

INFORMATION TO USERS

This material was produced from a microfilm copy of the original document. While the most advanced technological means to photograph and reproduce this document have been used, the quality is heavily dependent upon the quality of the original submitted.

The following explanation of techniques is provided to help you understand markings or patterns which may appear on this reproduction.

1. The sign or "target" for pages apparently lacking from the document photographed is "Missing Page(s)". If it was possible to obtain the missing page(s) or section, they are spliced into the film along with adjacent pages. This may have necessitated cutting thru an image and duplicating adjacent pages to insure you complete continuity.
2. When an image on the film is obliterated with a large round black mark, it is an indication that the photographer suspected that the copy may have moved during exposure and thus cause a blurred image. You will find a good image of the page in the adjacent frame.
3. When a map, drawing or chart, etc., was part of the material being photographed the photographer followed a definite method in "sectioning" the material. It is customary to begin photoing at the upper left hand corner of a large sheet and to continue photoing from left to right in equal sections with a small overlap. If necessary, sectioning is continued again — beginning below the first row and continuing on until complete.
4. The majority of users indicate that the textual content is of greatest value, however, a somewhat higher quality reproduction could be made from "photographs" if essential to the understanding of the dissertation. Silver prints of "photographs" may be ordered at additional charge by writing the Order Department, giving the catalog number, title, author and specific pages you wish reproduced.
5. PLEASE NOTE: Some pages may have indistinct print. Filmed as received.

University Microfilms International

300 North Zeeb Road
Ann Arbor, Michigan 48106 USA
St. John's Road, Tyler's Green
High Wycombe, Bucks, England HP10 8HR

7901954

WONG, SATURNINA ANGELA CHUY
COMMUNITY EFFECTS ON DECISION-MAKING: THE
FLUORIDATION REFERENDA IN NEBRASKA.
THE UNIVERSITY OF NEBRASKA - LINCOLN, PH.D.,
1978

University
Microfilms
International

300 N. ZEEB ROAD, ANN ARBOR, MI 48106



1978

SATURNINA ANGELA CHUY WONG

ALL RIGHTS RESERVED

COMMUNITY EFFECTS ON DECISION-MAKING: THE
FLUORIDATION REFERENDA IN NEBRASKA

by

Saturnina Angela Chuy Wong

A DISSERTATION

Presented to the Faculty of
The Graduate College in the University of Nebraska
In Partial Fulfillment of Requirements
For the Degree of Doctor of Philosophy
Department of Sociology

Under the Supervision of Professor David R. Johnson

Lincoln, Nebraska

July, 1978

TITLE

COMMUNITY EFFECTS ON DECISION-MAKING: THE FLUORIDATION

REFERENDA IN NEBRASKA

BY

SATURNINA ANGELA CHUY WONG

APPROVED

DATE

DAVID R. JOHNSON

JUNE 13, 1978

JERRY S. CLOYD

JUNE 13, 1978

HARRY J. CROCKETT, JR.

JUNE 13, 1978

NICHOLAS BABCHUK

JUNE 13, 1978

SUPERVISORY COMMITTEE

GRADUATE COLLEGE

UNIVERSITY OF NEBRASKA

ACKNOWLEDGEMENTS

The inspiration, cooperation, and assistance of many people made this research possible. My dissertation advisor, Professor David R. Johnson, gave advice, thoughtful guidance, and helpful suggestions on the various drafts. The members of my supervisory committee, Professors Jerry S. Cloyd and Harry J. Crockett, Jr., carefully reviewed the drafts and made invaluable suggestions. Professor Nicholas Babchuk provided encouragement and made a number of valuable comments. Professor John J. Berman of the Department of Psychology sparked my interest on the fluoridation issue which resulted in this study. To all of these people, I am very grateful.

I wish also to thank the informants in this research for their cooperation and assistance in responding to the questionnaire. Appreciation is extended to the staff of the Nebraska Department of Health, Environmental Engineering Division (particularly William A. Lee and Shirley Burley), Nebraska Press Association, Nebraska Legislature, Nebraska Department of Education, University of Nebraska-Lincoln, Department of Sociology and Bureau of Sociological Research for providing assistance, information, and materials relevant to the research.

Finally, I am greatly indebted to my mother, brothers George, Leon (my first teacher), Louis, Joseph, Austin, Pete, Ramon, and sisters Lily and Remy whose love, encouragement, guidance, understanding, and integrity have given me the inspiration, courage, and support which enabled me to reach this academic stage of writing the dissertation.

The data collection for this research was funded by a grant from the Nebraska Dental Health Foundation through Dr. E. Herbert Seberg. This research would not have been possible without their support.

