essential!

These are great things to discuss and ponder upon because in an instant one may be faced with some of these issues. At that time it would be good to have some feelings and knowledge concerning a raised issue.

I strongly believe in the individual's right to participate in decisions that will affect their life or lifestyle especially if those decisions do not negatively affect others. In order to make informed decisions people need access to education programs which will inform them of available options and the consequences thereof.

It is the responsibility of the parents to educate their children in these highly objectional areas. Educators can give both sides of the issue and that is where their responsibility should end.

Only an informed individual can make the "correct" decisions in this complicated and emotionally charged area.

Program must be "well-developed."

To make *all* advances in science and technology understandable to all.

Informed decisions.

Because you need the personal and medical facts considered. The person's personal and religious thinking should be considered. Technologically new techniques may come into existence which can be financially prohibitive.

We should make wiser decisions if we are better informed.

We are emerging into a different world, if in the past our teachers had prepared us for the society we live in maybe we wouldn't be in such "a mess" - we must prepare the students of today for the future. This can be done through interdisciplinary inquiry but should not stop at the college level - information needs to filter down into high school and middle school more quickly.

My concern is that the quality of life is perceived as more imminent than the sanctity of life. Life must be the primary goal.

Because of new technology and scientific advances, it may become easy for many to start "playing God" and life is not man's possession to play with. God gives life and it belongs to Him. We must be careful that we don't allow the government to become too powerful.

Decisions need to be based on factual knowledge.

Sometimes one needs to take into accountability the human factor instead of statistics. You cannot have numbers in real life situations.

60. Briefly list your reasons for giving the above response.

Educators

Education is the means by which an intelligent choice can be made.

Students need to be informed of technologies in order to make intelligent decisions and opinions.

At the secondary level, the students often face these issues personally. a forum needs to be available to discuss freely.

Educators have moral obligations to foresee long term human effects of new technology.

To be informed would lead to better thought out decisions on the part of students and others. Gray areas would dissipate through inquiry and well-planned programs to inform regarding bioethical issues.

To be sure we are doing the right thing and pursuing a course of action for a positive future.

Most of these topics are inappropriate for the K-12 audience. These studies should be for college age and above - And even as we age our opinions change according to our experiences.

Education along with the medical and legal profession should work together to propose solutions to these issues.

These decisions are very much a part of our students' society today and will continue into their future. They need to be informed.

Teachers are generally in a position where their advice is respected. Values become apparent through teachings; therefore a teacher's ethical values will be transferred to the students. These subjects should be ethical decisions learned from the home.

It should be the responsibility of both the parents and the schools to educate our children so that they learn to make well thought out decisions.

My personal responses on this questionnaire are based on my religious beliefs. I believe in absolutes, therefore, I do not feel that these issues have a place in the classroom. At the college level they may warrant some consideration when individual maturity and personal ethics are more firmly set.

I believe strongly in the advances made in these areas. The decisions must be interdisciplinary and they must also include patient (where possible) and family. The closest family member must be heard very compassionately.

God is still in control. Nothing happens without Him allowing it to happen. He even causes good to come out of the bad. If you have not come to the place where you know you have eternal life, I pray that you will make that decision today to accept Jesus Christ as your personal Lord and Savior.

I did not understand the question.

The public needs much more information concerning those policies before it can make reasonable choices.

60. Briefly list your reasons for giving the above response.

Educators

I feel students should be aware of bioethical issues through educationally sound programs including debates. However - I do not feel that this topic merits more than one semester's work. These are personal decisions that need to be made by an individual and studying it for a grade is unnecessary.

All issues should be approached in ways that facilitate students in thoughtful decision-making.

Educated persons make (usually) better decisions or at least give more intelligent thought to these decisions.

Students need help in decision making. Bioethical decisions are most significant, complex and important. And I'm a science teacher - it fits best into my curriculum.

Knowledge will help them to make better decisions. Ignorance only hinders progress and improvement.

The bioethical issues are very interesting subjects and will help us with our world problems.

This is *serious* business that should be carefully considered before giving a directive.

Their thoughtful decision making may be based on beliefs that do not concur with mine or others. Science should not make decisions, they should only provide information.

Society as a whole needs to be made more aware of new advancements. More options are now available which complicate many of life's ethical questions. Education is the path we should choose, then allow individuals to make their own decisions.

Due to advanced technology, everyone should have opportunities to study options in order to make their own ethical decisions.

The long term effects of technology on society and individual human beings must be carefully thought out before destructive patterns of behavior develop that lower the standard of life for all human beings.

I have more confidence in the scientific community than in lay causes or politicians.

I believe education is the key factor to every aspect of life. The more we know about something the better we are to make sound, logical judgements.

It seems most decisions are already made for children, therefore, never really learning the real decision making process.

Issues in society today should be explained fully to the public so they understand wholly what the consequences are for their decisions.

I think it would depend on age/maturity of student group. Most of the items on the survey may need careful direction when presented to a group.

Science is advancing at such a fast rate that careful consideration is necessary before proceeding.

To provide insight, knowledge and background for intelligent decision - making.

60. Briefly list your reasons for giving the above response.

Educators

The population needs to be fully aware of all complications or advantages so a decision can be made that is *fully understood*.

More information leads to better decisions.

I feel the more our students are exposed to the easier it is to make these types of decisions. I wish I had heard more about these issues (both sides) earlier.

You can educate all you want but many of these questions will be not be resolved except within one's own religious beliefs or value systems. Health care workers should know all sides to all questions above.

Inquiry will result in bringing to the forefront aspects of issues which might otherwise be ignored or not addressed in an intelligent and logical manner.

Intelligent decisions cannot be made if all aspects are not explored. One must also be extremely stable emotionally to live with the after effects of some of these issues. Education on the subject could help one better understand his/herself and how the decision would affect his/her life.

Interdisciplinary is the key - If anti abortion laws are passed then funding and programs must be provided for education - nutrition - etc. There must be a balance and acceptance for the responsibilities of the decisions made.

Students need to understand the immediate and far reaching effects of a decision and the potential implications of their decisions. Education is the key to rational decision-making in all areas of life.

Many issues require knowledge not available to lay persons "life" issues require one's full participation.

Most of these issues require a fairly quick decision at a highly emotional time. I'm not sure emotional people make the best decisions even when educated on options.

Students are tomorrow's leaders and decision-makers. They should be well informed to help make educated decisions not solely based on emotion.

Students must know all options so that they may make decisions on these important issues. Hopefully, most students will be exposed to information to support both sides somewhere in their education toward a degree.

The purpose of education is to prepare students for important decision making in today's world. It is the school's responsibility to provide students with the data they need when making decisions about abortion, capital punishment, euthanasia, procreation, etc.

In order to make sure these regulations would apply to everyone regardless of race, religion or financial conditions. The three areas mentioned above would play an important part in the treatment that one would receive.

60. Briefly list your reasons for giving the above response.

Educators

There are certain moral responsibilities that should be standard, but I am not sure that I fully understand the moral obligations that should be met by society. Just where is the line that you don't cross?

Each person should be well informed on the new technologies.

I think these should be studied in order for us to learn as much about the alternatives as we can. In very rare instances it would be OK to allow some of these alternatives, but mostly I think these decisions are against Christianity. This is a Christian society, mostly. After all, that's what America stands for (one nation under God).

It is very important that issues be discussed and information be presented so that one can make intelligent choices, however due to the controversial nature of these issues it would be difficult to be objective in teaching and not let your opinions show.

1. Average person must be informed of available choices, 2. contributions by many disciplines will lead to balanced approach, 3. Ignorance is the beginning of prejudices.

Very complicated issue with moral values.

I feel like the more a person knows about a subject the better qualified they are to make a good decision.

Just "cause."

In any society, decisions are viewed more positively by its members when the members are encouraged to participate in the decision-making process. In addition, the best decisions are made when many groups contribute ideas, rather than allowing some special interest group govern a knee-jerk reaction.

Educational programs are sometimes biased, depending on the view of the teacher presenting the material; even though the material has been well-developed.

Students must become problem solvers. In order to be prepared for life in our society they must be able to understand, analyze, and make decisions about issues pertinent to their lives.

These are issues which pose very serious questions for scientists (medical, genetic, psychological, etc.) educators ethicists and religious leaders. Without careful interdisciplinary discussion, and development of philosophies and policies society would be in danger of suffering from the consequences of narrow-minded decisions or the mushrooming chaos caused by many opposing factions.

Scientific and technological advancements should be available to everyone, but *not* funded by the government. The decisions about such issues should be made by each person. Capital punishment is the only issue society should decide.

I agree with the above if members of the religious community are included.

Because each of us comes with our own beliefs I think the program would be hard to use. Some might try to influence students.

The individual should have a free choice.

60. Briefly list your reasons for giving the above response.

Educators

The world is advancing we need to know all we can about these issues.

All controversial issues such as these should be approached with the purpose of learning all the facts, hearing all the arguments, and considering all the options before individuals form opinions and/or have to make decisions.

Knowledge is critical for making such important decisions.

I don't feel students are ready for these thought provoking questions - they have not experienced enough of life.

At the present time, the economic crunch in TN education doesn't allow for new programs, which is what Q 59 seems to be suggesting.

All people need to be responsible decision makers.

Give student enough information to be able to make a competent decision.

Agree with interdisciplinary approach in order to have as many choices as possible. Would also appreciate accountability of this information as opposed to educational options.

Children should be aware of most issues to be able to formulate their own opinions. If they are not educated, their opinions are only extensions of their parents/role models.

APPENDIX G

Comparison of Physicians and Educators to Ethicists:
Means, Standard Deviations, F Tests, and
Significant Differences for Each Variable

I. ABORTION

Variable	Ethicists			Physicians				Educators			
	N	M	SD	N	M	SD	F'	N	M	SD	F'
Q1	19	4.79	0.42	362	4.54	1.09	6.76*	235	4.33	1.26	9.10*
Q2	19	1.26	0.56	360	2.65	1.61	8.24*	238	3.22	1.60	8.14*
Q3	19	1.32	0.95	360	2.14	1.54	2.67*	236	2.73	1.69	3.18*
Q4	19	3.84	1.50	360	3.03	1.69	1.26	236	2.70	1.68	1.26
Q5	19	4.16	1.30	358	3.23	1.72	1.74	235	2.84	1.72	1.74
Q6	19	1.26	0.93	359	1.81	1.42	2.30*	236	2.06	1.47	2.48*
Q7	17	3.82	1.29	354	4.23	1.19	1.17	232	3.69	1.48	1.32
Q8	19	4.79	0.42	360	4.44	1.19	8.05*	238	4.24	1.33	10.15*
Q9	19	3.84	1.54	360	2.96	1.69	1.20	235	2.93	1.70	1.22
Q10	19	4.68	0.58	362	4.67	0.87	2.23*	235	4.36	1.16	3.96*
Q11	19	5.00	0.00	360	4.83	6.38		238	4.52	1.04	
Q12	19	3.00	1.66	359	3.01	1.75	1.10	237	3.01	1.76	1.12
Q13	19	4.39	1.26	362	4.19	1.34	1.13	237	3.97	1.41	1.26
Q14	19	1.00	0.00	360	1.52	1.06		233	2.32	1.33	
Q15	19	1.53	1.17	358	2.16	1.43	1.49	238	2.65	1.54	1.73

*p < 0.05

N = sample size

M = mean 134

SD = standard deviation

F' = F value

II. CAPITAL PUNISHMENT

Variable	Ethicists			Physicians				Educators			
	N	M	SD	N	M	SD	F'	N	M	SD	F'
Q16	19	1.95	1.13	357	3.12	1.34	1.42	235	2.92	1.42	1.57
Q17	19	3.00	1.41	361	1.77	1.31	1.17	238	2.07	1.40	1.02
Q18	19	3.74	0.93	358	2.72	1.33	2.04	238	2.70	1.27	1.86
Q19	19	4.42	0.77	362	3.97	1.02	1.76	237	3.80	1.17	2.33*
Q20	19	3.47	1.26	360	1.72	1.12	1.28	238	1.96	1.28	1.02
Q21	19	3.16	1.17	361	2.29	1.36	1.36	237	2.38	1.38	1.39
Q22	19	2.84	1.17	361	1.58	1.06	1.20	238	1.89	1.25	1.14
Q23	19	3.63	1.50	362	1.55	1.13	1.76	238	1.89	1.32	1.28
Q24	19	3.84	1.17	358	2.74	1.58	1.83	235	2.35	1.11	1.10
Q25	19	2.11	0.99	362	3.74	1.23	1.53	237	3.57	1.34	1.83
Q26	19	2.26	1.24	359	2.99	1.45	1.36	236	2.57	1.40	1.28
Q27	18	2.06	1.39	358	3.21	1.48	1.13	236	3.40	1.40	1.02
Q28	19	2.58	1.50	360	4.39	1.07	1.97*	238	3.95	1.30	1.33

*p < 0.05

N = sample size

M = mean

SD = standard deviation

F' = F value

III. EUTHANASIA

Variable	Ethicists			Physicians				Educators			
	N	M	SD	N	M	SD	F'	N	M	SD	F'
Q29	18	2.06	1.66	360	1.83	1.30	1.63	235	2.20	1.43	1.35
Q30	19	3.11	1.59	361	2.95	1.54	1.07	238	3.79	1.40	1.29
Q31	19	2.84	1.64	361	2.52	1.49	1.22	238	2.95	1.56	1.11
Q32	18	3.33	1.24	360	2.75	1.40	1.29	238	2.96	1.34	1.17
Q33	18	4.28	0.75	355	3.88	1.12	2.21	237	3.96	1.09	2.10
Q34	19	3.16	1.46	360	3.33	1.48	1.03	237	2.92	1.48	1.02
Q35	18	3.67	1.28	358	3.28	1.38	1.16	236	3.55	1.35	1.11
Q36	19	1.47	0.96	355	2.71	1.49	2.39*	238	2.70	1.52	2.50*
Q37	18	2.17	1.29	360	2.09	1.32	1.04	234	2.52	1.50	1.35
Q38	19	2.58	1.43	357	2.73	1.46	1.05	234	2.48	1.30	1.20
Q39	18	1.72	1.27	357	2.38	1.55	1.47	238	2.21	1.43	1.26
Q40	19	2.47	1.39	358	2.02	1.23	1.28	234	2.16	1.16	1.44

*p < 0.05

N = sample size

M = mean 136

SD = standard deviation

F' = F value

IV. ARTIFICIAL PROCREATION

Variable	Ethicists			Physicians			Educators		
	N	M	SD	N	M	SD	N	M	F'
Q41	19	1.05	0.23	362	1.56	1.03	234	1.94	29.94*
Q42	19	2.84	1.54	363	3.07	1.60	235	3.49	1.21
Q43	19	1.42	0.77	361	1.50	0.96	235	1.61	1.82
Q44	19	3.84	1.21	365	2.88	1.52	235	3.21	1.34
Q45	19	2.79	1.51	360	1.93	1.21	236	2.06	1.58
Q46	19	4.32	1.25	362	3.75	1.39	235	3.10	1.08
Q47	19	2.32	1.20	364	2.60	1.31	234	2.90	1.03
Q48	19	4.11	0.74	366	3.21	1.46	234	3.70	2.52*

