DOCUMENT RESUME

ED 263 068 SP 026 682

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TITLE An Assessment of Professional Opinion Concerning Critical Research Issues in Health Education.
PUB DATE [85]
NOTE 50p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Health Education; Health Programs; *Program Effectiveness; *Research Needs; Research Reports

ABSTRACT

The purpose of this study was to compare "expert" and "practitioner" evaluations of research questions in health education. The "expert" respondents consisted of 21 health educators identified by a panel of experts as significant contributors to the field of health education. The "practitioners" consisted of 722 health educators. The respondents were asked to rate the research questions on the Likert scales of Importance, Desirability and Feasibility. Although the mean question rating between the two groups differed only slightly, differences between the groups emerged for 15 questions. The questions of greatest disparity between the groups concerned such issues as outcomes and expectations of school health programs, the need for community support for health education, important social-psychological factors associated with behavioral change, and the overall effects of health education. The highest rated question for the combined groups was: "How can we best measure our success and failure in regard to the effectiveness of health education methods and programs?" Appendices include a six page list of references and tables that present the study's results. (Author/JD)

AN ASSESSMENT OF PROFESSIONAL OPINION CONCERNING CRITICAL RESEARCH ISSUES IN HEALTH EDUCATION

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Abstract

An Assessment of Professional Opinion Concerning Critical Research Issues in Health Education

The purpose of this study was to compare "expert" and "practitioner" evaluations of research questions in health education. The "expert" respondents consisted of 21 health educators identified by a panel of experts as significant contributors to the field of health education as determined by scholarship, publication record, and professional attainment. The "practitioners" consisted of the 722 health educators identified in the 1984 Eta Sigma Gamma National Directory. The 48 research questions analized were generated in a previous research project via a three-round Delphi Technique utilizing the expert respondents. In this study, the practitioners were asked to rate the questions on the Likert scales of Importance, Desirability and Feasibility as identified by Linstone and Turoff. Although the mean question rating between the two groups differed only by .06 and the mean question ranking by .46, pooled variance t-tests identified significant differences between the groups on the three study scales for 15 specific questions. A Spearman Rank Correlation Coefficient, comparing the "expert" and "practitioners" mean question rankings,

produced a coefficient of .73 for Importance, .70 for Desirability, and .50 for Feasibility. The questions of greatest disparity between the groups concerned such issues as outcomes and expectations of school health programs, the need of community support for health education, important social-psychological factors associated with behavioral change, and the overall effects of health education.

Introduction

Health education as a professional field presents a complex conceptual structure because of its interdisciplinary nature, its almost limitless scope and the ever-changing locus of its application (Greene & Simons - Morton, 1984). Its academic underpinnings are likewise broad and its relevant literature base is scattered throughout physical, biomedical, behavioral and social science journals as well as pedagogical publications. As a result, health education does not have a readily identifiable body of knowledge, a set of referenced operating guidelines, or, even, textual sources reflecting standardized technology. These are not tragic flaws, necessarily; most new, applied professions (even older ones such as medicine and law) face certain ambiguities as to purpose, method and direction. The mission of health education, certainly, is not ambiguous and is commonly agreed upon: Changing health-related behaviors (Bates & Winder, 1984; Green, Kreuter, Deeds & Partridge, 1980; Russell, 1975).

To change health behaviors to those more conducive to increasing longevity, preventing disease, maintaining and actualizing physical, mental and social function obviously requires organized efforts by qualified, informed and

academically sanctioned persons (Allen & Yarian, 1981; Bedworth & Bedworth, 1978; Breuss, 1978; Cobb, 1981; Galli, 1978; Green, 1978; Griffiths, 1972; Hochbaum, 1976; Oberteuffer, 1977; Rubinson & Alles, 1984; Shirreffs, 1980; Simonds, 1978). However, the professionals who engage in this process -- health educators-- are often challenged on the value of programs directed toward this mission. As Kling (1984) stated recently:

> "When it comes to the pratice of health education, to the methodological choices that health educators make when they decide what to do at work each day, we have not had a very solid research base." (p. 341)

Moreover, since health education does not have a theoretical base separate and distinct from other professions (Cleary, Kichen & Ensor, 1985) and depends principally upon the theoretical constructs of education to provide the foundations for program development, there is considerable controversy as to whether or not health education should deal exclusively with the cognitive domain or should integrate cognitive and affective activities with traditional methodology to enhance health decision-making. Also, since health education consists

of subspecialties, e.g., community health education; school health education, patient education, consumer education, and public health education, there is a growing concern among its practitioners that perhaps different theories and different methods for each setting must be formulated. Other problems further confront the field: Disagreement as to what parent discipline should "direct" the field, whether or not subspecialization is simply fractionalization, lack of a client-constituency to support health education, and poor acceptance of the field by other professionals in traditional health care settings (Mico & Ross, 1975).

Hochbaum (1982) has summarized the state of health education as a profession thusly:

> "In the history of every profession come times of uncertainty and doubt. Such concerns are especially likely to come when a profession has matured enough to take stock of where it stands. Questions arise within its ranks as to its real idenity: What are our goals, our mission? Are we really a true and unified profession or only a collection of individuals who merely receive more or less similar train-

ing and carry out more or less similar activities? Are we definably different from other professions which pursue the same goals? Are we really achieving our presumed goals or is skepticism toward our accomplishments justified? Who are we? What is our future?" (p.4)

Purpose

This is a follow-up investigation using the results of a Delphi study conducted previously by Frazer, Kush and Richardson (1984) in which professional leaders identified some 47 "unanswered" research questions confronting the field of health education. The purpose of the present study is to compare ratings of the research questions by health education practitioners who are currently employed in the field. Through this analysis of "comparisons and contrasts," we seek to clarify various elements of "original" research questions, uncover research priorities, operationalize goals made explicit by the questions, and find out what are the expected outcomes of research related studies. By so doing, we hope to uncover, through concensus among our professionals, broad aims and purposes basic to the profession of health education. This report focuses

upon research priorities.

