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WORKSHOP IN HEALTH ADMINISTRATION STUDIES

SPRING, 1988

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"A Socio-Epidimiological Approach to Identifying the Behavioral
Determinants of Oral Health Status in American Native Communities"
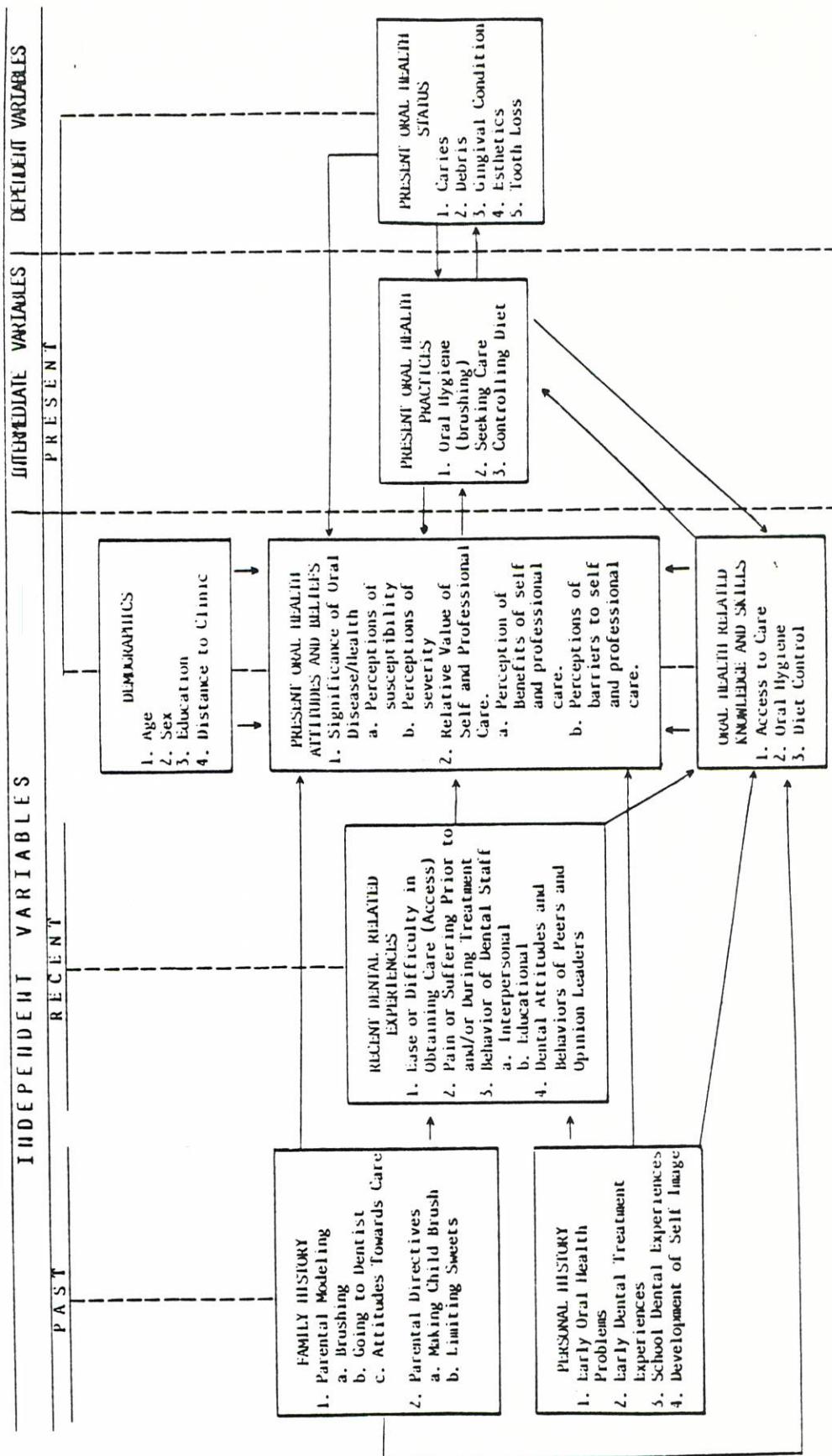

WORKSHOP PAPER

for

Monday, June 6, 1988

Rosenwald 405

3:30 to 5:00 p.m.