V. RIGHT TO DIE / ADVANCE DIRECTIVES

Variable	Ethicists			Physicians			Educators		
	N	M	SD	N	M	SD	N	M	F'
Q49	18	1.72	1.27	362	1.77	1.28	236	2.02	1.11
Q50	19	4.26	0.99	363	4.65	0.68	233	4.40	1.41

*p < 0.05

N = sample size

M = mean 137

SD = standard deviation

F' = F value

Variable	Ethicists			Physicians			Educators		
	N	M	SD	N	M	SD	N	M	F'
Q51	19	2.05	1.03	364	2.28	1.33	233	2.98	1.74
Q52	19	3.84	1.12	362	4.16	1.03	230	3.85	1.12
Q53	19	1.00	0.00	364	1.22	6.73	234	1.59	1.02
Q54	19	3.89	0.99	362	4.24	0.90	232	4.22	1.09
Q55	19	4.42	0.96	363	1.78	1.17	231	2.03	1.18
Q56	19	5.00	0.00	362	4.44	9.01	234	4.39	8.22
Q57	19	1.68	1.38	364	1.90	1.20	230	2.55	1.05
Q58	19	2.84	1.42	364	3.27	1.27	234	3.35	1.17
									1.48

VI. OVERALL

Variable	Ethicists			Physicians			Educators		
	N	M	SD	N	M	SD	N	M	F'
Q59	18	4.94	0.24	327	4.29	0.96	215	4.03	24.63*

*p < 0.05

N = sample size

M = mean 138

SD = standard deviation

F' = F value

APPENDIX H

Summary Table of Means for All Variables by Population

I. Abortion

Variables	Ethicists		Physicians		Educators	
	N	M	N	M	N	M
Q 1	19	4.79	362	4.59*	235	4.43*
Q 2	19	2.11	360	2.99*	238	3.39*
Q 3	19	2.21	360	2.72*	236	3.10*
Q 4	19	3.95	360	3.39	236	3.05
Q 5	19	4.05	358	3.55	235	3.18
Q 6	19	2.21	359	2.53*	236	2.59*
Q 7	17	3.24	354	4.25	232	3.80
Q 8	19	4.79	360	4.53*	238	4.32*
Q 9	19	3.89	360	3.41	235	2.91
Q10	19	4.58	362	4.71*	235	4.44*
Q11	19	5.00	360	4.84	238	4.56
Q12	19	3.21	359	3.40	237	3.41
Q13	19	4.53	362	4.31	237	4.03
Q14	19	2.00	360	2.26	233	2.30
Q15	19	2.26	358	2.74	238	2.99

*P < 0.05

N = Sample Size

M = Mean

5 (agree strongly)

4 (agree somewhat)

3 (disagree somewhat)

2 (disagree strongly)

1 (not sure)

II. Capital Punishment

Variables	Ethicists		Physicians		Educators	
	N	M	N	M	N	M
Q 16	19	2.11	357	3.06	235	2.99
Q 17	19	3.37	361	2.53	238	2.72
Q 18	19	3.32	358	3.03	238	2.89
Q 19	19	4.47	362	4.06	237	3.92*
Q 20	19	3.58	360	2.47	238	2.61

Variables	Ethicists		Physicians		Educators	
	N	M	N	M	N	M
Q 21	19	3.21	361	2.89	237	2.89
Q 22	19	3.05	361	2.41	238	2.56
Q 23	19	3.79	362	2.35	238	2.48
Q 24	19	3.84	358	3.10	235	2.15
Q 25	19	2.37	362	4.03	237	3.60
Q 26	19	2.79	359	3.30	236	2.88
Q 27	18	2.50	358	3.35	236	3.48
Q 28	19	2.95	360	4.44*	238	4.04

*P < 0.05

N = Sample Size

M = Mean

5 (agree strongly)

4 (agree somewhat)

3 (disagree somewhat)

2 (disagree strongly)

1 (not sure)

III. Euthanasia

Variables	Ethicists		Physicians		Educators	
	N	M	N	M	N	M
Q 29	18	2.78	360	2.56	235	2.70
Q 30	19	3.53	361	3.38	238	3.86
Q 31	19	3.32	361	2.92	238	3.20
Q 32	18	3.44	360	3.08	238	3.06
Q 33	18	4.33	355	3.97	237	3.97
Q 34	19	3.47	360	3.57	237	3.19
Q 35	18	3.50	358	3.46	236	3.65
Q 36	19	2.42	355	3.06*	238	3.03*
Q 37	18	2.72	360	2.68	234	2.95
Q 38	19	3.32	357	3.01	234	2.59
Q 39	18	2.61	357	2.90	238	2.68
Q 40	19	3.11	358	2.67	234	2.46

*P < 0.05

N = Sample Size

M = Mean

5 (agree strongly)

4 (agree somewhat)

3 (disagree somewhat)

2 (disagree strongly)

1 (not sure)

IV. Artificial Procreation

Variables	Ethicists		Physicians		Educators	
	N	M	N	M	N	M
Q 41	19	2.05	362	2.41*	234	2.53*
Q 42	19	3.37	363	3.46	235	3.66
Q 43	19	2.37	361	2.33	235	2.33
Q 44	19	4.05	365	3.26	235	2.90
Q 45	19	3.21	360	2.45	236	2.27
Q 46	19	4.47	362	3.81	235	2.95
Q 47	19	2.74	364	2.94	234	2.93
Q 48	19	4.05	366	3.48*	234	2.67*

*P < 0.05

N = Sample Size

M = Mean

5 (agree strongly)

4 (agree somewhat)

3 (disagree somewhat)

2 (disagree strongly)

1 (not sure)

V. Right to Die / Advance Directives

Variables	Ethicists		Physicians		Educators	
	N	M	N	M	N	M
Q 49	18	2.50	362	2.57	236	2.64
Q 50	19	4.26	363	4.65*	233	4.30
Q 51	19	2.74	364	2.75	233	3.10
Q 52	19	2.84	362	4.15	230	3.72
Q 53	19	2.00	364	2.12	234	2.36
Q 54	19	3.89	362	4.22	232	4.11
Q 55	19	2.37	363	2.55	231	2.38
Q 56	19	5.00	362	4.43	234	4.35
Q 57	19	2.53	364	2.63	230	2.91
Q 58	19	3.37	364	3.50	234	3.32

*P < 0.05

N = Sample Size

M = Mean

5 (agree strongly)

4 (agree somewhat)

3 (disagree somewhat)

2 (disagree strongly)

1 (not sure)

VI. Overall

Variables	Ethicists		Physicians		Educators	
	N	M	N	M	N	M
Q 59	18	4.94	327	4.24*	215	3.85*

*P < 0.05

N = Sample Size

M = Mean

5 (agree strongly)

4 (agree somewhat)

3 (disagree somewhat)

2 (disagree strongly)

1 (not sure)

APPENDIX I

Pearson's Correlation Coefficient Matrix
For all Variables
By Selected Populations

Correlation Matrix Directory

Q1	TABLE I	Q59
Ethicists p. 147 Physicians p. 157 Educators p. 167	TABLE II	TABLE IV
Ethicists p. 150 Physicians p. 160 Educators p. 170	TABLE III	Ethicists p. 153 Physicians p. 163 Educators p. 173
		Ethicists p. 155 Physicians p. 165 Educators p. 175
Q59		Q59

ETHICISTS

TABLE I

TABLE II

TABLE III

TABLE IV

1	15	16	30	31	45	46	59
p. 147			p. 150	No Entries	No Entries	No Entries	
p. 148			p. 151		p. 153	No Entries	
p. 149			p. 152		p. 154	p. 155	

TABLE I

ETHICISTS

Variable	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
Q 1	1.00														
Q 2	-0.69	1.00													
Q 3	-0.66	0.46	1.00												
Q 4	0.47	-0.28	-0.67	1.00											
Q 5	0.68	-0.44	-0.85*	0.78*	1.00										
Q 6	-0.56	0.39	0.84*	-0.56	-0.72*	1.00									
Q 7	0.48	-0.34	-0.53	0.45	0.69	-0.30	1.00								
Q 8	1.00*	-0.69	-0.66	0.47	0.67	-0.56	0.48	1.00							
Q 9	0.38	-0.01	-0.42	0.78*	0.57	-0.24	0.28	0.38	1.00						
Q 10	0.39	-0.41	-0.41	0.57	0.58	-0.35	0.39	0.39	0.62	1.00					
Q 11															
Q 12	0.16	0.00	-0.42	0.62	0.49	-0.36	0.40	0.16	0.48	0.34	0.16	1.00			
Q 13	0.47	-0.38	-0.66	0.83*	0.51	-0.56	0.22	0.47	0.55	0.32		0.48	1.00		
Q 14															
Q 15	-0.89*	0.71	0.89*	-0.61	-0.82*	0.83*	-0.52	-0.89*	-0.35	-0.47		-0.31	-0.63		1.00
Q 16	0.09	0.11	-0.14	0.06	-0.03	-0.03	0.07	0.09	0.25	-0.19		0.18	0.21		-0.06
Q 17	0.00	0.28	-0.12	0.34	0.15	-0.29	-0.09	0.00	0.20	0.00		0.02	0.25		-0.07
Q 18	-0.43	0.35	0.09	0.13	0.08	0.08	-0.18	-0.43	0.16	0.25		-0.07	-0.15		0.28
Q 19	-0.05	0.11	-0.19	0.16	0.26	-0.16	0.32	-0.05	0.06	0.19		0.35	0.00		-0.07

p < 0.05

* Paired Variables with an r value ≥ 0.70 or ≤ -0.70

Table I (continued)

Ethicists

Variable	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
Q 20	0.09	-0.02	-0.27	0.33	0.42	-0.44	0.15	0.09	0.13	0.29		0.05	0.09		-0.25
Q 21	0.18	-0.24	-0.20	0.58	0.31	-0.09	0.17	0.18	0.35	0.40		0.48	0.53		-0.23
Q 22	0.50	-0.27	-0.40	0.11	0.38	-0.42	0.24	0.50	0.23	0.49		0.00	0.04		-0.50
Q 23	0.05	0.05	-0.27	0.56	0.32	-0.40	-0.20	0.05	0.33	0.24		0.15	0.46		-0.20
Q 24	-0.07	0.24	-0.10	-0.11	0.05	-0.32	0.12	-0.07	-0.07	-0.07		0.09	-0.15		-0.06
Q 25	-0.48	0.54	0.67	-0.47	-0.61	0.57	-0.35	-0.48	-0.24	-0.32		-0.40	-0.48		0.66
Q 26	-0.10	0.05	0.35	-0.48	-0.47	0.51	-0.29	-0.10	-0.41	-0.65		-0.40	-0.24		0.32
Q 27	-0.18	-0.17	0.12	-0.52	-0.13	-0.10	0.05	-0.18	-0.78*	-0.26		-0.18	-0.50		0.05
Q 28	-0.06	0.01	0.45	-0.60	-0.39	0.44	-0.23	-0.06	-0.42	-0.29		-0.20	-0.56		0.29
Q 29	0.35	-0.14	-0.23	0.29	0.24	-0.19	0.41	0.35	0.14	0.20		0.56	0.27		-0.31
Q 30	0.28	-0.16	-0.13	0.49	0.34	-0.28	0.14	0.28	0.23	0.28		0.52	0.31		-0.27
Q 31	0.43	-0.25	-0.40	0.58	0.48	-0.33	0.38	0.43	0.36	0.35		0.32	0.46		-0.45
Q 32	-0.07	-0.06	-0.10	-0.29	-0.08	0.07	0.07	-0.07	-0.10	-0.08		-0.25	-0.19		0.03
Q 33	0.02	-0.05	-0.13	0.49	0.35	-0.11	0.16	0.02	0.53	0.75*		0.46	0.20		-0.12
Q 34	-0.49	0.28	0.44	-0.57	-0.45	0.37	-0.15	-0.49	-0.36	-0.33		-0.11	-0.55		0.50
Q 35	0.50	-0.27	-0.61	0.70*	0.61	-0.59	0.16	0.50	0.77	0.62		0.35	0.64		-0.60
Q 36	-0.56	0.47	0.74*	-0.52	-0.68	0.90	-0.32	-0.56	-0.21	-0.51		-0.35	-0.47		0.80*
Q 37	0.39	-0.30	-0.19	0.14	0.33	-0.23	0.29	0.39	0.22	0.46		0.04	-0.04		-0.33
Q 38	-0.25	0.01	0.23	-0.34	-0.17	0.38	0.24	-0.25	-0.11	0.17		-0.28	-0.44		0.27
Q 39	-0.44	0.27	0.51	-0.80*	-0.49	0.64	-0.09	-0.44	-0.49	-0.28		-0.43	-0.84*		0.57

p < 0.05

* Paired Variables with an r value ≥ 0.70 or ≤ -0.70

Table I (continued)

Ethicists

Variable	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
Q 40	0.37	-0.45	-0.25	0.20	0.17	-0.27	0.09	0.37	0.17	0.33		0.00	0.24		-0.37
Q 41	-0.46	0.31	0.69	-0.46	-0.59	0.19	-0.57	-0.46	-0.45	-0.28		-0.29	-0.46		0.51
Q 42	0.20	-0.21	0.04	-0.13	-0.04	-0.09	0.05	0.20	0.04	0.19		-0.33	-0.17		-0.11
Q 43	-0.23	0.37	0.27	0.01	-0.13	0.22	-0.05	-0.23	0.01	0.07		0.22	-0.05		0.23
Q 44	0.15	-0.34	-0.24	-0.11	0.09	-0.35	0.03	0.15	-0.22	0.00		-0.30	-0.03		-0.25
Q 45	0.28	-0.06	0.05	0.28	0.10	0.16	0.32	0.28	0.34	0.17		0.09	0.22		-0.09
Q 46	-0.29	0.27	0.19	-0.18	-0.13	0.16	0.21	-0.29	-0.18	-0.08		0.05	-0.26		0.26
Q 47	-0.19	0.03	-0.09	0.34	0.11	-0.08	-0.34	-0.19	0.36	0.31		0.39	0.29		0.03
Q 48	0.26	0.06	0.19	-0.34	-0.19	0.04	-0.18	0.26	0.02	-0.18		-0.41	-0.28		-0.00
Q 49	-0.12	0.35	0.22	0.04	-0.10	0.40	0.25	-0.12	0.25	0.03		0.11	-0.05		0.26
Q 50	0.01	-0.13	-0.09	0.14	0.18	-0.26	0.17	0.01	0.10	0.54		0.03	-0.04		-0.13
Q 51	-0.10	0.07	0.15	0.11	0.12	0.39	0.43	-0.10	0.15	0.03		0.16	-0.15		0.21
Q 52	0.28	-0.20	-0.42	0.41	0.55	-0.60	0.18	0.28	0.37	0.69		0.30	0.12		-0.44
Q 53															
Q 54	0.08	-0.15	-0.32	0.47	0.44	-0.45	0.06	0.08	0.39	0.71*		0.27	0.21		-0.28
Q 55	0.07	-0.01	0.03	0.01	-0.06	0.12	-0.32	0.09	0.16	0.05		-0.17	0.05		-0.01
Q 56															
Q 57	-0.12	0.26	0.34	-0.48	-0.16	0.54	0.25	-0.12	-0.21	-0.06		-0.17	-0.67		0.32
Q 58	-0.03	-0.22	-0.08	-0.12	0.16	0.12	0.31	0.03	-0.22	0.07		0.23	-0.25		-0.05
Q 59	0.45	-0.75*	0.09	-0.04	0.02	0.07	0.18	0.45	-0.20	0.28		-0.15	0.06		-0.30

p < 0.05

* Paired Variables with an r value ≥ 0.70 or ≤ -0.70

TABLE II

ETHICISTS

Variable	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
Q 1															
Q 2															
Q 3															
Q 4															
Q 5															
Q 6															
Q 7															
Q 8															
Q 9															
Q 10															
Q 11															
Q 12															
Q 13															
Q 14															
Q 15															
Q 16	1.00														
Q 17	-0.17	1.00													
Q 18	-0.54	0.13	1.00												
Q 19	-0.49	0.00	0.32	1.00											

p < 0.05

* Paired Variables with an r value ≥ 0.70 or ≤ -0.70

Table II (continued)