Methods

The Delphi Study

Originally developed in the 1950s by the Rand Corporation for securing a reliable consensus of expert opinion (Dalkey & Helmer, 1963), this technique is predominantly used now for technological forecasting, industrial research, professional development, social planning, technological evaluation and educational decision-making (Brown, 1969; Crowley & Johnson, 1977; Cyphert & Gant, 1970; Dalkey, 1969; Emmons & Kaplan, 1970; Gordon, 1971; Sachman, 1974; Strauss & Ziegler, 1975; Travis, 1976; Weaver, 1972). The Delphi process is especially useful in situations where the task or problem does not lend itself to precise analysis but where a collective, subjective judgment can provide a contribution to the professional development within an industrial setting or an educational field. Further, this process allows for individual contibution without costly, time-consuming, face-to-face interaction, a necessary requisite for many denizens of higher education.

The first step in our previous study was to ask the five senior faculty members of the Department of Health Education, Southern Illinois University, to select from

a comprehensive listing of "well-known" professional health educators those individuals who to the greatest degree manifested: a) scholarship; b) extensive publication records; c) professional attainment; and d) overall contributions to the field. This five-member committee consisted of individuals with professional tenures of 15 to 30 years and with a composite record of service in the field of more than 110 years. The committee named a pool of 21 health education "experts" each of whom received more than the three nominations prescribed by the investigators, to be placed on the "Delphi Panel of Experts."

Round One

Each panel member thus identified was mailed a packet containing an explanatory letter requesting participation in the three-round Delphi study and a return mailer containing a response sheet headed by this statement: "Please list what you consider to be the most critical research question(s) facing the field of Health Education today." Space for listing as many as five questions was provided on the "unstructured" response sheet. Anonymity was assured. Eighteen panelists responded, specifying 47 research questions. (A total of 59 questions were identified

by the panelists on the first round but the 12 lowest rated questions were discarded by the investigators because of minimal evaluative impact.)

Round Two

The second mailing to the pool of experts contained the 47 research questions and rating of each item on three scales of Importance, Desirability and Feasibility, as identified by Linstone and Turoff (1975), were requested. After tabulation of returns, each research question was assigned a ranking of 1 through 47 derived from a summation of scale values. In addition, returns were reviewed for written comments as well as for "write-ins" ofadditional research questions. Panelists tended to comment only sparingly on the questions making few editorial changes and not adding any questions to the original listing. Fifteen panelists responded on the second round of evaluation.

Round Three

The third contract with the panelists (using round two instructions and feedback) netted 13 returns and concluded the Delphi Study. The 47 research questions generated and refined twice by the "expert group" covered a broad range of subject matter and research directions for the field of health education. Areas included were:

a) defining the parameters of health education; b) assessing the quality of professional preparation; c) uncovering strategies for behavioral change; d) considering ethical determinants; e) evaluating health education efforts singly and in programmatic forms; and f) uncovering "uniqueness" in health education methodology. The questions tended to consist of complex, intermingled issues that do not lend themselves to "pure" scientific investigations. (Frazer et al.,1984)

THE FOLLOW-UP STUDY

Procedure

The first step in our follow-up study required that our Delphi-generated research questions be repackaged for evaluation by a sample of practicing health educators. The second step was to select the sample. We chose an academic population as subjects for our survey -- the 722 health educators listed in the 1984 Eta Sigma Gamma National Directory. The directory lists all full-time faculty members of four year colleges and universities offering academic preparation (professional courses, majors or minors) in health education. The Directory excludes those individuals whose academic rank is lecturer or instructor as well as those who are employed on a temporary, part-time or term basis.

The survey was conducted by employing a double, multi-matrix sampling technique as follows:

(1) Names of subjects were randomly arranged into four, approximately equal groups of 180, 180, 181 and 181.

(2) Each subject was mailed a packet containging approximately one-fourth of the Delphi-generated research questions, randomly selected sets of 12, 12, 12 and 11 questions.

The respondents and research questions were randomly divided into subsets based upon the principles of multi-matrix sampling which indicate that measurements need be taken on only a fraction of study items for valid test measures to be generated. (Gold, Basch & McDermott, 1983) Previous studies have indicated multi-matrix sampling to be an appropriate replacement for conventional sampling designs, regardless of stratification protocols based upon content of difficulty. (Barcikowski, 1972; Cook & Stufflebeam, 1967; Gold & Basch, 1984; Kleinke, 1972; Owen & Stufflebeam 1960; Plumlee, 1964; Shoemaker, 1973, 1971)

Each "practitioner" thus selected was mailed a packet containing 12 randomly selected questions, the response sheet for the three study sclaes, and a

demographic questionnaire. Fourteen calendar days after the initial mailing, a follow-up card was mailed to each subject. Final Response rates for the four sub-samples ranged from 36.1 percent to 44.9 percent with a mean response rate of 41.6 percent. The total number of respondents being 289. Demographics revealed that typically, 53.7 percent of a faculty respondent's time was spent in teaching, 16.8 percent on research and preparing manuscripts for publications, 14.5 on university service, 7 percent on professional relations, and 8 percent on community service. Academic rank was evenly distributed between the three primary ranks of professor, associate professor, and assistant professor with the average tenure in the health education profession being just over 16 years. The areas of professional interest most often cited included teacher education preparation, health behavior, content area instruction, community health, research design/evaluation, and school/college health program development.