SCHEMATIC OF STUDY VARIABLES AND PROBABLE RELATIONSHIPS

INDEPENDENT VARIABLES			INTERMEDIATE VARIABLES	DEPENDENT VARIABLES
PAST	RECENT		PRESENT	

PRESENT ORAL HEALTH STATUS
1. Caries
2. Debris
3. Gingival Condition
4. Esthetics
5. Tooth Loss

PRESENT ORAL HEALTH PRACTICES
1. Oral Hygiene (brushing)
2. Seeking Care
3. Controlling Diet

DEMOGRAPHICS
1. Age
2. Sex
3. Education
4. Distance to Clinic

PRESENT ORAL HEALTH ATTITUDES AND BELIEFS
1. Significance of Oral Disease/Health
   a. Perceptions of susceptibility
   b. Perceptions of severity
2. Relative Value of Self and Professional Care.
   a. Perception of benefits of self and professional care.
   b. Perceptions of barriers to self and professional care.

ORAL HEALTH RELATED KNOWLEDGE AND SKILLS
1. Access to Care
2. Oral Hygiene
3. Diet Control

RECENT DENTAL RELATED EXPERIENCES
1. Ease or Difficulty in Obtaining Care (Access)
2. Pain or Suffering Prior to and/or During Treatment
3. Behavior of Dental Staff
   a. Interpersonal
   b. Educational
4. Dental Attitudes and Behaviors of Peers and Opinion Leaders

FAMILY HISTORY
1. Parental Modeling
   a. Brushing
   b. Going to Dentist
   c. Attitudes Towards Care
2. Parental Directives
   a. Making Child Brush
   b. Limiting Sweets

PERSONAL HISTORY
1. Early Oral Health Problems
2. Early Dental Treatment Experiences
3. School Dental Experiences
4. Development of Self Image

The primary goals of ICS-II are to determine the relative contributions of environmental, care system, and personal lifestyle factors to oral health status and dental expenditures; and, based on this information, to provide policy makers and researchers with information that may be used to improve oral health. The study's specific intentions are: 1) to collect detailed descriptive information on each care system, environmental context, and population life style practices; 2) to assess within systems the factors that best explain variation in utilization, oral health behavior, quality of care, oral health, and expenditures; 3) to make comparisons among system types; and 4) to develop standard methods for evaluating oral health care systems and the determinants of oral health status.

Thus, the IHS Dental Program will be participating as if the IHS consumer population represents "a separate country." With the planning meetings likely to start in late 1987, the findings of this study will be extremely valuable in protocol development and tailoring specific IHS methodological approaches and content for the survey. With a consumer sample size of 4000, the ICS-II represents a unique opportunity to validate the most promising independent factor variables of this study.

IV. Conclusions

This manuscript reports a descriptive study which surveyed the oral health related knowledge, attitudes, experiences, and self-reported behavior, and crude oral health status of 158 randomly selected Zuni (88) and Menominee (70) subjects. Based on analyses of data collected from this cross-sectional study the following conclusions appear justified:

A. The Menominee both praise and criticize their tribally run dental clinic more than the Zuni do their IHS dental clinic. Furthermore, compared to the Zuni respondents, the Menominee utilize dental services more, are more satisfied with both the services rendered and the dental staff (particularly dental assistants), and have more positive attitudes about their teeth.

B. All three of the self-reported intermediate behavioral variables (1. Reported Frequency of Brushing, 2. Reported Frequency of Dental Visits, 3. Reported Frequency of Diet

Control) are statistically significant correlates of oral health status. Based on the strength of the association it appears the most powerful of these is "Frequency of Brushing" followed by "Frequency of Dental Visits" and to a considerably lesser extent, "Frequency of Diet Control."