Ethicists

Variable	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
Q 20	-0.60	0.56	0.54	0.30	1.00										
Q 21	-0.37	0.34	0.04	0.36	0.25	1.00									
Q 22	0.08	0.07	-0.04	-0.23	0.20	-0.14	1.00								
Q 23	-0.44	0.79*	0.48	0.14	0.74	0.51	0.03	1.00							
Q 24	0.08	0.17	0.11	0.20	0.39	-0.43	0.27	0.06	1.00						
Q 25	-0.14	0.00	0.09	0.01	-0.17	-0.11	-0.37	-0.16	-0.32	1.00					
Q 26	0.17	-0.38	-0.37	-0.30	-0.62	-0.26	-0.51	-0.48	-0.51	0.43	1.00				
Q 27	-0.22	-0.37	-0.08	0.03	0.13	-0.39	-0.07	-0.36	0.23	0.04	0.13	1.00			
Q 28	-0.05	-0.63	-0.16	-0.03	-0.47	-0.28	0.02	-0.59	-0.20	0.37	0.48	0.32	1.00		
Q 29	-0.09	0.18	-0.37	0.16	0.26	0.44	0.03	0.13	0.03	-0.04	-0.09	0.05	-0.15	1.00	
Q 30	-0.40	0.27	0.06	0.14	0.36	0.50	-0.02	0.46	-0.17	-0.08	-0.21	-0.05	-0.10	0.59	1.00
Q 31	-0.12	0.26	-0.06	-0.12	0.28	0.33	0.02	0.34	-0.27	-0.16	-0.03	-0.12	-0.48	0.62	0.69
Q 32	0.33	-0.03	-0.29	-0.02	-0.18	-0.19	0.00	-0.30	0.15	-0.16	0.06	0.06	-0.20	-0.20	-0.77*
Q 33	-0.28	0.05	0.51	0.11	0.33	0.29	0.25	0.35	0.10	-0.34	-0.56	-0.25	-0.29	0.24	0.47
Q 34	0.07	-0.27	-0.01	0.28	-0.16	-0.28	-0.15	-0.40	0.44	0.14	-0.05	0.26	0.39	-0.31	-0.53
Q 35	0.08	0.13	0.13	0.08	0.25	0.22	0.42	0.38	0.09	-0.40	-0.46	-0.53	-0.35	0.07	0.26
Q 36	0.02	-0.12	0.02	-0.06	-0.38	-0.07	-0.52	-0.30	-0.18	0.52	0.54	-0.19	0.34	-0.20	-0.40
Q 37	-0.39	-0.01	-0.02	0.21	0.48	0.17	0.20	0.06	-0.03	0.07	-0.21	0.13	-0.14	0.43	0.38
Q 38	0.12	-0.28	0.04	0.12	-0.22	-0.19	0.02	-0.44	0.12	0.03	-0.09	0.10	0.07	-0.32	-0.71*
Q 39	-0.12	-0.51	0.09	0.06	-0.27	-0.41	-0.07	-0.63	-0.06	0.48	0.41	0.41	0.59	-0.23	-0.53

P < 0.05

* Paired Variables with an r value ≥ 0.70 or ≤ -0.70

Table II (continued)

Ethicists

Variable	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
Q 40	0.16	0.03	-0.24	-0.41	0.12	-0.05	0.22	0.06	-0.09	-0.24	-0.14	0.07	-0.40	0.29	0.20
Q 41	-0.20	0.17	0.07	-0.13	0.10	-0.24	-0.17	0.06	0.24	0.46	-0.05	0.35	0.23	-0.16	0.14
Q 42	0.06	0.18	-0.15	-0.22	0.21	-0.36	0.23	0.02	0.42	-0.13	-0.21	0.06	-0.27	0.09	-0.13
Q 43	-0.10	0.00	0.16	0.15	-0.10	0.23	-0.11	-0.05	-0.05	0.16	-0.06	-0.08	0.02	0.07	0.14
Q 44	-0.09	0.10	0.01	-0.10	0.38	-0.33	0.22	0.18	0.37	-0.22	-0.16	0.37	-0.13	0.00	-0.16
Q 45	0.12	0.13	-0.28	-0.02	-0.26	0.24	-0.08	-0.11	-0.21	-0.06	0.03	-0.49	-0.26	0.10	0.22
Q 46	0.13	0.13	-0.31	0.20	-0.24	0.15	-0.27	-0.29	-0.15	0.37	0.09	0.16	-0.04	0.10	-0.21
Q 47	-0.19	0.23	0.37	0.03	0.33	0.52	0.04	0.53	-0.08	-0.26	-0.39	-0.28	-0.29	0.05	0.21
Q 48	0.27	-0.05	-0.36	-0.08	-0.24	-0.41	0.21	-0.31	0.21	0.29	0.15	-0.12	0.39	-0.24	-0.34
Q 49	-0.20	0.06	0.19	0.29	0.12	0.14	-0.19	0.00	0.21	0.15	0.00	-0.36	-0.16	0.39	0.12
Q 50	-0.24	0.12	0.26	-0.01	0.34	-0.09	0.33	0.22	0.28	-0.09	-0.42	0.16	-0.15	0.17	0.19
Q 51	-0.33	-0.08	0.25	0.25	0.19	0.18	-0.32	-0.02	-0.04	-0.01	0.08	-0.08	-0.09	0.27	0.30
Q 52	-0.18	0.32	0.22	0.08	0.45	0.06	0.49	0.39	0.28	-0.43	-0.65	0.01	-0.37	0.13	0.38
Q 53															
Q 54	-0.15	0.28	0.39	0.06	0.35	0.16	0.27	0.46	0.13	-0.38	-0.61	-0.08	-0.44	-0.03	0.25
Q 55	0.17	0.12	0.13	-0.70*	0.06	-0.16	0.41	0.19	0.01	-0.28	-0.00	-0.23	-0.10	-0.09	-0.07
Q 56															
Q 57	-0.08	-0.37	0.06	0.08	-0.16	-0.21	0.14	-0.54	0.00	0.27	0.21	0.22	0.47	0.06	-0.29
Q 58	-0.35	-0.28	0.05	0.42	0.17	0.25	-0.12	-0.11	-0.02	-0.14	0.06	0.38	0.28	0.39	0.03
Q 59	-0.22	-0.36	-0.33	-0.20	-0.11	0.24	0.19	-0.24	-0.24	-0.22	0.05	0.20	0.28	0.17	0.16

p < 0.05

* Paired Variables with an r value ≥ 0.70 or ≤ -0.70

ETHICISTS

Table III

Variable	Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40	Q41	Q42	Q43	Q44	Q45
Q 20															
Q 21															
Q 22															
Q 23															
Q 24															
Q 25															
Q 26															
Q 27															
Q 28															
Q 29															
Q 30															
Q 31	1.00														
Q 32	-0.39	1.00													
Q 33	0.43	-0.36	1.00												
Q 34	-0.87*	0.44	-0.32	1.00											
Q 35	0.32	-0.19	0.47	-0.39	1.00										
Q 36	-0.44	0.24	-0.28	0.50	-0.51	1.00									
Q 37	0.51	-0.03	0.22	-0.25	0.36	-0.30	1.00								
Q 38	-0.53	0.69	-0.06	0.57	-0.36	0.35	-0.16	1.00							
Q 39	-0.50	0.36	-0.28	0.57	-0.56	0.59	0.05	0.54	1.00						

* Paired Variables with an r value ≥ 0.70 or ≤ -0.70

p < 0.05

Table III (continued)

Ethicists

Variable	Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40	Q41	Q42	Q43	Q44	Q45
Q 40	0.55	0.09	0.17	-0.45	0.14	-0.47	0.43	-0.09	-0.30	1.00					
Q 41	-0.27	-0.27	-0.09	0.30	-0.32	0.13	-0.03	-0.10	0.05	-0.08	1.00				
Q 42	0.08	0.35	0.11	0.06	0.02	-0.10	0.28	0.32	-0.06	0.58	0.18	1.00			
Q 43	0.10	-0.28	0.28	-0.11	-0.14	0.09	-0.07	-0.03	0.01	-0.30	0.18	-0.46	1.00		
Q 44	-0.10	0.25	-0.12	0.11	0.03	-0.26	0.05	0.12	-0.04	0.34	0.03	0.64	-0.82*	1.00	
Q 45	0.39	-0.09	0.14	-0.31	0.09	0.07	0.14	0.01	-0.29	0.16	-0.13	0.08	0.42	-0.56	1.00
Q 46	-0.11	0.41	-0.28	0.24	-0.36	0.24	0.04	0.39	0.28	-0.25	0.13	-0.18	0.32	-0.37	0.21
Q 47	0.05	0.00	0.46	-0.03	0.37	-0.04	0.11	-0.21	-0.20	0.04	-0.06	-0.24	0.09	-0.15	-0.24
Q 48	-0.44	0.21	-0.47	0.34	0.10	0.16	0.10	0.15	0.16	-0.16	0.29	0.31	-0.18	0.08	0.07
Q 49	0.22	-0.12	0.33	0.03	0.05	0.45	0.24	0.03	0.13	-0.20	-0.14	0.06	0.37	-0.35	0.45
Q 50	0.20	-0.16	0.62	-0.15	0.29	-0.31	0.15	0.12	-0.13	0.11	0.18	0.43	-0.15	0.45	-0.22
Q 51	0.34	-0.17	0.34	-0.01	-0.10	0.37	0.29	0.02	0.21	-0.06	-0.25	0.01	0.04	-0.17	0.33
Q 52	0.38	-0.08	0.67	-0.32	0.52	-0.65	0.35	-0.08	-0.39	0.30	0.03	0.37	-0.05	0.23	0.01
Q 53															
Q 54	0.30	-0.06	0.73*	-0.33	0.42	-0.52	0.07	0.08	-0.43	0.24	0.03	0.28	0.06	0.17	-0.02
Q 55	0.15	-0.03	0.30	-0.33	0.08	0.01	-0.20	-0.11	-0.08	0.30	-0.11	0.20	0.05	0.06	-0.05
Q 56															
Q 57	-0.20	0.16	-0.03	0.27	-0.48	0.41	0.09	0.47	0.78*	-0.27	-0.12	-0.10	0.40	-0.33	0.07
Q 58	-0.08	0.21	0.06	0.28	-0.33	0.14	0.10	0.29	0.41	-0.13	-0.31	-0.04	-0.19	0.24	-0.40
Q 59	0.12	-0.14	0.10	-0.13	-0.07	-0.13	0.22	0.10	-0.05	0.25	0.06	0.14	0.12	-0.01	0.29

p < 0.05

* Paired Variables with an r value ≥ 0.70 or ≤ -0.70

ETHICISTS

Table IV

Variable	Q46	Q47	Q48	Q49	Q50	Q51	Q52	Q53	Q54	Q55	Q56	Q57	Q58	Q59
Q 40														
Q 41														
Q 42														
Q 43														
Q 44														
Q 45														
Q 46	1.00													
Q 47	-0.18	1.00												
Q 48	0.08	-0.41	1.00											
Q 49	-0.01	-0.01	-0.09	1.00										
Q 50	-0.07	-0.03	-0.12	0.01	1.00									
Q 51	-0.06	0.03	-0.37	0.75*	-0.01	1.00								
Q 52	-0.08	0.25	-0.11	-0.15	0.69	-0.09	1.00							
Q 53														
Q 54	-0.06	0.31	-0.29	-0.21	0.71*	-0.16	0.88*		1.00					
Q 55	-0.53	0.31	-0.14	0.01	0.05	-0.08	0.12		0.17	1.00				
Q 56														
Q 57	0.26	-0.27	0.09	0.38	-0.14	0.33	-0.25		-0.31	0.11	1.00			
Q 58	0.03	0.10	-0.30	0.06	0.07	0.35	-0.05		-0.05	-0.15	0.40	1.00		
Q 59	-0.14	-0.17	0.04	-0.05	0.11	0.01	-0.04		-0.03	0.11	0.13	0.15	1.00	

p < 0.05

* Paired Variables with an r value ≥ 0.70 or ≤ -0.70

PHYSICIANS

TABLE I			TABLE II			TABLE III			TABLE IV		
1	15	16	30	31	45	46	59				
p. 157			p. 160	No Entries	No Entries	No Entries					
p. 158			p. 161		p. 163	No Entries					
p. 159			p. 162		p. 164	p. 165					

p < 0.05 * Paired Variables with an r value ≥ 0.70 or ≤ -0.70

PHYSICIANS

Table I

Variable	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
Q 1	1.00														
Q 2	-0.51	1.00													
Q 3	-0.55	0.71*	1.00												
Q 4	0.46	-0.54	-0.57	1.00											
Q 5	0.52	-0.57	-0.62	0.83*	1.00										
Q 6	-0.56	0.56	0.64	-0.50	-0.56	1.00									
Q 7	0.21	-0.11	-0.12	0.19	0.23	-0.15	1.00								
Q 8	0.78*	-0.45	-0.46	0.48	0.52	-0.46	0.19	1.00							
Q 9	0.42	-0.53	-0.50	0.57	0.66	-0.47	0.26	0.42	1.00						
Q 10	0.62	-0.37	-0.44	0.38	0.43	-0.43	0.18	0.52	0.36	1.00					
Q 11	0.52	-0.31	-0.37	0.30	0.33	-0.38	0.11	0.40	0.26	0.75*	1.00				
Q 12	0.45	-0.55	-0.56	0.61	0.70*	-0.50	0.28	0.42	0.77*	0.36	0.28	1.00			
Q 13	0.61	-0.55	-0.58	0.54	0.57	-0.57	0.29	0.60	0.51	0.48	0.39	0.54	1.00		
Q 14	-0.22	0.24	0.25	-0.21	-0.29	0.27	0.01	-0.21	-0.17	-0.18	-0.13	-0.22	-0.27	1.00	
Q 15	-0.48	0.60	0.64	-0.46	-0.51	0.50	-0.07	-0.41	-0.44	-0.46	-0.40	-0.49	-0.51	0.31	1.00
Q 16	0.04	0.00	0.01	0.03	0.02	0.02	0.17	0.07	-0.00	0.01	0.00	0.04	0.03	0.03	-0.03
Q 17	0.05	0.01	0.14	-0.07	-0.05	0.11	0.01	0.02	0.00	-0.03	-0.01	0.01	-0.07	0.15	0.12
Q 18	-0.07	0.11	0.13	-0.08	-0.12	0.09	-0.05	-0.10	-0.07	-0.07	-0.04	-0.12	-0.10	0.05	0.09
Q 19	-0.12	0.06	0.09	-0.08	-0.02	0.03	-0.07	-0.10	0.01	-0.06	-0.05	-0.05	-0.12	-0.02	0.05

p < 0.05

* Paired Variables with an r value ≥ 0.70 or ≤ -0.70

Table I (continued)