Results

Realiability

Reliability of the three, likert-type scales of Importance, Desirability and Feasibility was estimated by the use of Cronbach's alpha, a measure of internal

consistency. This statistic is an estimate of the correlation of the degree to which the scales are independent measures of the same construct (Bohrnstedt, 1969), and reflects the degree to which items on a single "test" administered to respondents at one point in time, are interrelated (Basch & Gold, 1985). When internal consistency is high, indicating that the items are highly correlated with one another, it is assumed that the items measure the same attribute. The internal consistency for the three scales for each subset ranged from .71 to .85 while the internal consistency on the scale of Importance was .82, the scale of Desirability .80, and the scale of Feasibility .81. Composite reliability estimates for "practitioners" and for "experts" are presented in Table 1.

Table 1

Findings

The data denote that the 15 most highly rated research questions, from "practitioners" as well as from "experts" dealt with evaluation, measurement and implementation of health education programs. These questions appear to seek basic explanations concerning the need and efficacy of health education. Because the range of

scores is narrow (1.416 to 1.645) on each one-to-five, positive to negative scaled continuum), it would appear that each question in the entire set of 15 questions has equal practical significance for health educators. Moreover, there was considerable agreement between "expert" and "practitioner" rankings overall in that the Spearman Rank Correlation Co-efficient (all questions combined) for Importance was .73, for Desirability .70, and for Feasibility .50. The highest rated question for all respondents (combined groups) was: "How can we best measure our success and failures in regard to the effectiveness of health education methods and programs?". The listing of the 15 most highly rated questions is presented in Table 2.

Table 2

The data were also analyzed to ascertain what questions provided greatest significance on each of the three study scales -- Importance, Desirability and Feasibility. On Importance, "practitioners" gave the highest scores (1.29) to the question "How can we best measure our successes and failures in regard to the effectiveness of health education methods and programs?". "Experts" gave highest importance scores to "How can

health education become a more important part of the community and school curriculum?" (1.3077) and "How can the can the concept of comprehensive school health gain the support needed to adequately implement such programs in the nation's schools?" (1.333). It appears that "experts" rated curricular strategies and evaluation of methods that generate support of health education as being most important; "practitioners" tended to rate questions dealing with evaluation, implementation, and effects of health education programming highest in importance. There were eight questions that each group -- "experts" and "practitioners" -- rated high in importance. These are shown in Table 3.

Table 3

The ratings by both groups on the scale of desirability were almost identical to the Importance ratings with "practitioners" repeating 13 of the "Important" 15 questions. On the criterion of Desirability, the only questions eliminated from the top 15 research questions (see Table 2) were "How can health education offset the risk-taking predispositions of adolescent youth and young adults that account for this age group having the only death rate that has increased in the

past fifteen years?" and "What amounts and kinds of reinforcement and over what periods of time following initial health education are necessary to support the maintenance of behavioral adaptions conclusive to health?" for the "practitioners" and "What outcomes can we realistically expect school health education to achieve at the various stages of development (K-12)?" and "What programmatic and organizational variables that influence the implementation and maintenance of health education programs?" for experts. The listing of questions rated highest for Desirability is presented in Table 4.

Table 4

It was on the Feasibility scale that the greatest rating variation occurred between "experts" and "practitioners". Here, "practitioners" gave highest ratings to the questions, "Which of the demographic/social-psychological factors are the ones most often correlated with behavior?" (1.9118) and "What types of replication studies, if any, are needed to verify findings in different settings, with different populations and conducted by different investigators?" (1.950). The "expert" group's highest rated questions were "What are the

critical factors which enhance or detract from successful implementation and maintenance of health education programs in the schools and do they change over time?" (1.444) and "What outcomes can we realistically expect school health education to achieve at the various stages of development (K-12)?" (1.5714). Again, "experts" tended to rate questions dealing with health education, health promotion and cognitive issues much higher than did "practitioners" who stressed behavior change predictors and facilitators, outcome verification and reliability, professional preparation, and the position of health education within the health care industry. These questions are presented in Table 5.

Table 5

Although mean values of the ratings varied only .06 between "experts" and "practitioner" groups, pooled variance T-tests indicated that there were significant rating differences between the two groups on the 22 scaled ratings contained in 15 research questions evaluations. There were 11 questions with significant rating differences on the criterion scale of Feasibility, six significant differences ascribed to the Importance factor, and on the Desirability scale there were five significant differences between the two

groups. Two questions revealed significant differences between "expert" and "practitioner" groups on all three scales: "What are the critical factors which enhance or substract from successful implementation and maintenance of health education programs in schools and do they change over time?" and "What outcomes can we realistically expect school health education to achieve at the various stages of development?". In each case, "practitioners" rated the questions higher on Importance but lower on Desirability and Feasibility. Three questions were rated significantly different on two scales; "Which statistical procedure(s) is (are) most useful for determining effectiveness of health education?" (Importance and Desirability), "What are the best ways to convince school and community leaders of the need for health education?" (Importance and Feasibility), and "What is the optimum combination of education methods to achieve specific outcomes for specific populations especially those at high risk?" (Importance and Feasibility). Ten additional questions had significant response differences on one scaled factor. However, in all cases, the ratings were higher than "3", indicating all questions were held in high regard by each group of respondents. The composite listing of questions with significant responses differences appears in Table 6.