C. Consistent with the PRECEDE framework of Green et al.[40] a variety of predisposing, enabling, and reinforcing factors were identified as statistically significant correlates of the three intermediate behavioral variables:

1. Correlates relating to greater "Reported Frequency of Brushing" include:

   a. Being female rather than male.
   b. Being under 35 years of age.
   c. Having higher levels of education.
   c. Having parents who modeled brushing.
   e. Having parents who made them brush.
   f. Having the perception of having healthy gums.
   g. Having more positive self-perception.
   h. Having more positive attitudes about their teeth.
   i. Having more positive attitudes about brushing.
   j. Having more negative attitudes about oral problems.

2. Correlates relating to greater "Reported Frequency of Dental Visits" include:

   a. Being female rather than male.
   b. Being under 35 years of age.
   c. Having higher levels of education.
   d. Having more positive recent dental experiences.
   e. Having the perception of having healthy gums.
   f. Having the perception having healthy teeth.
   g. Having more positive attitudes about the value of a dental appointment.
   h. Having more positive attitudes about the timing of a dental visit.
   i. Having more positive attitudes about the dental staff.
   j. Having the perception that the dental assistant listens more than talks.
   k. Having more positive attitudes about their teeth.

3. Correlates relating to greater "Reported Frequency of Diet Control" include:

   a. Having higher levels of education.
   b. Having more positive attitudes about the value of a dental visit.
   c. Having a proactive attitude about brushing.
   d. Having a more positive attitude about the timing of a dental visit.

D. Several predisposing and enabling factors were identified as statistically significant positive correlates of oral health status (i.e., the oral health combined variable):

1. Having higher levels of education.
2. Having more positive attitudes about the value of a dental visit.
3. Having more positive attitudes about brushing.
4. Having more positive attitudes about the timing of a dental visit.
5. Having more positive attitudes about their teeth.
6. Having more positive attitudes about themselves.

E. Relative to frequency of dental visits, a multivariate analysis of semantic scales (independent factor variables) generated a variable with over 60% predictive accuracy (i.e., comparing actual vs. predicted).

F. Several independent factor variables which represent components of the Health Belief Model were statistically significant correlates of the intermediate behavioral variables:

1. Independent factor variables representing "perceived benefits" (e.g., "Feelings About Brushing," V1002) functional as statistically significant correlates of "Reported Frequency of Brushing."

2. Independent factor variables representing "perceived benefits" (e.g., "Value of Appointment" V1001) and "perceived barriers" (e.g., "Timing of Dental Visit" V1000, "Feelings About Dental Assistant" V1012) functioned as statistically significant correlates of "Reported Frequency of Dental Visits."

G. Consistent with the findings of the ICS-I[60-61] the acceptability of dental care appears to be a stronger determinant of utilization than the accessibility.

H. In the IHS dental care system, dental assistants appear to influence how consumers experience the acceptability of care to a greater extent than do the dentists.

I. Knowledge, as measured by this study's survey instrument, does not appear to be a significant correlate with oral health behavior.

J. The semantic differential methodology appears to provide data with sufficient sensitivity, reliability, and validity to have considerable utility in dental behavioral research.

Although the conclusions from this study represent only a crude beginning, they represent the IHS Dental Program's first systematic

effort at what should have been obvious long ago and was poignantly expressed by Levin:[130]

> Does the practitioner see a brain and social being associated with the mouth? Does he consider the implications of dental care for that patient--the patient's need for reassurance; the support the mother needs vis a vis her guilt feelings about her child's dental health? Does the dentist take into account the matters of patient comfort and patient interest and patient information needs as well as disease and disability? Is he tuned in to the psychological and cultural meaning patients attach to dental disease and dental treatment? . . . What can he do? Ask the consumer.