Physicians

Variable	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
Q 20	0.09	-0.05	-0.00	0.06	0.06	0.04	-0.02	0.04	0.06	-0.05	0.00	0.07	0.01	0.05	-0.04
Q 21	0.01	-0.02	-0.01	0.01	0.04	0.04	-0.03	-0.01	0.02	0.05	-0.00	0.03	-0.03	0.01	-0.04
Q 22	-0.04	0.07	0.03	-0.01	-0.03	0.12	-0.02	-0.06	-0.03	-0.04	-0.04	-0.01	-0.04	0.15	0.04
Q 23	-0.03	0.01	0.03	0.03	0.02	0.11	-0.06	-0.03	0.01	-0.05	-0.04	0.02	-0.05	0.08	-0.01
Q 24	0.03	0.03	0.01	0.03	0.00	0.05	0.05	0.04	0.00	-0.01	0.04	-0.02	0.03	0.01	-0.03
Q 25	-0.08	0.04	0.08	-0.01	-0.07	0.03	0.05	-0.07	-0.05	-0.04	-0.07	-0.06	0.01	-0.04	0.06
Q 26	0.02	-0.01	0.01	0.05	0.00	0.03	0.04	0.06	-0.07	0.04	0.01	-0.01	0.05	-0.02	0.02
Q 27	0.14	-0.09	-0.13	0.20	0.13	-0.10	0.09	0.08	0.05	0.06	0.09	0.09	0.12	-0.08	-0.07
Q 28	0.08	-0.08	-0.08	0.09	0.09	-0.11	0.08	0.08	0.05	0.06	0.06	0.03	0.13	-0.03	-0.01
Q 29	0.11	-0.21	-0.19	0.17	0.17	-0.19	0.14	0.10	0.21	0.04	0.07	0.18	0.19	0.04	-0.12
Q 30	0.27	-0.26	-0.28	0.28	0.32	-0.32	0.19	0.21	0.38	0.19	0.14	0.32	0.36	-0.08	-0.24
Q 31	0.27	-0.28	-0.25	0.26	0.26	-0.23	0.17	0.23	0.27	0.17	0.16	0.23	0.31	-0.04	-0.23
Q 32	-0.19	0.26	0.23	-0.26	-0.23	0.24	-0.11	-0.16	-0.13	-0.13	-0.13	-0.19	-0.27	0.10	0.17
Q 33	0.06	-0.09	-0.11	0.19	0.22	-0.13	0.14	0.05	0.16	0.08	0.05	0.10	0.16	0.01	-0.06
Q 34	-0.21	0.27	0.24	-0.23	-0.25	0.21	-0.15	-0.17	-0.26	-0.14	-0.11	-0.22	-0.27	0.04	0.21
Q 35	0.33	-0.31	-0.35	0.30	0.35	-0.36	0.17	0.29	0.31	0.22	0.20	0.28	0.34	-0.14	-0.30
Q 36	-0.33	0.35	0.40	-0.30	-0.34	0.39	-0.11	-0.24	-0.30	-0.23	-0.18	-0.27	-0.35	0.14	0.30
Q 37	0.25	-0.18	-0.22	0.23	0.25	-0.27	0.11	0.21	0.28	0.21	0.12	0.23	0.24	-0.02	-0.17
Q 38	-0.37	0.24	0.28	-0.26	-0.36	0.35	-0.17	-0.34	-0.32	-0.24	-0.19	-0.27	-0.37	0.09	0.25
Q 39	-0.39	0.36	0.46	-0.34	-0.41	0.41	-0.07	-0.36	-0.36	-0.35	-0.28	-0.32	-0.39	0.13	0.37

p < 0.05

* Paired Variables with an r value ≥ 0.70 or ≤ -0.70

Table I (continued)

Physicians

Variable	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
Q 40	0.17	-0.20	-0.17	0.20	0.20	-0.16	0.14	0.11	0.20	0.15	0.11	0.15	0.17	-0.06	-0.17
Q 41	-0.27	0.19	0.27	-0.19	-0.26	0.27	-0.05	-0.26	-0.24	-0.32	-0.33	-0.26	-0.25	0.24	0.30
Q 42	-0.01	-0.02	0.00	-0.00	0.00	-0.12	0.09	-0.01	0.08	-0.02	0.08	0.04	0.07	-0.01	0.09
Q 43	-0.28	0.18	0.22	-0.22	-0.29	0.22	-0.18	-0.23	-0.30	-0.25	-0.22	-0.27	-0.28	0.23	0.27
Q 44	0.16	-0.15	-0.18	0.15	0.22	-0.23	0.10	0.15	0.21	0.14	0.11	0.16	0.22	-0.06	-0.13
Q 45	-0.12	0.10	0.11	-0.03	-0.06	0.12	-0.05	-0.08	-0.06	-0.17	-0.19	-0.03	-0.07	0.02	0.17
Q 46	-0.12	0.15	0.12	-0.06	-0.10	0.11	-0.15	-0.11	-0.09	-0.07	-0.08	-0.13	-0.16	0.05	0.02
Q 47	-0.14	0.10	0.11	-0.16	-0.19	0.14	-0.05	-0.11	-0.09	-0.07	-0.08	-0.13	-0.09	0.02	0.12
Q 48	-0.04	0.06	0.11	-0.14	-0.13	0.07	-0.16	0.00	-0.15	-0.10	-0.07	-0.16	-0.05	-0.04	0.07
Q 49	-0.15	0.09	0.05	-0.03	-0.04	0.05	-0.06	-0.13	-0.04	-0.08	-0.10	-0.08	-0.12	0.04	0.06
Q 50	0.08	0.01	-0.01	-0.09	0.14	0.02	0.15	0.11	0.09	-0.06	-0.01	0.10	0.09	-0.14	-0.06
Q 51	0.16	-0.12	-0.09	0.14	0.16	-0.18	0.07	0.11	0.15	0.12	0.10	0.10	0.14	0.10	-0.11
Q 52	-0.03	0.08	0.10	0.02	-0.01	0.07	0.02	-0.04	-0.04	0.01	-0.01	-0.10	-0.06	0.08	0.08
Q 53	-0.02	0.05	0.03	-0.00	-0.00	0.01	-0.02	-0.07	0.01	-0.05	0.03	-0.02	-0.03	0.08	0.10
Q 54	-0.07	0.06	0.08	-0.02	-0.06	0.09	0.02	-0.06	-0.00	-0.05	-0.10	-0.02	-0.05	0.01	0.09
Q 55	-0.10	0.14	0.09	-0.04	-0.09	0.04	0.00	-0.11	-0.14	-0.12	-0.06	-0.11	-0.12	0.16	0.15
Q 56	0.14	0.10	-0.11	0.10	0.11	-0.11	0.08	0.17	0.12	0.05	0.09	0.04	0.13	-0.06	-0.02
Q 57	-0.07	0.11	0.01	-0.12	-0.12	0.05	-0.09	-0.11	-0.18	-0.05	-0.01	-0.14	-0.09	0.07	0.03
Q 58	0.04	0.08	0.01	-0.03	0.02	0.05	-0.06	0.03	-0.06	0.08	0.07	-0.03	-0.05	-0.03	-0.04
Q 59	0.04	0.02	-0.04	0.02	0.04	-0.10	-0.04	0.04	0.04	0.08	0.08	0.00	0.02	-0.02	-0.03

p < 0.05

* Paired Variables with an r value ≥ 0.70 or ≤ -0.70

TABLE II

PHYSICIANS

Variable	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
Q 1															
Q 2															
Q 3															
Q 4															
Q 5															
Q 6															
Q 7															
Q 8															
Q 9															
Q 10															
Q 11															
Q 12															
Q 13															
Q 14															
Q 15															
Q 16	1.00														
Q 17	-0.25	1.00													
Q 18	-0.16	0.26	1.00												
Q 19	-0.18	0.19	0.26	1.00											

P < 0.05

* Paired Variables with an r value ≥ 0.70 or ≤ -0.70

Table II (continued)

Physicians

Variable	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
Q 20	-0.20	0.47	0.29	0.17	1.00										
Q 21	-0.13	0.22	0.20	0.22	0.36	1.00									
Q 22	-0.17	0.42	0.23	0.18	0.43	0.29	1.00								
Q 23	-0.23	0.46	0.26	0.16	0.58	0.28	0.71	1.00							
Q 24	-0.15	0.25	0.12	0.05	0.31	0.27	0.26	0.36	1.00						
Q 25	0.22	-0.27	-0.15	-0.18	-0.38	-0.26	-0.40	-0.48	-0.21	1.00					
Q 26	0.13	-0.20	-0.17	-0.02	-0.25	-0.16	-0.20	-0.22	-0.06	0.35	1.00				
Q 27	0.25	-0.25	-0.20	-0.12	-0.26	-0.15	-0.25	-0.29	-0.12	0.26	0.35	1.00			
Q 28	0.32	-0.45	-0.23	-0.17	-0.47	-0.22	-0.55	-0.65	-0.25	0.50	0.33	0.38	1.00		
Q 29	0.10	-0.02	-0.04	-0.07	-0.01	-0.07	0.06	0.05	-0.08	0.02	0.00	0.10	0.02	1.00	
Q 30	0.23	-0.11	-0.04	0.01	-0.01	-0.13	-0.04	-0.05	-0.11	0.06	0.07	0.23	0.12	0.40	1.00
Q 31	0.15	-0.09	-0.00	-0.06	-0.01	-0.09	-0.02	-0.06	-0.11	0.03	0.02	0.22	0.10	0.49	0.76*
Q 32	-0.12	0.08	0.12	0.15	0.09	0.17	0.08	0.09	0.14	-0.11	-0.02	-0.19	-0.14	-0.24	-0.37
Q 33	0.17	-0.07	0.05	0.07	0.03	-0.04	-0.05	-0.03	-0.05	0.04	0.02	0.17	0.07	0.21	0.38
Q 34	-0.17	0.16	0.14	0.09	0.08	0.13	0.06	0.07	0.26	-0.10	-0.06	-0.21	-0.11	-0.37	-0.52
Q 35	0.15	-0.17	-0.03	0.06	-0.03	-0.10	-0.12	-0.11	-0.11	0.09	0.05	0.24	0.18	0.34	0.62
Q 36	-0.14	0.15	0.09	0.12	0.02	0.11	0.09	0.06	0.10	-0.11	-0.00	-0.22	-0.13	-0.32	-0.55
Q 37	0.15	-0.11	-0.04	-0.10	-0.05	-0.11	-0.12	-0.10	-0.13	0.11	0.10	0.29	0.14	0.25	0.51
Q 38	-0.19	0.10	0.09	0.06	0.05	0.11	0.10	0.11	0.18	-0.04	0.03	-0.16	-0.13	-0.32	-0.54
Q 39	-0.07	0.20	0.08	0.01	0.03	0.06	0.06	0.10	0.15	-0.03	0.02	-0.20	-0.08	-0.27	-0.53

p < 0.05

* Paired Variables with an r value ≥ 0.70 or ≤ -0.70

Table II (continued)

Physicians

Variable	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
Q 40	0.02	-0.01	-0.03	-0.01	0.02	-0.03	0.12	0.07	0.01	-0.05	-0.03	0.08	-0.07	0.18	0.29
Q 41	-0.04	0.14	0.10	-0.14	0.02	-0.05	0.06	0.07	0.10	0.08	0.00	-0.01	-0.04	0.04	-0.07
Q 42	0.07	0.02	0.06	0.05	0.05	-0.08	-0.06	0.01	-0.04	-0.00	0.02	-0.00	0.00	0.00	0.14
Q 43	-0.02	0.15	0.06	-0.05	0.04	-0.02	0.12	0.15	0.11	-0.06	0.02	-0.07	-0.11	-0.04	-0.14
Q 44	0.01	-0.06	0.05	0.10	0.07	0.02	0.12	0.08	0.04	-0.09	0.04	-0.01	-0.06	0.03	0.17
Q 45	-0.03	0.11	0.11	-0.02	0.06	0.13	0.03	0.05	0.02	0.06	0.04	-0.01	0.02	-0.00	-0.10
Q 46	-0.10	-0.06	0.04	0.03	0.03	0.09	0.02	-0.00	0.09	-0.05	-0.04	-0.02	-0.05	-0.14	-0.13
Q 47	0.08	-0.06	0.04	0.06	-0.08	-0.02	-0.08	-0.08	-0.03	0.01	-0.01	0.04	0.05	0.00	-0.03
Q 48	-0.02	0.00	0.11	0.02	-0.01	0.01	-0.02	-0.00	0.01	-0.02	0.03	-0.01	-0.02	0.00	-0.01
Q 49	-0.12	0.08	0.02	0.01	-0.03	0.09	0.07	0.08	0.01	-0.08	-0.07	-0.10	-0.11	0.07	-0.10
Q 50	0.01	0.06	0.03	-0.01	0.07	0.07	0.03	0.04	-0.02	-0.03	-0.01	0.00	0.01	-0.02	0.02
Q 51	0.10	-0.08	-0.02	0.01	-0.05	0.02	-0.03	-0.04	-0.06	0.01	0.07	0.10	0.07	0.25	0.31
Q 52	0.04	-0.00	0.10	0.06	0.03	0.08	0.03	0.01	-0.07	0.01	0.02	0.01	0.03	-0.04	0.03
Q 53	-0.09	0.09	0.10	-0.01	-0.02	-0.03	0.07	0.13	0.02	-0.01	-0.04	-0.01	-0.07	-0.02	-0.01
Q 54	0.04	-0.04	0.04	0.10	-0.00	0.02	-0.01	0.01	-0.11	-0.02	0.01	0.03	-0.02	0.00	0.06
Q 55	0.02	0.03	-0.01	-0.02	0.01	-0.02	0.11	0.07	0.22	-0.07	0.03	0.02	-0.00	0.06	-0.05
Q 56	-0.04	-0.01	0.08	0.04	0.08	0.01	-0.06	-0.03	-0.01	-0.06	0.04	0.02	0.06	-0.01	0.18
Q 57	-0.09	0.07	0.05	-0.03	0.00	-0.02	0.08	0.07	0.10	-0.09	0.01	-0.08	-0.06	0.08	-0.08
Q 58	-0.04	0.07	0.03	0.17	0.02	0.11	0.02	0.05	0.07	-0.06	0.02	0.01	-0.08	-0.00	-0.11
Q 59	0.01	0.03	0.03	0.10	0.07	0.00	-0.00	0.07	0.07	-0.16	-0.11	-0.03	-0.07	-0.07	-0.00