Table 6

Discussion

A review of the 47 research questions generated by "experts" in the field of health education reveals that the questions span a broad range of subject matter and reflect many issues that are of significance for future health education research. However, experts and practitioners differ considerably in their assessments of the most "important", "desirable", and "feasible" research questions in health education. Areas emphasized by the experts were in school health education, health promotion and cognitive domains while practitioners stressed behavior change predictors and facilitators, outcome verification and reliability, professional preparation, and the position of health education as a profession. It must be noted that although each group appeared to emphasize different aspects of health education, all 47 of the research questions generated in the Delphi Study received favorable (range between "1" and "3") ratings from both "experts" and "practitioners" indicating that all issues addressed in the study were considered viable as research questions.

On a technological note, these investigators verify

the use of multi-matrix sampling as a viable technique for sequentially-staged surveys. It is economical, productive, and efficient in providing "full" sample reconstitution. Also for evaluations such as this, the use of such techniques enhances and facilitates the acquisition of data for large sample sets, allowing for more ambitious research efforts.

Through the identification and evaluation of cogent research questions in health education, it is hoped that specific research hypotheses can be generated and tested in an orderly and timely manner. Too, we hope that in their generation, some clarification of many critical underlying issues concerning the behavioral change process, reinforcement mechanisms, and environmental influences on health behavior may also take place. It is imperative that we seek to uncover the linkage between the elements in these study areas if health education as a unique professional discipline is ever to be realized.

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TABLE 1

ESTIMATES OF CRONBACH'S ALPHA COMPARING PRACTITIONER VERSUS EXPERT RESPONSES FOR THE STUDY SCALES AND INSTRUMENT SUBSETS

	Subset 1	Subset 2	Subset 3	Subset 4	Scale $\bar{x}$ Estimates	Grand $\bar{x}$ Scale Estimates
Importance	.90 .78	.81 .88	.83 .85	.63 .56	.79 .92	.82
Desirability	.90 .79	.83 .82	.85 .86	.62 .74	.79 .81	.80
Feasibility	.80 .88	.77 .79	.88 .83	.73 .85	.80 .83	.81
Subset $\bar{x}$ Estimates	.87 .82	.81 .83	.86 .85	.66 .72		
Grand $\bar{x}$ Subset Estimates	.85	.82	.85	.71		.81

LEGEND: Practitioner Responses
Expert Responses

TABLE 2

RANK ORDERING OF THE MOST IMPORTANT UNANSWERED RESEARCH QUESTIONS IN HEALTH EDUCATION

RANK	MEAN	QUESTION
1	1.416	How can we best measure our successes and failures in regard to the effectiveness of health education methods and programs?
2	1.482	Does health education work?
3	1.488	What are the long term effects of health education as it relates to health-lifestyle for individuals exposed to health education programs in schools and in community settings?
4	1.489	What are the effects of health education?
5	1.515	How can health education become a more important part of the community and school curriculum?
6	1.542	What factors or strategies are most effective for influencing health behavior?
7	1.552	What are the most effective ways to implement health education programs?
8	1.570	A) What amounts and kinds of reinforcement and over what periods of time following initial health education are necessary to support the maintenance of behavioral adaptations condusive to health? B) What are the effects on work days lost, worker satisfaction, job performance, perceived quality of life, etc. of a health education program in the work place?
9	1.581	Do health education professional preparation programs adequately prepare people to enter and be successful in the health education profession?
10	1.603	How can health education programs produce more preventive oriented children and adults?
11	1.632	What is an effective methodology in resisting peer group pressure as relates to health behavior?
12	1.638	How can the concept of comprehensive school health gain the support needed to adequately implement such programs in the nation's schools?
13	1.642	What are the effects of health education programs that strategically have been planned and implemented to address multiple psychologically and environmental variables that influence a given health related action?
14	1.645	What are the critical factors which enhance or detract from successful implementation and maintenance of health education programs in schools and do they change over time?

TABLE 3

A COMPARISON OF PRACTITIONER VERSUS EXPERT RATINGS ON THE SCALE OF IMPORTANCE

PRACTITIONERS			EXPERTS		
RANK	RATING	QUESTION	RANK	RATING	QUESTION
1.	1.2090	26. How can we best measure our success and failures in regard to the effectiveness of health education methods and programs?	1	1.3077	9. How can health education become a more important part of the community and school curriculum?
2.	1.3330	39. What are the long term effects of health education as it relates to health-lifestyle for individuals exposed to health education programs in schools and in community settings?	2	1.3333	22. How can the concept of comprehensive school health gain the support needed to adequately implement such programs in the nation's schools?
3.	1.4000	6. Do health education professional preparation programs adequately prepare people to enter and be successful in the health education profession?	3.	1.3929	17. What are the most effective ways to implement health education programs? 6. Do health education professional preparation programs adequately prepare people to enter and be successful in the health education profession?
4.	1.4521	29. What factors or strategies are most effective for influencing health behavior?	5.	1.4138	39. What are the long term effects of health education as it relates to health-lifestyle for individuals exposed to health education programs in schools and in community settings?
5.	1.4833	20. How can health education programs produce more preventive oriented children and adults?	6.	1.4231	18. What are the programmatic and organizational variables that influence the implementation and maintenance of health education programs?
6.	1.4865	22. How can the concept of comprehensive school health gain the support needed to adequately implement such programs in the nation's schools?	7.	1.4286	26. How can we best measure our successes and failures in regard to the effectiveness of health education methods and programs?

TABLE 3 CONTINUED

PRACTITIONERS RANK	PRACTITIONERS RATING	PRACTITIONERS QUESTION	EXPERTS RANK	EXPERTS RATING	EXPERTS QUESTION
7.	1.5000	16. WHAT ARE THE CRITICAL FACTORS WHICH ENHANCE OR DETRACT FROM SUCCESSFUL IMPLEMENTATION AND MAINTENANCE OF HEALTH EDUCATION PROGRAMS IN SCHOOLS AND DO THEY CHANGE OVER TIME?	7.	1.4286	26. HOW CAN WE BEST MEASURE OUR SUCCESSES AND FAILURES IN REGARD TO THE EFFECTIVENESS OF HEALTH EDUCATION METHODS AND PROGRAMS?
		17. WHAT ARE THE MOST EFFECTIVE WAYS TO IMPLEMENT HEALTH EDUCATION PROGRAMS?			
			8.	1.4333	31. WHAT AMOUNTS AND KINDS OF REINFORCEMENT AND OVER WHAT PERIODS OF TIME FOLLOWING INITIAL HEALTH EDUCATION ARE NECESSARY TO SUPPORT THE MAINTENANCE OF BEHAVIORAL ADAPTATIONS CONDUCIVE TO HEALTH?
9.	1.5263	47. WHAT ARE THE EFFECTS OF HEALTH EDUCATION?	9.	1.5000	27. WHAT ARE THE CRITICAL PSYCHOSOCIAL VARIABLES WHICH RESULT IN THE INITIATION OR CHANGE IN RISK-TAKING BEHAVIORS IN VARIOUS POPULATIONS AND AGE GROUPS?
					33. HOW CAN HEALTH EDUCATION BE EFFECTIVELY INTERPRETED TO THE PUBLIC?
					48. WHAT IS THE NATURE OF THE RELATIONSHIPS AMONG THOSE PSYCHOLOGICAL AND ENVIRONMENTAL VARIABLES THAT INFLUENCE A GIVEN HEALTH-RELATED ACTION?
10.	1.5417	41. DOES HEALTH EDUCATION WORK?			
11.	1.5526	9. HOW CAN HEALTH EDUCATION BECOME A MORE IMPORTANT PART OF THE COMMUNITY AND SCHOOL CURRICULUM?			

TABLE 3 CONTINUED

PRACTITIONERS			EXPERTS		
RANK	RATING	QUESTION	RANK	RATING	QUESTION
12.	1.5690	31. WHAT AMOUNTS AND KINDS OF REINFORCEMENT AND OVER WHAT PERIODS OF TIME FOLLOWING INITIAL HEALTH EDUCATION ARE NECESSARY TO SUPPORT THE MAINTENANCE OIF BEHAVIORAL ADAPTATIONS CONDUCIVE TO HEALTH?	12.	1.5556	46. WHAT ARE THE EFFECTS ON WORK DAYS LOST, WORKER SATISFACTION, JOB PERFORMANCE, PERCEIVED QUALITY OF LIFE, ETC., OF A HEALTH EDUCATION PROGRAM IN THE WORK PLACE?
13.	1.5692	19. HOW CAN HEALTH EDUCATION OFFSET THE RISK-TAKING PREDISPOSITIONS OF ADOLESCENT YOUTH AND YOUNG ADULTS THAT ACCOUNT FOR THIS AGE GROUP HAVING THE ONLY DEATH RATE THAT HAS INCREASED IN THE PAST FIFTEEN YEARS?	13.	1.5926	30. WHAT IS AN EFFECTIVE METHODOLOGY IN RESISTING PEER GROUP PRESSURE AS RELATED TO HEALTH BEHAVIOR?
14.	1.5821	38. WHICH OF THE DEMOGRAPHIC/SOCIAL-PSYCHOLOGICAL FACTORS ARE THE ONES MOST OFTEN CORRELATED WITH BEHAVIOR CHANGE?	14.	1.6071	29. WHAT FACTORS OR STRATEGIES ARE MOST EFFECTIVE FOR INFLUENCING HEALTH BEHAVIOR?
15.	1.5867	10. HOW DOES HEALTH EDUCATION FIT INTO THE BROAD SPECTRUM OF THE HEALTH CARE DELIVERY SYSTEM?	15.	1.6296	21. WHAT ARE THE FFFECTS OF HEALTH EDUCATION PROGRAMS THAT STRATEGICALLY HAVE BEEN PLANNED AND IMPLEMENTED TO ADDRESS MULTIPLE PSYCHOLOGICAL AND ENVIRONMENTAL VARIABLES THAT INFLUENCE A GIVEN HEALTH RELATED ACTION?