p < 0.05

* Paired Variables with an r value ≥ 0.70 or ≤ -0.70

PHYSICIANS

Table III

Variable	Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40	Q41	Q42	Q43	Q44	Q45
Q 21															
Q 22															
Q 23															
Q 24															
Q 25															
Q 26															
Q 27															
Q 28															
Q 29															
Q 30															
Q 31	1.00														
Q 32	-0.45	1.00													
Q 33	0.45	-0.29	1.00												
Q 34	-0.64	0.48	-0.33	1.00											
Q 35	0.65	-0.39	0.46	-0.50	1.00										
Q 36	-0.54	0.46	-0.36	0.52	-0.56	1.00									
Q 37	0.47	-0.27	0.27	-0.43	0.40	-0.36	1.00								
Q 38	-0.54	0.38	-0.27	0.51	-0.52	0.55	-0.41	1.00							
Q 39	-0.53	0.39	-0.31	0.50	-0.60	0.56	-0.37	0.55	1.00						

p < 0.05

* Paired Variables with an r value ≥ 0.70 or ≤ -0.70

Table III (continued)

Physicians

Variable	Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40	Q41	Q42	Q43	Q44	Q45
Q 40	0.32	-0.20	0.17	-0.21	0.19	-0.16	0.30	-0.25	-0.24	1.00					
Q 41	-0.50	0.09	-0.16	0.02	-0.18	0.07	-0.04	0.13	0.15	-0.07	1.00				
Q 42	0.08	-0.12	0.13	-0.06	0.12	-0.08	0.09	-0.10	-0.06	0.07	-0.15	1.00			
Q 43	-0.11	0.21	-0.09	0.15	-0.17	0.17	-0.12	0.25	0.28	-0.13	0.47	-0.09	1.00		
Q 44	0.16	-0.11	0.16	-0.09	0.17	-0.18	0.08	-0.11	-0.21	0.18	-0.19	0.34	-0.19	1.00	
Q 45	-0.11	0.12	-0.04	0.03	-0.10	0.09	0.02	0.13	0.15	-0.04	0.16	-0.01	0.12	-0.05	1.00
Q 46	-0.05	0.07	-0.08	0.09	-0.14	0.10	-0.07	0.16	0.09	-0.07	0.10	-0.38	0.15	-0.20	0.05
Q 47	-0.04	0.20	-0.01	0.16	-0.05	0.12	0.01	0.06	0.17	-0.16	0.18	-0.00	0.24	-0.08	-0.00
Q 48	-0.02	0.12	-0.06	0.04	0.01	0.08	0.05	0.01	0.05	-0.02	0.10	0.12	0.10	0.10	0.08
Q 49	-0.05	0.15	-0.10	0.05	-0.13	0.17	-0.11	0.11	0.13	-0.05	0.12	-0.14	0.11	-0.05	-0.00
Q 50	0.06	-0.08	0.17	-0.08	0.11	-0.10	0.02	-0.19	-0.15	0.05	-0.09	0.07	-0.13	0.06	-0.02
Q 51	0.35	-0.20	0.23	-0.24	0.33	-0.20	0.22	-0.27	-0.22	0.10	-0.06	0.07	-0.03	0.12	-0.04
Q 52	0.08	-0.03	0.16	-0.15	0.09	-0.05	0.02	-0.03	0.01	0.02	-0.02	0.10	-0.06	0.07	-0.04
Q 53	-0.11	0.11	-0.02	0.14	-0.07	0.09	0.05	0.04	0.08	0.02	0.15	-0.03	0.11	0.07	0.05
Q 54	0.16	-0.01	0.24	-0.11	0.03	-0.11	0.06	-0.06	-0.01	0.09	-0.05	0.15	0.00	0.01	0.09
Q 55	-0.07	0.09	-0.12	0.15	-0.08	0.12	0.00	0.11	0.14	0.01	0.22	-0.09	0.28	0.01	0.05
Q 56	0.21	-0.06	0.21	-0.09	0.17	-0.11	0.09	-0.03	-0.13	0.07	-0.09	0.15	-0.06	0.10	0.00
Q 57	-0.02	0.19	-0.07	0.07	0.01	0.15	-0.05	0.12	0.11	-0.06	0.22	-0.11	0.24	-0.08	0.05
Q 58	-0.06	0.09	-0.05	0.12	-0.05	0.12	-0.07	0.08	0.02	-0.07	0.08	-0.09	0.03	-0.00	-0.08
Q 59	0.03	0.02	0.12	0.05	-0.00	-0.07	-0.01	-0.01	-0.06	-0.03	-0.03	0.26	0.06	0.25	-0.14

p < 0.05

* Paired Variables with an r value ≥ 0.70 or ≤ -0.70

PHYSICIANS

Table IV

Variable	Q46	Q47	Q48	Q49	Q50	Q51	Q52	Q53	Q54	Q55	Q56	Q57	Q58	Q59
Q 40														
Q 41														
Q 42														
Q 43														
Q 44														
Q 45														
Q 46	1.00													
Q 47	0.10	1.00												
Q 48	0.02	0.34	1.00											
Q 49	0.12	-0.02	-0.02	1.00										
Q 50	-0.05	-0.02	0.02	-0.22	1.00									
Q 51	-0.01	-0.03	-0.06	0.15	-0.10	1.00								
Q 52	0.03	-0.05	-0.03	-0.09	0.24	0.06	1.00							
Q 53	-0.07	0.02	-0.01	0.16	-0.14	0.08	-0.09	1.00						
Q 54	-0.00	0.04	0.02	-0.19	0.28	-0.08	0.30	-0.06	1.00					
Q 55	0.13	0.11	-0.02	0.16	-0.23	0.08	-0.21	0.14	-0.25	1.00				
Q 56	0.04	-0.02	0.04	-0.04	0.27	0.09	0.14	-0.11	0.21	-0.12	1.00			
Q 57	0.06	0.14	0.01	0.19	-0.19	0.11	-0.09	0.17	-0.12	0.30	-0.19	1.00		
Q 58	0.12	0.17	0.11	0.15	-0.03	0.10	-0.05	0.05	-0.15	0.21	-0.11	0.19	1.00	
Q 59	-0.06	0.12	0.15	-0.09	0.12	-0.03	0.14	0.01	0.19	-0.11	0.10	-0.08	0.09	1.00

p < 0.05

* Paired Variables with an r value ≥ 0.70 or ≤ -0.70

EDUCATORS

TABLE I		TABLE II		TABLE III		TABLE IV	
1	15	16	30	31	45	46	59
p. 167			p. 170	No Entries	No Entries	No Entries	
p. 168			p. 171		p. 173	No Entries	
p. 169			p. 172		p. 174	p. 175	

p < 0.05 * Paired Variables with an r value ≥ 0.70 or ≤ -0.70

TABLE I

EDUCATORS

Variable	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
Q 1	1.00														
Q 2	-0.52	1.00													
Q 3	-0.58	0.72*	1.00												
Q 4	0.48	-0.64	-0.68	1.00											
Q 5	0.51	-0.68	-0.67	0.92	1.00										
Q 6	-0.62	0.48	0.58	-0.55	-0.50	1.00									
Q 7	0.25	-0.20	-0.29	0.19	0.22	-0.30	1.00								
Q 8	0.85*	-0.48	-0.54	0.48	0.51	-0.61	0.28	1.00							
Q 9	0.47	-0.46	-0.55	0.58	0.58	-0.46	0.27	0.51	1.00						
Q 10	0.62	-0.37	-0.47	0.35	0.36	-0.48	0.29	0.65	0.42	1.00					
Q 11	0.67	-0.37	-0.45	0.34	0.35	-0.45	0.24	0.66	0.42	0.86*	1.00				
Q 12	0.45	-0.56	-0.60	0.73*	0.74*	-0.50	0.25	0.51	0.70	0.40	0.36	1.00			
Q 13	0.73*	-0.51	-0.56	0.50	0.51	-0.61	0.30	0.70*	0.50	0.65	0.60	0.58	1.00		
Q 14	-0.19	0.24	0.25	-0.22	-0.23	0.22	-0.06	-0.25	-0.16	-0.30	-0.26	-0.14	-0.19	1.00	
Q 15	-0.51	0.67	0.65	-0.57	-0.56	0.48	-0.17	-0.43	-0.41	-0.41	-0.40	-0.52	-0.52	0.22	1.00
Q 16	0.02	-0.02	0.02	0.07	0.01	-0.05	0.08	0.07	0.07	0.06	0.03	0.05	0.07	-0.02	-0.00
Q 17	-0.09	0.05	-0.01	-0.05	-0.05	0.03	0.05	-0.08	0.01	-0.03	-0.05	-0.01	-0.06	0.10	0.15
Q 18	0.05	-0.02	-0.07	0.10	0.10	-0.14	0.16	0.11	0.07	0.03	0.04	0.09	0.06	-0.08	0.01
Q 19	0.02	0.05	-0.07	0.06	0.06	0.01	0.16	0.01	0.07	0.10	0.11	-0.02	0.01	-0.11	0.10

p < 0.05

* Paired Variables with an r value ≥ 0.70 or ≤ -0.70

Table I (continued)

Educators

Variable	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
Q 20	-0.02	-0.02	-0.05	-0.01	-0.01	0.01	0.09	-0.08	0.02	-0.05	-0.05	-0.01	-0.04	0.00	0.01
Q 21	0.05	-0.08	-0.08	0.06	0.04	-0.07	0.04	0.07	-0.02	0.14	0.06	-0.00	0.02	-0.21	-0.07
Q 22	-0.07	0.01	-0.02	0.04	0.02	0.04	-0.08	-0.09	-0.01	-0.03	-0.05	0.01	-0.11	0.02	0.04
Q 23	-0.17	0.06	0.08	-0.03	-0.05	0.09	0.01	-0.18	-0.07	-0.08	-0.12	-0.10	-0.15	-0.02	0.15
Q 24	-0.05	0.07	0.05	-0.07	-0.06	0.06	0.00	-0.02	-0.02	0.09	0.06	-0.04	-0.09	-0.00	0.12
Q 25	-0.00	0.05	0.12	0.00	0.02	0.04	-0.12	0.04	0.09	0.08	0.06	0.00	0.04	0.06	0.04
Q 26	0.10	-0.09	-0.08	0.12	0.13	0.03	0.07	0.16	0.22	0.22	0.16	0.13	0.11	-0.06	-0.02
Q 27	0.15	-0.16	-0.15	0.13	0.13	-0.09	0.10	0.17	0.15	0.12	0.15	0.17	0.22	-0.09	-0.09
Q 28	0.14	-0.07	-0.06	0.08	0.13	-0.05	0.04	0.19	0.12	0.09	0.14	0.12	0.13	-0.05	-0.07
Q 29	0.15	-0.10	-0.18	0.17	0.13	-0.14	0.11	0.18	0.23	0.08	0.13	0.23	0.23	-0.02	0.01
Q 30	0.39	-0.33	-0.36	0.40	0.39	-0.42	0.25	0.45	0.38	0.33	0.35	0.42	0.50	-0.12	-0.27
Q 31	0.47	-0.44	-0.47	0.54	0.47	-0.49	0.22	0.52	0.49	0.36	0.35	0.51	0.49	-0.16	-0.32
Q 32	-0.31	0.32	0.35	-0.39	-0.36	0.34	-0.12	-0.36	-0.29	-0.17	-0.25	-0.32	-0.31	0.14	0.29
Q 33	0.38	-0.32	-0.39	0.33	0.30	-0.35	0.24	0.39	0.29	0.33	0.32	0.33	0.42	-0.18	-0.34
Q 34	-0.31	0.28	0.29	-0.39	-0.35	0.36	-0.13	-0.34	-0.26	-0.14	-0.15	-0.32	-0.28	0.13	0.25
Q 35	0.48	-0.40	-0.41	0.44	0.40	-0.43	0.19	0.46	0.38	0.40	0.41	0.41	0.53	-0.18	-0.39
Q 36	-0.39	0.39	0.38	-0.40	-0.39	0.43	-0.12	-0.42	-0.34	-0.28	-0.30	-0.41	-0.40	0.16	0.28
Q 37	0.26	-0.27	-0.23	0.32	0.27	-0.28	0.15	0.30	0.19	0.17	0.20	0.36	0.35	0.08	-0.31
Q 38	-0.41	0.32	0.39	-0.38	-0.40	0.35	-0.22	-0.46	-0.40	-0.25	-0.25	-0.38	-0.37	0.20	0.26
Q 39	-0.51	0.50	0.48	-0.46	-0.47	0.45	-0.19	-0.48	-0.37	-0.35	-0.34	-0.40	-0.49	0.21	0.42

p < 0.05

* Paired Variables with an r value ≥ 0.70 or ≤ -0.70

Table I (continued)