TABLE 4

A COMPARISON OF PRACTITIONER VERSUS EXPERT RATINGS ON THE SCALE OF DESIRABILITY

PRACTITIONERS			EXPERTS		
RANK	RATING	QUESTION	RANK	RATING	QUESTION
1.	1.2899	26. How can we best measure our successes and failures in regard to the effectiveness of health education methods and programs?	1.	1.1852	22. How can the cancept of comprehensive school health gain the support needed to adequately implement such programs in the nation's schools?
2.	1.2982	39. What are the long term effects of health education as it relates to health-lifestyle for individuals exposed to health education programs in schools and in community settings?	2.	1.2222	16. What are the critical factors which enhance or detract from successful implementation and maintenance of health education programs in schools and do they change over time?
3.	1.4068	20. How can health education programs produce more preventive oriented children and adults?	3.	1.2500	40. What outcomes can we realistically expect school health education to achieve at the various stages of development (K-12)?
					17. What are the most effective ways to implement health education programs?
4.	1.4789	6. Do health education professional preparation programs adequately prepare people to enter and be successful in the health education profession?			
5.	1.5143	41. Does health education work?	5.	1.3077	18. What are the programmatic and organizational variables that influence the implementation and maintenance of health education programs?
6.	1.5200	17. What are the most effective ways to implement health education programs?	6.	1.3571	26. How can we best measure our successes and failures in regard to the effectiveness of health education methods and programs?

TABLE 4 CONTINUED

PRACTITIONERS RANK	PRACTITIONERS RATING	PRACTITIONERS QUESTION	EXPERTS RANK	EXPERTS RATING	EXPERTS QUESTION
7.	1.5211	29. WHAT FACTORS OR STRATEGIES ARE MOST EFFECTIVE FOR INFLUENCING HEALTH BEHAVIOR?	7.	1.4762	47. WHAT ARE THE EFFECTS OF HEALTH EDUCATION?
8.	1.5352	22. HOW CAN THE CONCEPT OF COMPREHENSIVE SCHOOL HEALTH GAIN THE SUPPORT NEEDED TO ADEQUATELY IMPLEMENT SUCH PROGRAMS IN THE NATION'S SCHOOLS?	8.	1.4815	30. WHAT IS AN EFFECTIVE METHODOLOGY IN RESISTING PEER GROUP PRESSURE AS RELATED TO HEALTH BEHAVIOR?
9.	1.5616	9. HOW CAN HEALTH EDUCATION BECOME A MORE IMPORTANT PART OF THE COMMUNITY AND SCHOOL CURRICULUM?	9.	1.5385	9. HOW CAN HEALTH EDUCATION BECOME A MORE IMPORTANT PART OF THE COMMUNITY AND AND SCHOOL CURRICULUM?
10.	1.5738	19. HOW CAN HEALTH EDUCATION OFFSET THE RISK-TAKING PREDISPOSITIONS OF ADOLESCENT YOUTH AND YOUNG ADULTS THAT ACCOUNT FOR THIS AGE GROUP HAVING THE ONLY DEATH RATE THAT HAS INCREASED IN THE PAST FIFTEEN YEARS?	10.	1.5556	39. WHAT ARE THE LONG TERM EFFECTS OF HEALTH EDUCATION AS IT RELATES TO HEALTH-LIFE-STYLE FOR INDIVIDUALS EXPOSED TO HEALTH EDUCATION PROGRAMS IN SCHOOLS AND IN COMMUNITY SETTINGS?
11.	1.5818	47. WHAT ARE THE EFFECTS OF HEALTH EDUCATION?	11.	1.5667	3. CAN THEORETICAL MODEL OR THEORY BE FORMULATED BY WHICH TO STUDY THE EFFECTS HEALTH EDUCATION?
12.	1.5833	31. WHAT AMOUNTS AND KINDS OF REINFORCEMENT AND OVER WHAT PERIODS OF TIME FOLLOWING INITIAL HEALTH EDUCATION ARE NECESSARY TO SUPPORT THE MAINTENANCE OF BEHAVIORAL ADAPTATIONS CONDUCIVE TO HEALTH?	12.	1.5714	20. HOW CAN HEALTH EDUCATION PROGRAMS PRODUCE MORE PREVENTIVE ORIENTED CHILDREN AND ADULTS?
13.	1.6000	16. WHAT ARE THE CRITICAL FACTORS WHICH ENHANCE OR DETRACT FROM SUCCESSFUL IMPLEMENTATION AND MAINTENANCE OF HEALTH EDUCATION PROGRAMS IN SCHOOLS AND DO THEY CHANGE OVER TIME?	13.	1.5862	39. WHAT ARE THE LONG TERM EFFECTS OF HEALTH EDUCATION AS IT RELATES TO HEALTH-LIFE-STYLE FOR INDIVIDUALS EXPOSED TO HEALTH EDUCATION PROGRAMS IN SCHOOLS AND IN COMMUNITY SETTINGS?

TABLE 4 CONTINUED

PRACTITIONERS			EXPERTS		
RANK	RATING	QUESTION	RANK	RATING	QUESTION
14.	1.6119	WHAT IS AN EFFECTIVE METHODOLOGY IN RESISTING PEER GROUP PRESSURE AS RELATED TO HEALTH BEHAVIOR?	14.	1.5926	21. WHAT ARE THE EFFECTS OF HEALTH EDUCATION PROGRAMS THAT STRATEGICALLY HAVE BEEN PLANNED AND IMPLEMENTED TO ADDRESS MULTIPLE PSYCHOLOGICAL AND ENVIRONMENTAL VARIABLES THAT INFLUENCE A GIVEN HEALTH RELATED ACTION?
					10. HOW DOES HEALTH EDUCATION FIT INTO THE BROAD SPECTRUM OF THE HEALTH CARE DELIVERY SYSTEM?
15.	1.6176	21. WHAT ARE THE EFFECTS OF HEALTH EDUCATION PROGRAMS THAT STRATEGICALLY HAVE BEEN PLANNED AND IMPLEMENTED TO ADDRESS MULTIPLE PSYCHOLOGICAL AND ENVIRONMENTAL VARIABLES THAT INFLUENCE A GIVEN HEALTH RELATED ACTION?			

TABLE 5

A COMPARISON OF PRACTITIONER VERSUS EXPERT RATINGS ON THE SCALE OF FEASIBILITY

PRACTITIONERS			EXPERTS		
RANK	RATING	QUESTION	RANK	RATING	QUESTION
1.	1.9119	38. WHICH OF THE DEMOGRAPHIC/SOCIAL-PSYCHOLOGICAL FACTORS ARE THE ONES MOST OFTEN CORRELATED WITH BEHAVIOR CHANGE?	1.	1.4444	16. WHAT ARE THE CRITICAL FACTORS WHICH ENHANCE OR DETRACT FROM SUCCESSFUL IMPLEMENTATION AND MAINTENANCE OF HEALTH EDUCATION PROGRAMS IN SCHOOLS AND DO THEY CHANGE OVER TIME?
2.	1.9500	23. WHAT TYPES OF REPLICATION STUDIES, IF ANY, ARE NEEDED TO VERIFY FINDINGS IN DIFFERENT SETTINGS, WITH DIFFERENT POPULATIONS AND CONDUCTED BY DIFFERENT INVESTIGATORS?	2.	1.5714	40. WHAT OUTCOMES CAN WE REALISTICALLY EXPECT SCHOOL HEALTH EDUCATION TO ACHIEVE AT THE VARIOUS STAGES OF DEVELOPMENT (K-12)?
					47. WHAT ARE THE EFFECTS OF HEALTH EDUCATION?
3.	2.0417	6. DO HEALTH EDUCATION PROFESSIONAL PREPARATION PROGRAMS ADEQUATELY PREPARE PEOPLE TO ENTER AND BE SUCCESSFUL IN THE HEALTH EDUCATION PROFESSION?			
4.	2.0429	9. HOW CAN HEALTH EDUCATION BECOME A MORE IMPORTANT PART OF THE COMMUNITY AND SCHOOL CURRICULUM?	4.	1.6667	32. WHAT ARE THE BEST WAYS TO CONVINCE SCHOOL AND COMMUNITY LEADERS OF THE NEED FOR HEALTH EDUCATION?
5.	2.0563	10. HOW DOES HEALTH EDUCATION FIT INTO THE BROAD SPECTRUM OF THE HEALTH CARE DELIVERY SYSTEM?	5.	1.6786	22. HOW CAN THE CONCEPT OF COMPREHENSIVE SCHOOL HEALTH GAIN THE SUPPORT NEEDED TO ADEQUATELY IMPLEMENT SUCH PROGRAMS IN THE NATION'S SCHOOLS?
6.	2.0735	26. HOW CAN WE BEST MEASURE OUR SUCCESSES AND FAILURES IN REGARD TO THE EFFECTIVENESS OF HEALTH EDUCATION METHODS AND PROGRAMS?	6.	1.8621	4. HOW CAN HEALTH EDUCATORS EFFECTIVELY MARKET HEALTH PROMOTING BEHAVIORS?

TABLE 5 CONTINUED

PRACTITIONERS RANK	PRACTITIONERS RATING	PRACTITIONERS QUESTION	EXPERTS RANK	EXPERTS RATING	EXPERTS QUESTION
7.	2.1071	46. WHAT ARE THE EFFECTS ON WORK DAYS LOST, WORKER SATISFACTION, JOB PERFORMANCE, PERCEIVED QUALITY OF LIFE, ETC., OF A HEALTH EDUCATION PROGRAM IN THE WORK PLACE?	7.	1.9286	20. HOW CAN HEALTH EDUCATION PROGRAMS PRODUCE MORE PREVENTIVE ORIENTED CHILDREN AND ADULTS?
8.	2.1212	34. WHICH STATISTICAL PROCEDURE(S) IS (ARE) MOST USEFUL FOR DETERMINING EFFECTIVENESS OF HEALTH EDUCATION?	8.	1.9615	9. HOW CAN HEALTH EDUCATION BECOME A MORE IMPORTANT PART OF THE COMMUNITY AND SCHOOL CURRICULUM?
					18. WHAT ARE THE PROGRAMMATIC AND ORGANIZATIONAL VARIABLES THAT INFLUENCE THE IMPLEMENTATION AND MAINTENANCE OF HEALTH EDUCATION PROGRAMS?
9.	2.1268	17. WHAT ARE THE MOST EFFECTIVE WAYS TO IMPLEMENT HEALTH EDUCATION PROGRAMS?			
10.	2.1370	5. HOW CAN PROCESS AND CONTENT BE TAUGHT AT THE SAME TIME IN HEALTH EDUCATION PROFESSIONAL PREPARATION COURSES?	10.	2.000	28. WHAT IS THE OPTIMUM COMBINATION OF EDUCATIONAL METHODS TO ACHIEVE SPECIFIC OUTCOMES FOR SPECIFIC POPULATIONS, ESPECIALLY THOSE AT HIGHEST RISK?
					6. DO HEALTH EDUCATION PROFESSIONAL PREPARATION PROGRAMS ADEQUATELY PREPARE PEOPLE TO ENTER AND BE SUCCESSFUL IN THE HEALTH EDUCATION PROFESSION?
					48. WHAT IS THE NATURE OF THE RELATIONSHIPS AMONG THOSE PSYCHOLOGICAL AND ENVIRONMENTAL VARIABLES THAT INFLUENCE A GIVEN HEALTH-RELATED ACTION?