Educators

Variable	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
Q 40	0.19	-0.13	-0.14	0.14	0.15	-0.17	0.07	0.17	0.21	0.17	0.18	0.19	0.16	-0.01	-0.03
Q 41	-0.23	0.26	0.29	-0.27	-0.27	0.31	-0.24	-0.24	-0.24	-0.23	-0.22	-0.24	-0.21	0.22	0.28
Q 42	0.11	0.00	-0.03	0.06	0.02	-0.18	0.01	0.15	0.05	0.19	0.16	0.06	0.09	-0.01	-0.08
Q 43	-0.19	0.19	0.16	-0.16	-0.20	0.24	-0.15	-0.17	-0.11	-0.17	-0.17	-0.22	-0.21	0.17	0.21
Q 44	0.09	-0.03	-0.07	0.04	0.07	-0.17	0.14	0.11	0.08	0.14	0.02	0.07	0.12	-0.01	-0.09
Q 45	-0.08	0.03	-0.01	0.02	-0.02	-0.03	0.06	-0.12	-0.03	-0.09	-0.06	-0.01	-0.08	0.01	0.04
Q 46	-0.19	0.13	0.20	-0.21	-0.24	0.22	-0.14	-0.17	-0.26	-0.11	-0.16	-0.21	-0.23	0.03	0.24
Q 47	-0.15	0.19	0.18	-0.10	-0.10	0.13	-0.12	-0.13	-0.02	-0.08	-0.14	-0.05	-0.09	0.04	0.24
Q 48	-0.14	0.21	0.19	-0.19	-0.23	0.19	-0.12	-0.15	-0.10	0.00	-0.09	-0.21	-0.10	-0.06	0.17
Q 49	-0.21	0.25	0.27	-0.20	-0.23	0.18	-0.09	-0.13	-0.13	-0.17	-0.16	-0.20	-0.16	0.03	0.33
Q 50	0.22	-0.09	-0.21	0.10	0.08	-0.15	0.13	0.19	0.11	0.34	0.22	0.17	0.17	-0.04	-0.12
Q 51	0.02	-0.04	-0.07	0.17	0.13	-0.10	0.10	0.08	0.20	0.10	0.05	0.21	0.14	-0.02	0.07
Q 52	0.15	-0.08	-0.11	0.07	0.08	-0.13	0.12	0.16	0.14	0.18	0.14	0.14	0.10	-0.14	-0.13
Q 53	-0.29	0.28	0.28	-0.21	-0.21	0.18	-0.05	-0.21	-0.12	-0.24	-0.27	-0.13	-0.26	0.13	0.30
Q 54	0.15	-0.11	-0.22	0.15	0.10	-0.05	0.12	0.12	0.05	0.18	0.10	0.12	0.03	-0.09	-0.15
Q 55	-0.12	0.16	0.26	-0.15	-0.16	0.13	-0.02	-0.10	-0.08	-0.08	-0.08	-0.14	-0.16	0.05	0.18
Q 56	0.17	-0.15	-0.16	0.06	0.07	-0.09	0.11	0.16	0.04	0.25	0.20	0.14	0.14	-0.14	-0.10
Q 57	-0.15	0.13	0.14	-0.05	-0.09	0.04	-0.03	-0.08	0.05	-0.02	-0.07	-0.02	-0.05	0.06	0.12
Q 58	-0.07	0.21	0.17	-0.12	-0.13	0.04	0.10	-0.04	-0.01	0.04	0.05	-0.13	-0.05	-0.06	0.13
Q 59	0.27	-0.10	-0.15	0.07	0.10	-0.26	0.27	0.24	0.10	0.17	0.10	0.09	0.25	-0.13	-0.06

p < 0.05

* Paired Variables with an r value ≥ 0.70 or ≤ -0.70

EDUCATORS

Table II

Variable	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
Q 1															
Q 2															
Q 3															
Q 4															
Q 5															
Q 6															
Q 7															
Q 8															
Q 9															
Q 10															
Q 11															
Q 12															
Q 13															
Q 14															
Q 15															
Q 16	1.00														
Q 17	-0.16	1.00													
Q 18	-0.07	0.29	1.00												
Q 19	-0.07	0.32	0.36	1.00											

p < 0.05

* Paired Variables with an r value ≥ 0.70 or ≤ -0.70

Table II (continued)

Educators

Variable	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
Q 20	-0.25	0.52	0.26	0.32	1.00										
Q 21	-0.08	0.20	0.19	0.26	0.36	1.00									
Q 22	-0.19	0.53	0.15	0.30	0.49	0.20	1.00								
Q 23	-0.25	0.63	0.23	0.37	0.58	0.36	0.74*	1.00							
Q 24	-0.09	0.30	0.16	0.19	0.30	0.30	0.27	0.36	1.00						
Q 25	0.17	-0.28	-0.14	-0.11	-0.38	-0.12	-0.39	-0.42	-0.19	1.00					
Q 26	0.01	0.04	-0.04	-0.02	-0.03	0.10	0.00	0.03	0.05	0.21	1.00				
Q 27	0.32	-0.28	-0.15	-0.14	-0.29	-0.14	-0.27	-0.31	-0.25	0.32	0.05	1.00			
Q 28	0.27	-0.56	-0.21	-0.23	-0.49	-0.25	-0.51	-0.63	-0.24	0.48	0.05	0.43	1.00		
Q 29	0.01	0.13	0.11	0.02	0.00	-0.08	-0.03	-0.02	-0.03	-0.03	0.14	-0.04	-0.00	1.00	
Q 30	0.06	-0.04	0.05	-0.01	-0.07	0.02	-0.17	-0.16	-0.09	0.03	-0.03	0.19	0.16	0.25	1.00
Q 31	0.17	0.02	0.06	0.03	-0.09	0.02	-0.12	-0.10	-0.10	0.08	0.05	0.19	0.14	0.37	0.66
Q 32	-0.03	0.04	-0.09	0.10	0.06	0.03	0.05	0.07	0.14	0.06	0.04	-0.12	-0.08	-0.23	-0.43
Q 33	0.12	-0.11	0.07	0.08	-0.09	-0.01	-0.18	-0.14	-0.11	0.03	0.08	0.23	0.15	0.16	0.45
Q 34	-0.23	0.23	0.00	0.09	0.25	0.15	0.23	0.24	0.24	-0.12	-0.02	-0.18	-0.24	-0.18	-0.45
Q 35	0.14	-0.08	-0.04	-0.01	-0.06	0.04	-0.11	-0.14	-0.03	0.06	-0.01	0.25	0.19	0.19	0.65
Q 36	-0.11	0.03	-0.06	0.05	0.06	-0.02	0.12	0.10	0.03	0.02	0.01	-0.11	-0.08	-0.18	-0.54
Q 37	0.07	-0.03	0.13	-0.14	0.02	0.04	-0.07	-0.13	-0.14	0.04	-0.04	0.17	0.08	0.09	0.37
Q 38	0.02	-0.04	-0.10	-0.03	0.02	-0.10	0.07	0.07	0.01	-0.00	-0.09	-0.11	-0.05	-0.19	-0.46
Q 39	-0.03	0.15	0.01	0.12	0.10	-0.01	0.20	0.22	0.10	-0.03	-0.02	-0.17	-0.14	-0.22	-0.60

p < 0.05

* Paired Variables with an r value ≥ 0.70 or ≤ -0.70

Table II (continued)

Educators

Variable	Q16	Q17	Q18	Q19	Q20	Q21	Q22	Q23	Q24	Q25	Q26	Q27	Q28	Q29	Q30
Q 40	0.09	-0.01	0.02	-0.08	-0.00	-0.08	-0.08	-0.08	0.12	0.03	0.12	0.16	0.07	0.16	0.28
Q 41	0.04	0.07	-0.07	-0.06	-0.02	-0.09	0.10	0.10	0.01	-0.05	0.01	-0.02	-0.12	0.06	-0.23
Q 42	0.04	0.05	0.02	0.12	0.00	0.15	0.07	0.01	0.18	0.01	0.01	-0.12	-0.02	-0.04	0.13
Q 43	0.02	0.06	-0.07	0.02	0.04	-0.03	0.07	0.06	0.03	-0.00	0.04	-0.03	-0.08	0.04	-0.18
Q 44	-0.04	0.04	0.12	0.11	0.14	0.20	0.07	0.07	0.10	-0.10	-0.07	-0.04	-0.07	-0.10	0.09
Q 45	-0.04	0.16	-0.05	-0.01	0.19	0.09	0.19	0.16	0.20	-0.06	-0.08	-0.07	-0.10	0.02	0.02
Q 46	-0.07	-0.02	-0.15	-0.08	-0.11	0.01	0.00	0.02	-0.01	0.10	-0.04	0.08	-0.02	0.03	-0.18
Q 47	0.13	-0.04	-0.00	0.03	-0.10	0.05	-0.13	-0.03	-0.03	0.14	0.13	0.08	0.05	0.13	-0.10
Q 48	0.01	0.00	-0.10	0.09	0.05	0.10	-0.02	0.09	0.10	0.03	0.04	-0.06	-0.10	-0.10	-0.09
Q 49	0.06	0.06	0.10	0.04	0.02	0.12	-0.01	0.05	0.14	0.10	0.08	-0.07	-0.04	0.08	-0.22
Q 50	-0.10	-0.05	0.06	0.06	-0.05	0.10	0.03	0.02	0.07	0.06	0.08	0.04	0.11	-0.08	0.09
Q 51	0.13	0.01	0.08	0.08	-0.04	0.02	-0.03	-0.05	-0.03	0.19	0.06	0.21	0.10	0.21	0.21
Q 52	0.13	-0.07	-0.01	0.01	-0.06	0.13	-0.00	-0.01	-0.03	0.13	0.07	0.15	0.15	-0.03	0.02
Q 53	-0.06	0.13	0.10	0.09	0.14	0.03	0.11	0.06	0.12	-0.07	-0.02	-0.13	-0.18	0.07	-0.24
Q 54	-0.08	-0.02	0.03	0.02	-0.08	0.04	0.03	0.03	-0.01	0.03	0.12	0.07	-0.01	-0.01	0.03
Q 55	0.09	-0.03	0.03	0.01	-0.01	-0.04	0.01	0.01	0.03	-0.01	0.01	-0.05	-0.02	0.07	-0.18
Q 56	0.05	-0.06	0.07	-0.01	-0.06	-0.01	-0.02	-0.03	0.01	0.00	0.03	0.13	0.16	0.01	0.08
Q 57	0.06	0.03	0.08	0.03	-0.03	-0.00	0.00	-0.00	0.06	0.12	0.13	-0.03	0.04	0.12	-0.04
Q 58	-0.07	0.02	0.11	0.14	0.02	0.10	0.04	0.08	0.16	0.11	-0.09	-0.03	-0.01	0.05	0.01
Q 59	0.04	-0.04	0.06	0.02	0.02	0.01	-0.00	0.00	-0.07	-0.00	0.07	0.16	0.09	-0.01	0.13

p < 0.05

* Paired Variables with an r value ≥ 0.70 or ≤ -0.70

EDUCATORS

Table III

Variable	Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40	Q41	Q42	Q43	Q44	Q45
Q 21															
Q 22															
Q 23															
Q 24															
Q 25															
Q 26															
Q 27															
Q 28															
Q 29															
Q 30															
Q 31	1.00														
Q 32	-0.50	1.00													
Q 33	0.51	-0.38	1.00												
Q 34	-0.53	0.46	-0.40	1.00											
Q 35	0.68	-0.45	0.54	-0.47	1.00										
Q 36	-0.57	0.45	-0.43	0.52	-0.59	1.00									
Q 37	0.31	-0.29	0.18	-0.30	0.39	-0.35	1.00								
Q 38	-0.53	0.44	-0.37	0.39	-0.48	0.51	-0.21	1.00							
Q 39	-0.64	0.50	-0.48	0.53	-0.66	0.69	-0.34	0.60	1.00						

p < 0.05

* Paired Variables with an r value ≥ 0.70 or ≤ -0.70

Table III (continued)

Educators

Variable	Q31	Q32	Q33	Q34	Q35	Q36	Q37	Q38	Q39	Q40	Q41	Q42	Q43	Q44	Q45
Q 40	0.23	-0.10	0.23	-0.14	0.28	-0.20	0.16	-0.06	-0.14	1.00					
Q 41	-0.26	0.17	-0.22	0.10	-0.32	0.32	-0.11	0.33	0.37	0.03	1.00				
Q 42	0.10	-0.04	0.08	-0.06	0.16	-0.02	0.16	-0.07	-0.03	0.05	-0.16	1.00			
Q 43	-0.13	0.17	-0.20	0.16	-0.18	0.23	-0.10	0.19	0.23	-0.00	0.46	-0.15	1.00		
Q 44	0.05	0.04	0.01	0.03	0.09	-0.07	0.10	-0.06	-0.08	-0.02	-0.22	0.33	-0.10	1.00	
Q 45	0.07	-0.01	-0.05	0.06	0.05	-0.02	-0.02	0.00	0.08	0.06	0.12	-0.05	0.10	0.03	1.00
Q 46	-0.08	0.09	-0.07	0.12	-0.13	0.18	-0.17	0.14	0.13	0.02	0.26	-0.18	0.26	-0.21	0.04
Q 47	-0.10	0.22	-0.12	0.10	-0.11	0.15	-0.12	0.11	0.15	0.01	0.25	-0.11	0.18	-0.06	0.05
Q 48	-0.10	0.15	-0.08	0.17	-0.06	0.09	-0.19	0.04	0.08	-0.00	0.12	0.02	0.13	0.23	0.01
Q 49	-0.19	0.18	-0.18	0.26	-0.24	0.24	-0.17	0.23	0.30	-0.10	0.14	-0.02	0.16	0.01	0.00
Q 50	0.11	-0.10	0.24	-0.05	0.13	-0.07	0.00	-0.18	-0.12	-0.00	-0.18	0.06	-0.27	0.02	-0.05
Q 51	0.24	-0.02	0.14	-0.17	0.19	-0.11	0.18	-0.18	-0.08	0.13	0.00	0.04	0.04	0.02	0.01
Q 52	0.15	-0.06	0.06	-0.09	0.13	-0.10	0.19	-0.12	-0.14	0.03	-0.17	0.09	-0.13	0.01	-0.08
Q 53	-0.29	0.29	-0.25	0.26	-0.30	0.27	-0.02	0.20	0.31	-0.09	0.21	0.07	0.24	0.04	0.06
Q 54	0.12	-0.11	0.26	-0.02	0.16	-0.08	-0.07	-0.12	-0.11	0.11	-0.11	0.08	-0.23	0.07	-0.11
Q 55	-0.18	0.23	-0.17	0.14	-0.23	0.16	-0.07	0.23	0.27	-0.02	0.22	-0.01	0.23	-0.05	0.02
Q 56	0.11	-0.09	0.28	-0.06	0.15	-0.09	0.04	-0.16	-0.15	0.13	-0.17	0.04	-0.20	0.08	-0.06
Q 57	-0.07	0.15	-0.03	0.07	-0.05	0.09	0.01	0.12	0.11	0.12	0.11	-0.03	0.11	-0.13	0.09
Q 58	-0.01	0.15	-0.10	0.22	-0.05	0.14	-0.08	-0.01	0.12	-0.11	0.01	-0.05	0.03	0.02	0.14
Q 59	0.17	-0.19	0.29	-0.16	0.15	-0.13	-0.02	-0.16	-0.16	0.12	-0.11	0.12	-0.12	0.19	-0.19

p < 0.05

* Paired Variables with an r value ≥ 0.70 or ≤ -0.70

EDUCATORS

Table IV

Variable	Q46	Q47	Q48	Q49	Q50	Q51	Q52	Q53	Q54	Q55	Q56	Q57	Q58	Q59
Q 41														
Q 42														
Q 43														
Q 44														
Q 45														
Q 46	1.00													
Q 47	0.15	1.00												
Q 48	0.09	0.24	1.00											
Q 49	0.10	0.22	0.07	1.00										
Q 50	-0.02	-0.12	0.04	-0.20	1.00									
Q 51	-0.15	0.36	0.05	0.11	0.03	1.00								
Q 52	-0.05	0.04	0.07	-0.09	0.29	0.16	1.00							
Q 53	0.10	0.19	0.07	0.41	-0.29	0.05	-0.24	1.00						
Q 54	0.06	-0.11	0.02	-0.18	0.46	-0.04	0.24	-0.25	1.00					
Q 55	0.05	0.26	0.07	0.32	-0.37	0.19	-0.18	0.32	-0.26	1.00				
Q 56	0.07	-0.13	0.06	-0.24	0.49	-0.06	0.22	-0.32	0.45	-0.27	1.00			
Q 57	0.06	0.28	0.07	0.29	-0.12	0.25	-0.08	0.23	-0.07	0.40	-0.22	1.00		
Q 58	0.03	0.24	0.21	0.22	-0.07	0.27	-0.08	0.23	-0.16	0.14	-0.14	0.17	1.00	
Q 59	-0.12	-0.11	0.09	-0.13	0.24	0.01	0.05	-0.06	0.28	-0.19	0.17	-0.11	-0.05	1.00