TABLE 5 CONTINUED

PRACTITIONERS			EXPERTS		
RANK	RATING	QUESTION	RANK	RATING	QUESTION
11.	2.1471	41. DOES HEALTH EDUCATION WORK?			
12.	2.1549	18. WHAT ARE THE PROGRAMMATIC AND ORGANIZATIONAL VARIABLES THAT INFLUENCE THE IMPLEMENTATION AND MAINTENANCE OF HEALTH EDUCATION PROGRAMS?			
13.	2.1618	29. WHAT FACTORS OR STRATEGIES ARE MOST EFFECTIVE FOR INFLUENCING HEALTH BEHAVIOR?	13.	2.0357	33. HOW CAN HEALTH EDUCATION BE EFFECTIVELY INTERPRETED TO THE PUBLIC?
14.	2.1765	30. WHAT IS AN EFFECTIVE METHODOLOGY IN RESISTING PEER GROUP PRESSURE AS RELATED TO HEALTH BEHAVIOR?	14.	2.0400	44. WHAT FACTORS ARE NEEDED IN ORDER FOR PEOPLE TO PARTICIPATE IN "HEALTH" BEHAVIORS?
15.	2.2097	7. HOW CAN ENTRY LEVEL HEALTH EDUCATORS RELIABLY BE TESTED FOR BASIC COMPETENCY?	15.	2.0714	29. WHAT FACTORS OR STRATEGIES ARE MOST EFFECTIVE FOR INFLUENCING HEALTH BEHAVIOR?

TABLE 6

RESEARCH QUESTIONS WITH STATISTICALLY SIGNIFICANT DIFFERENCES BETWEEN PRACTITIONERS AND EXPERTS

QUESTIONS:	SCALE	RATING MEAN	T-VALUE	DEGREES OF FREEDOM	2 TAIL PROBABILITY
What are the critical factors which enhance or detract from successful implementation and maintenance of health education programs in schools and do they change over time?	Importance	E= 2.482	-4.73	89	.000
		P= 1.500			
	Desirability	E= 1.222	2.61	85	.011
		P= 1.600			
	Feasibility	E= 1.444	4.31	85	.000
		P= 2.217			
What outcomes can we realistically expect school health education to achieve at the various stages of development.	Importance	E= 2.296	-2.04	83	.045
		P= 1.845			
	Desirability	E= 1.250	2.67	81	.009
		P= 1.746			
	Feasibility	E= 1.571	3.81	81	.000
		P= 2.418			
Which statistical procedure(s) is (are) most useful for determining effectiveness of health education?	Importance	E= 2.593	-2.97	90	.004
		P= 1.954			
	Desirability	E= 2.444	-3.06	92	.003
		P= 1.836			
What are the best ways to convince school and community leaders of the need for health education?	Importance	E= 2.346	-2.66	81	.009
		P= 1.667			
	Feasibility	E= 1.667	2.61	81	.011
		P= 2.304			
What is the optimum combination of educational methods to achieve specific outcomes for specific populations, especially those at highest risk?	Importance	E= 2.321	-2.04	82	.045
		P= 1.804			
	Feasibility	E= 2.000	2.15	78	.035
		P= 2.537			
What are the "precursor" measures beyond knowledge and attitudes that affect the success of programs?	Feasibility	E= 1.679	4.27	84	.000
		P= 2.552			
What is the effect of "psychosomatic wellness" as compared to "psychosomatic illness" in resisting health problems and maintaining functional physical and mental health levels?	Feasibility	E= 2.111	3.61	80	.001
		P= 2.964			
What are the effects of health education?	Feasibility	E= 1.572	3.38	73	.001
		P= 2.519			
Which of the demographic/social-psychological factors are the ones most often correlated with behavior change?	Feasibility	E= 2.385	-2.74	92	.007
		P= 1.912			
What are the programmatic and organizational variables that influence the implementation and maintenance of health education programs?	Desirability	E= 1.308	2.77	98	.007
		P= 1.770			

TABLE 6 CONTINUED

QUESTIONS:	SCALE	RATING MEAN	T-VALUE	DEGREES OF FREEDOM	2 TAIL PROBABILITY
Do basic differences in preparation and competency exist between health education graduates from schools of public health and graduates from other schools?	Importance	E= 2.214 P= 2.763	2.44	85	.017
How can health educators effectivly market health promoting behaviors?	Feasibility	E= 1.862 P= 2.317	2.12	87	.037
How can health education offset the risk-taking predispositions of adolescent youth and young adults that account for this age group having the only death rate that has increased in the past fifteen years?	Feasibility	E= 2.821 P= 2.328	-2.11	87	.038
What are the effects of health education programs that strategically have been planned and implemented to address multiple psychological and environmental variables that influence a given health related action?	Feasibility	E= 2.704 P= 2.275	-2.03	94	.045
How can the concept of comprehensive school health gain the support needed to adequately implement such programs in the nation's schools?	Desirability	E= 1.185 P= 1.535	2.00	96	.049