p < 0.05

* Paired Variables with an r value ≥ 0.70 or ≤ -0.70

APPENDIX J

Demographic Profile by Population

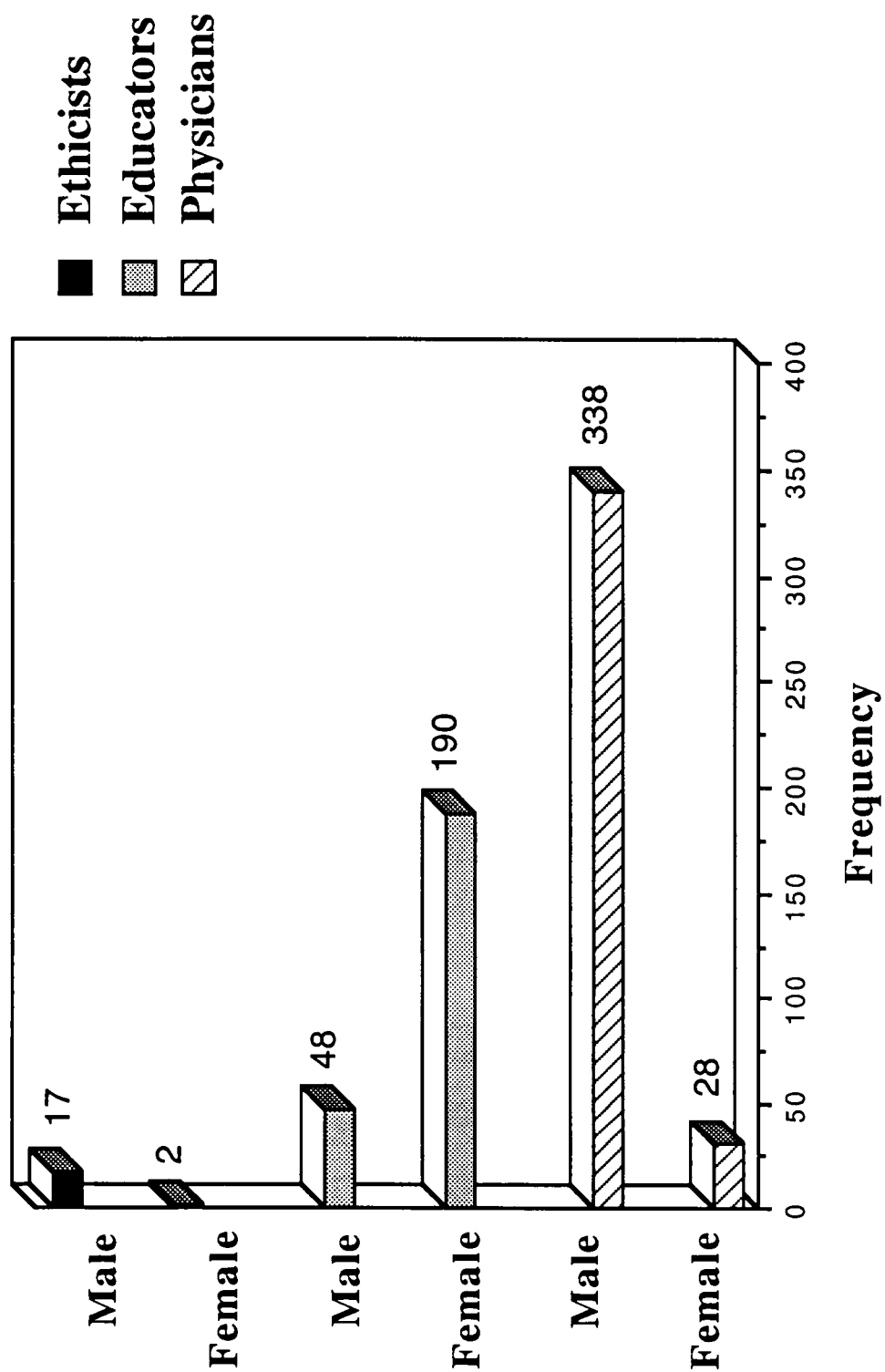


Figure 1. Gender By Population

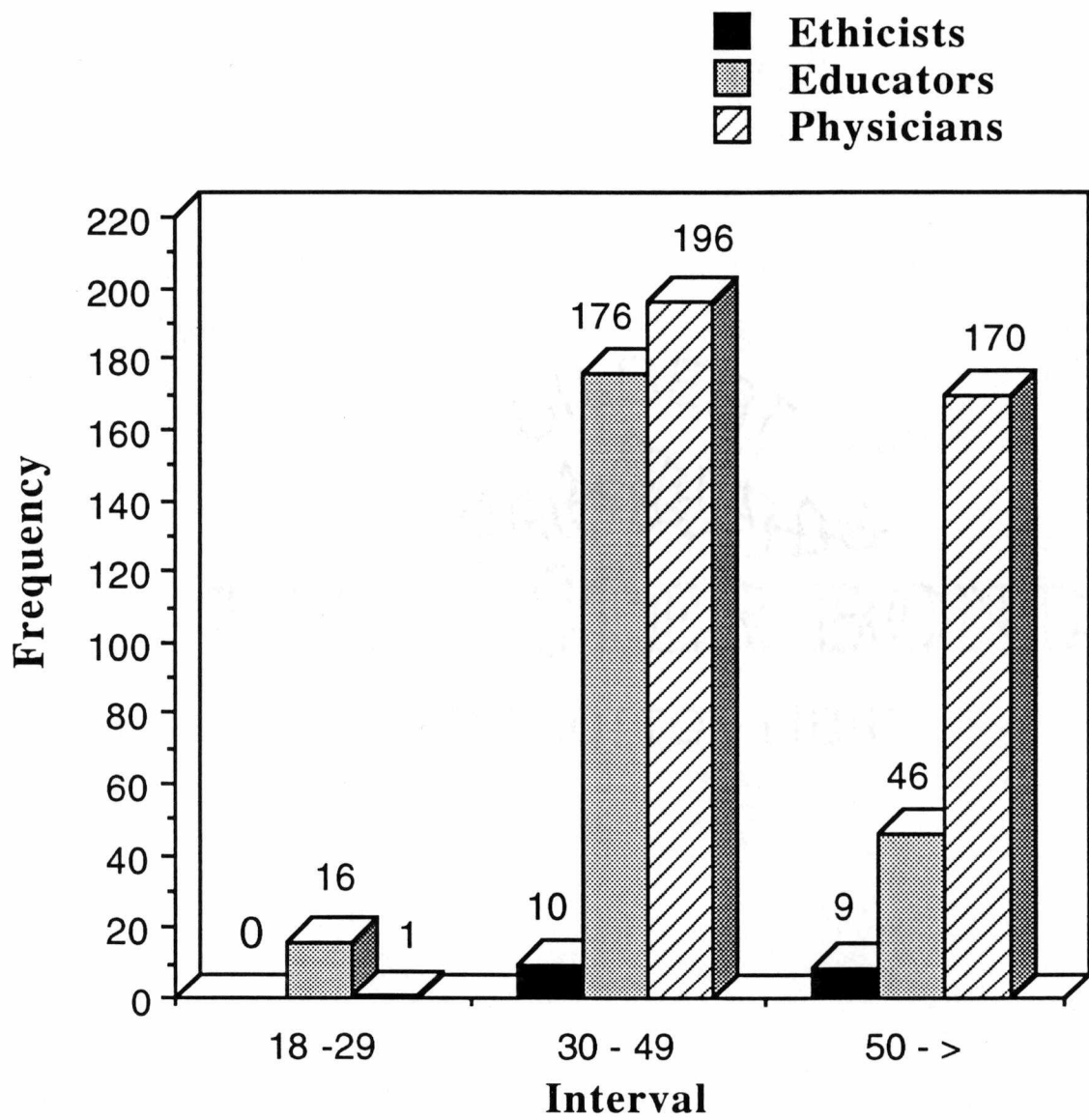


Figure 2. Age By Population

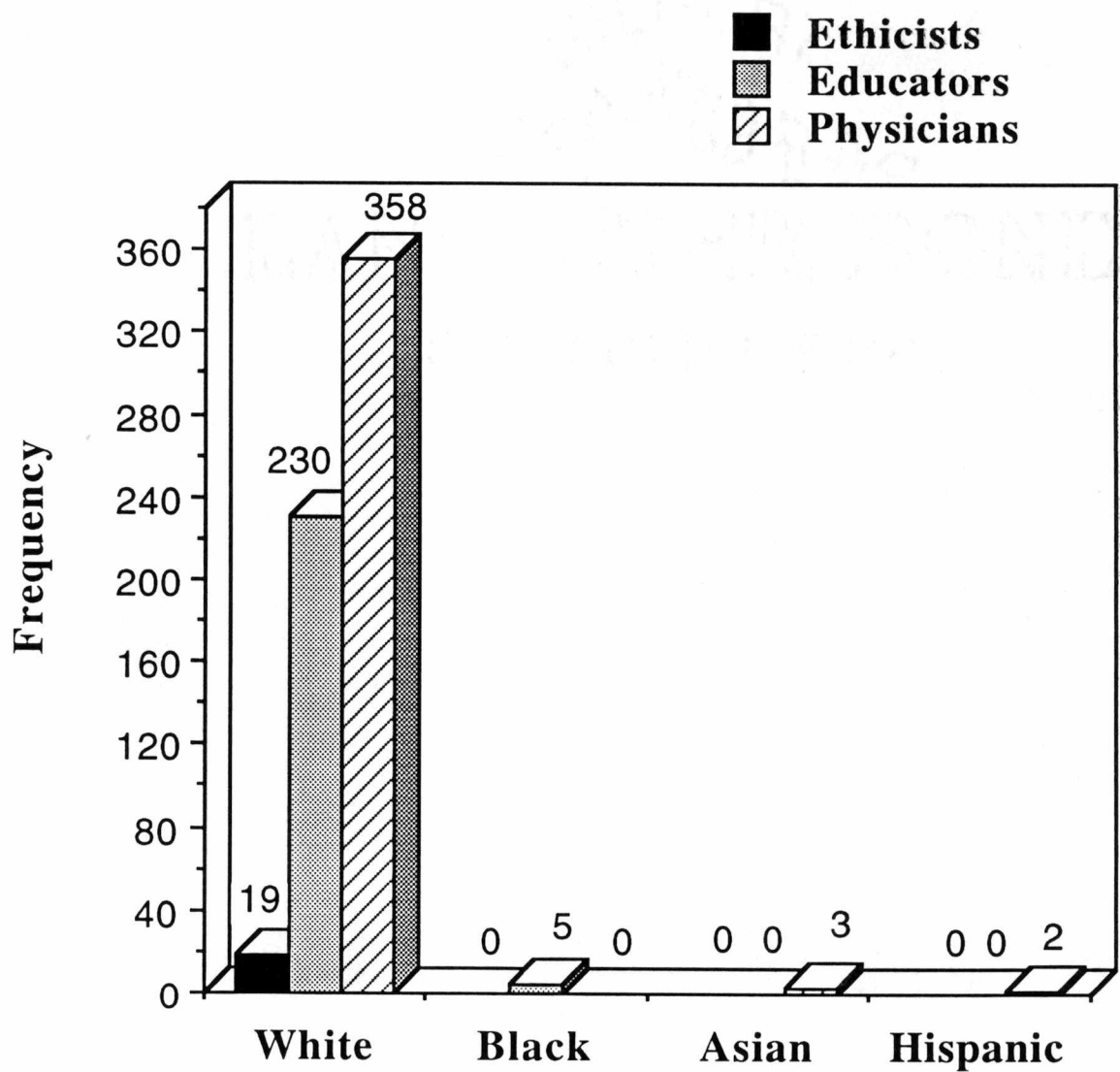


Figure 3. Ethnicity By Population

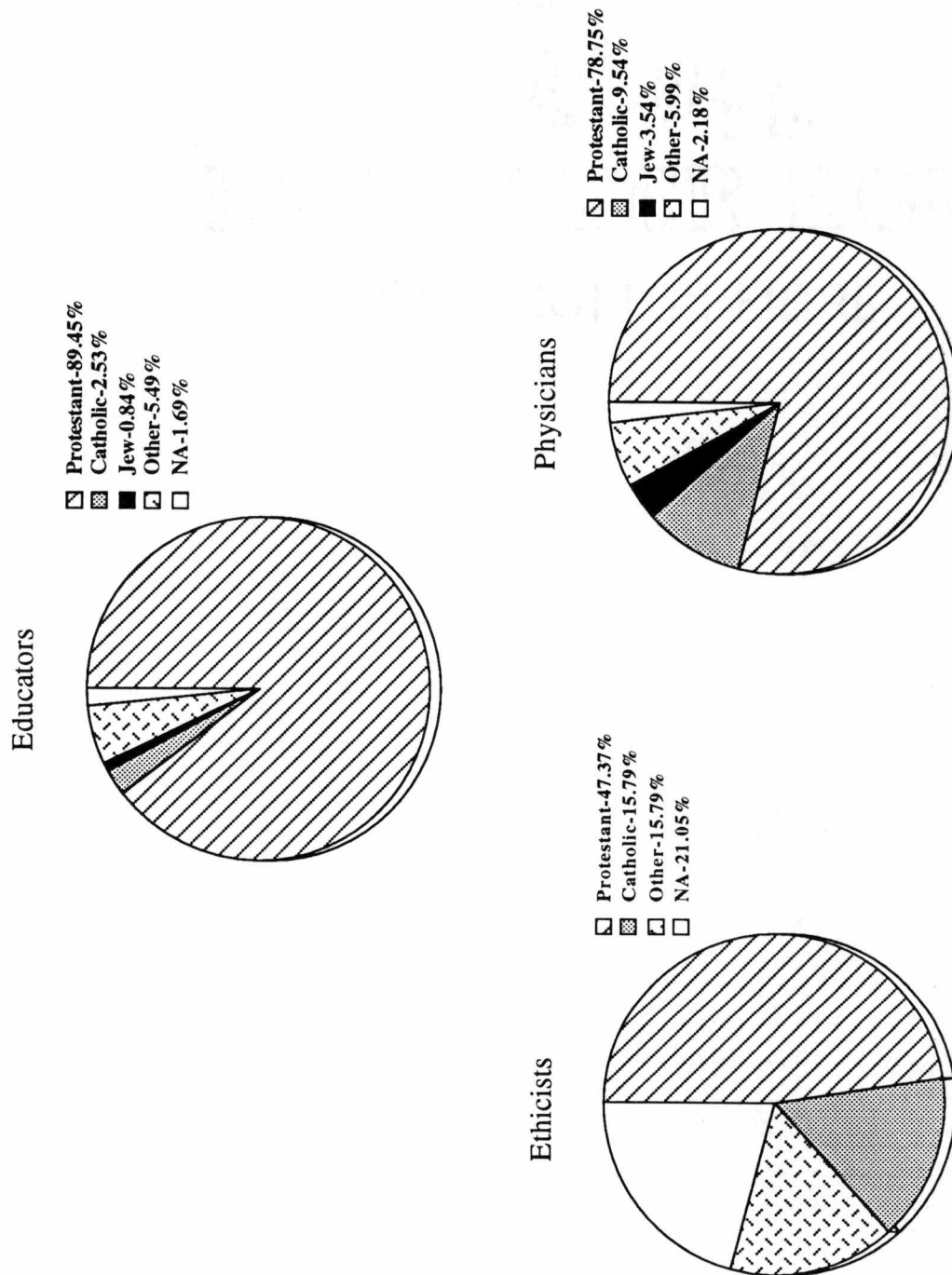


Figure 4. Religious Preference By Population

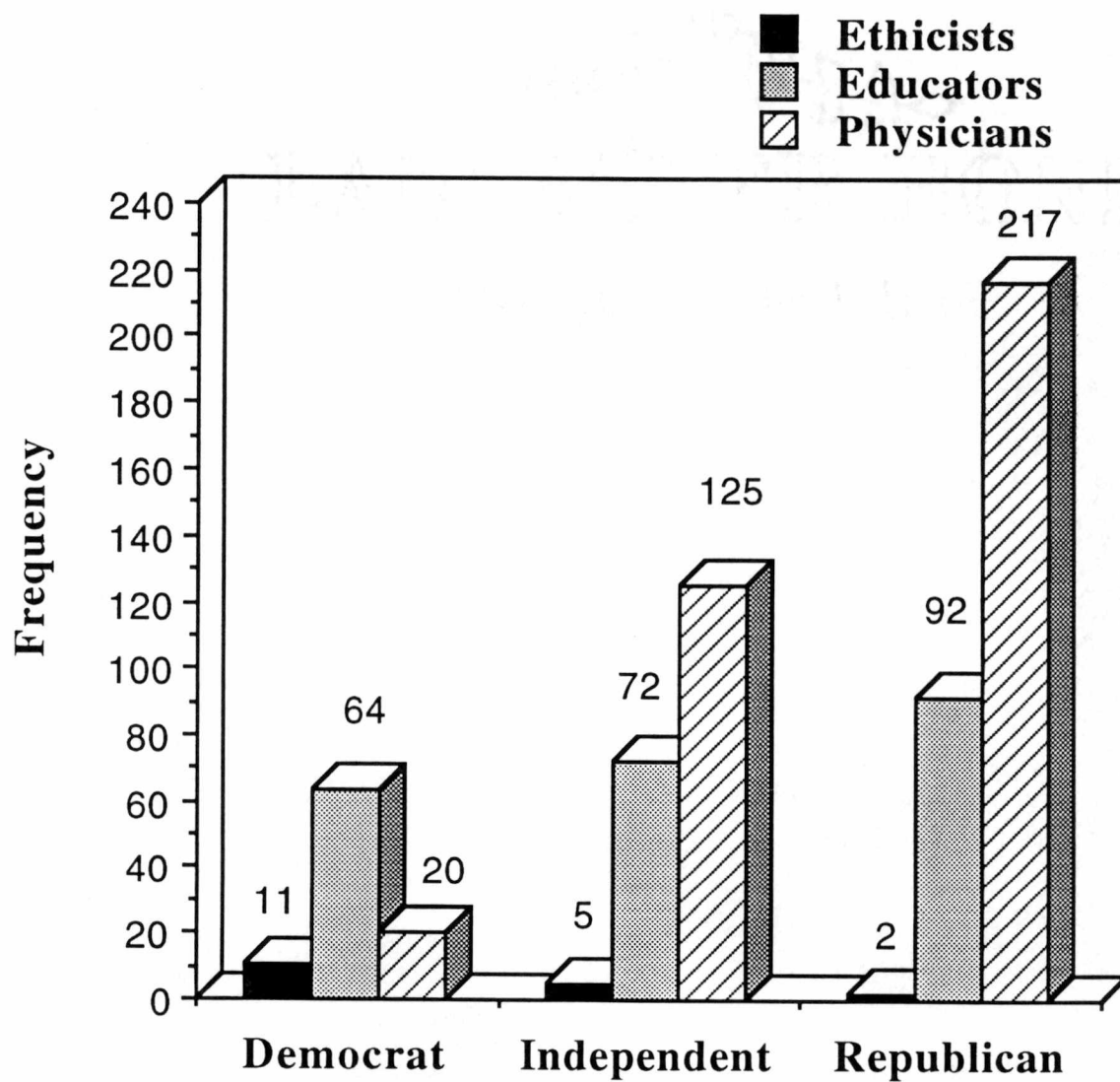
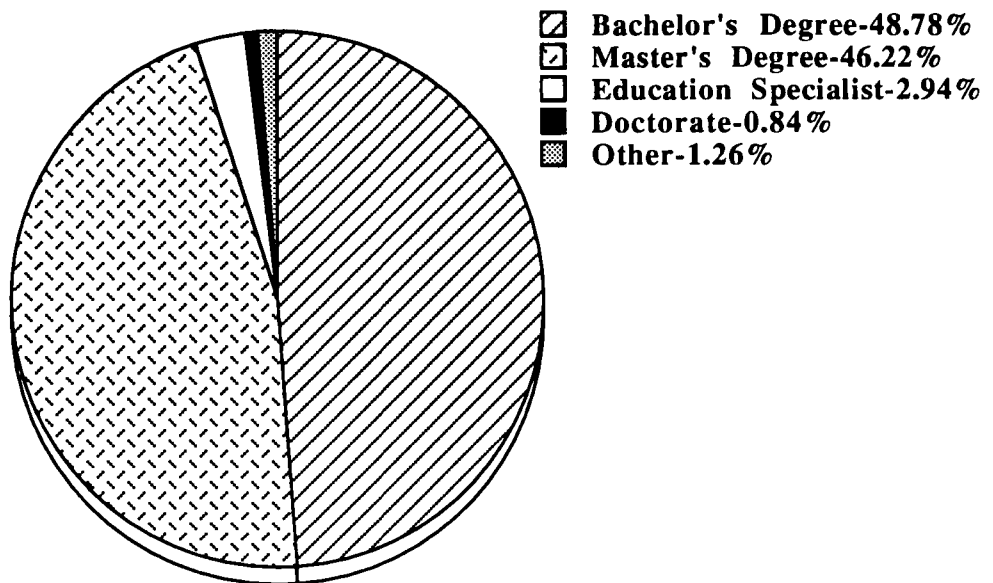


Figure 5. Political Preference By Population

Educators



Ethicists

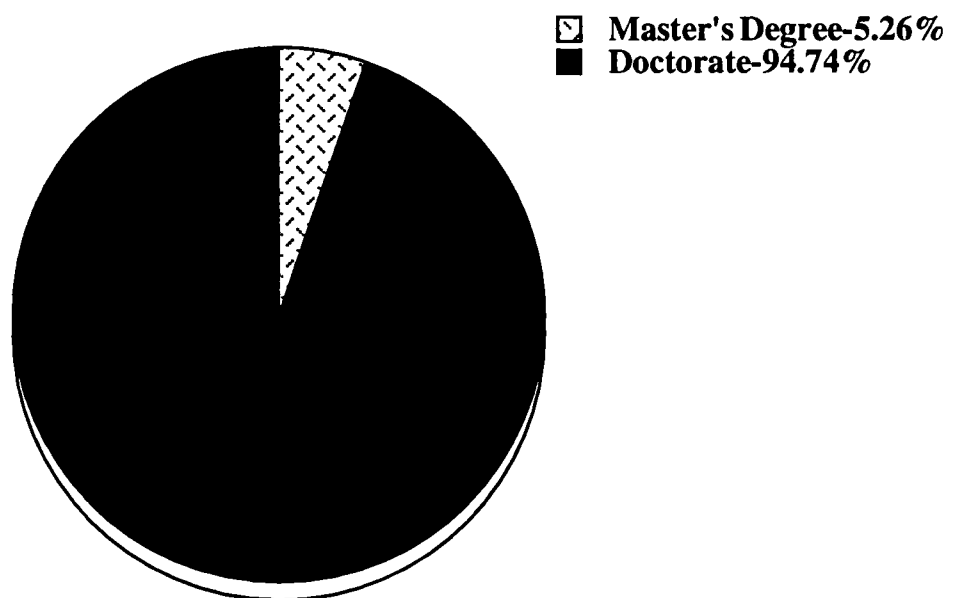


Figure 6. Educational Level By Population

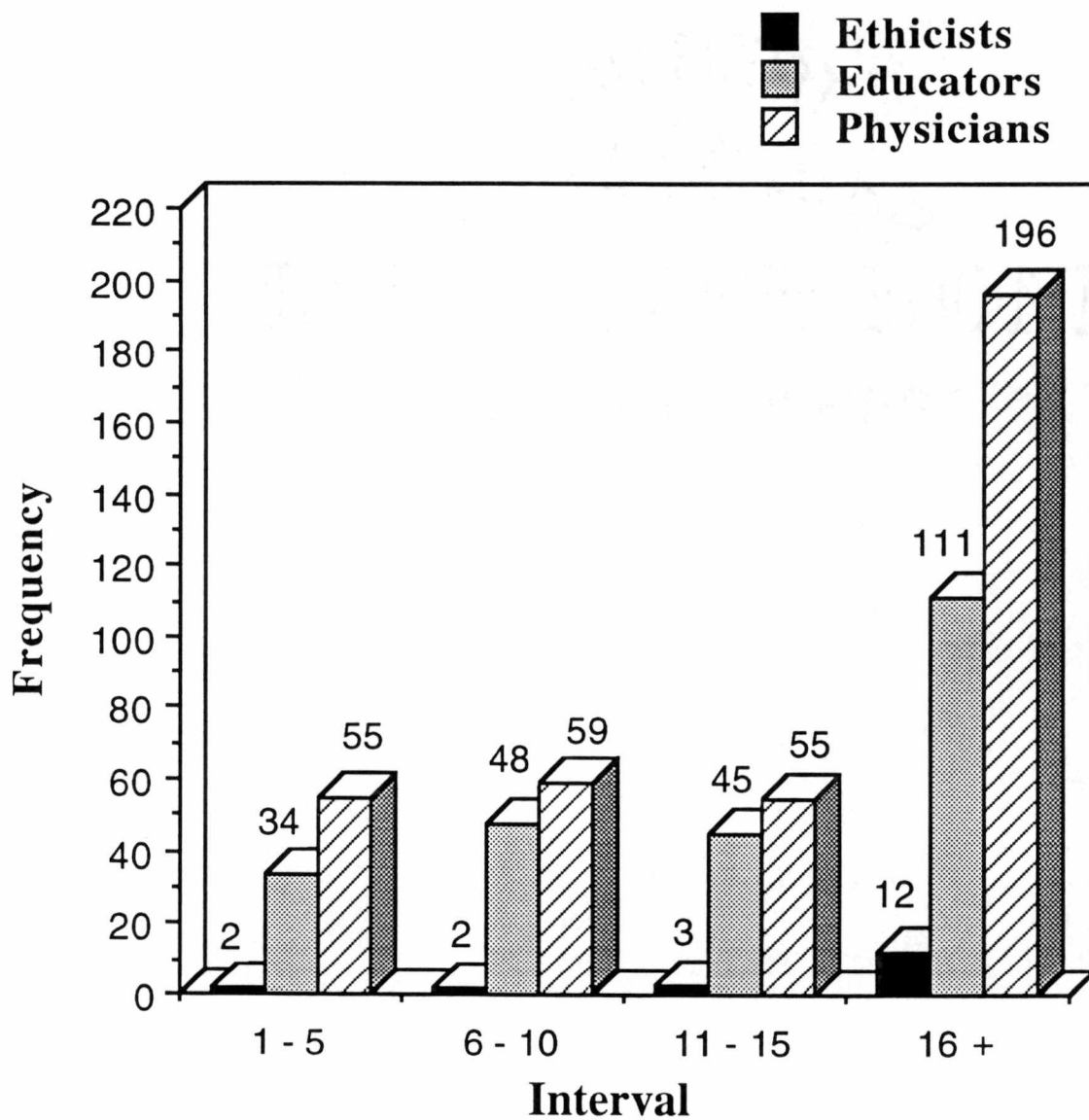


Figure 7. Years of Experience/Practice By Population

VITA

Benjamin Franklin Orr was born in Columbia, South Carolina on December 29, 1943. He holds a Bachelor of Science Degree in Biology and Chemistry from Lincoln Memorial University in Harrogate, Tennessee and a Master of Science Degree in Science Education from The University of Tennessee, Knoxville. This dissertation completes in partial fulfillment the requirements for the degree of Doctor of Philosophy, with a major in Science Education/Bioethics at The University of Tennessee, Knoxville.

Mr. Orr has taught Chemistry and Advanced Placement Chemistry in Franklin, Ohio; Chemistry, Physics, and Advanced Placement Biology at the Marine Corps Development and Educational Command at Quantico, Virginia; Chemistry and Physics in Prince William County Virginia; and Honors Chemistry and Physics in Duval County, Florida.

As a graduate assistant for the Department of Curriculum and Instruction at The University of Tennessee, Mr. Orr supervised field experience students, taught seminar, team taught micro-teaching, secondary methods courses, and a graduate level course, teaching natural science and environmental education.

Mr. Orr is a member of the American Chemical Society, American Association For The Advancement of Science, Phi Delta Kappa, Kappa Delta Pi, Pi Lambda Theta, National Education Association and Tennessee Education Association. Upon graduation, Mr. Orr plans to teach at the university level.