PREVIEW

TABLE OF CONTENTS

	PAGE
ACKNOWLEDGEMENTS	ii
LIST OF TABLES	vi
LIST OF FIGURES.	vii
 CHAPTER	
I. INTRODUCTION	1
The Issue of Fluoridation.	1
Statement of the Problem	2
Plan of the Study.	3
II. THEORY AND RESEARCH.	5
Social Psychological Approaches.	6
Community Decision Process and Social Structure. . .	11
Derivation of Hypotheses	25
Summary.	31
III. A BRIEF BACKGROUND OF WATER FLUORIDATION IN NEBRASKA . .	32
Fluoridation by Administrative or City Council Action	32
Fluoridation by Referendum	32
IV. RESEARCH PROCEDURES.	37
Sample	37
Dependent Variables.	40
Explanatory Variables.	40
Procedure.	41
V. RESULTS OF THE STUDY	43
Data and Findings from Informants' Questionnaires. .	43
Hypothesis 1	50
Hypothesis 2	56
Hypothesis 3	60
Hypothesis 4	61
Hypothesis 5	62
Analysis of Fluoridation Referendum Results.	63
Hypothesis 6	64

CHAPTER	PAGE
Analysis of Census Data.	64
Hypothesis 7	66
Hypothesis 8	67
Hypothesis 9	67
Additional Findings.	69
VI. DISCUSSION, SUMMARY, AND IMPLICATIONS.	74
Discussion	74
Summary of Research Findings	87
Implications of Research Findings.	89
REFERENCES	93
APPENDIX A - Nebraska Legislative Bill No. 123	99
APPENDIX B - Nebraska Legislative Bill No. 449	101
APPENDIX C - Nebraska Legislative Bill No. 245	103
APPENDIX D - First Letter to Informants.	106
APPENDIX E - Follow-up Letter to Informants.	108
APPENDIX F - Questionnaire to School Superintendent, Local Public Health Officer or Sheriff, and City Clerk. .	109
APPENDIX G - Questionnaire to Newspaper Publisher.	121

LIST OF TABLES

TABLE		PAGE
1	Informants and Rate of Response from Communities	44
2	Number of Community Leaders Reported by Informants . . .	46
3	Population of Communities and Community Fluoridation Support	49
4	Characteristics of Proponent Leaders and Community Fluoridation Support	52
5	Characteristics of Opponent Leaders and Community Fluoridation Support	57
6	Mayors' Stand and Community Fluoridation Support	61
7	Involvement of Civic Organizations and Community Fluoridation Support	62
8	Heat of Controversy and Community Fluoridation Support .	63
9	Relationship between Referendum Outcome and Age.	66
10	Relationship between Percentage Voting for Fluoridation and Population Size	69
11	Reasons for Community Decisions Against Fluoridation and Community Fluoridation Support	71
12	Reasons for Community Decisions Favoring Fluoridation and Community Fluoridation Support	72

LIST OF FIGURES

FIGURE		PAGE
1	Scattergram Illustrating Relationship between Percentage for Fluoridation and Percentage Voters' Turnout.	65
2	Scattergram Illustrating Relationship between Percentage for Fluoridation and Percentage Elementary School Level.	68

CHAPTER I

INTRODUCTION

The Issue of Fluoridation

In the last three decades, the decisions on whether or not to fluoridate community water supplies have generated a great deal of controversy in American communities. As early as 1945, the experimental use of fluoride as a controlled public health measure began in Grand Rapids, Michigan (McClure, 1970). It was followed shortly by Newburgh, New York, and Brantford, Ontario. Impressive decreases in tooth decay rates in these cities led to many early adoptions. Despite these early successes, organized opposition to fluoridation gained momentum in different parts of the country.

Content analysis of the literature opposed to fluoridation revealed the following main themes: (1) fluoridation is an experiment which may hold unknown dangers; (2) fluorides are poisons; and (3) treatment of the water with fluoride that everybody must drink is an infringement of individual rights (Mausners, 1955:35). Social scientists have emphasized personal alienation, as related to the mass theory of politics, and the political context of community decision-making to explain opposition to fluoridation (Crain, Katz, and Rosenthal, 1969:5-9).

Battles over fluoridation in community after community have provided social scientists a fertile ground for testing theories of community decision-making processes. Most empirical studies making

use of this situation have taken one of two theoretical perspectives. Some have suggested social psychological reasons for opposition to fluoridation, while others have emphasized social structural factors, focusing on the decision-making process as affected by the structural characteristics of the communities and positions of leaders active in the decision-making process.

Statement of the Problem

The purpose of this research is to investigate factors responsible for variations in degree of support for or opposition to fluoridation in small communities.

The theoretical approach used is social structural, building primarily on the work of Crain et al. (1969) and focusing on hypotheses related to the decision-making process and leadership in the community. The present study adopts with some modifications the questionnaire of Crain et al. and their work is the major source of the hypotheses tested. There are significant differences between the two studies. First, the sample of Crain and his associates consisted primarily of larger communities across the United States while this study concentrates only on small communities in one state. Second, while both studies are concerned with the politics of decision-making, the study by Crain et al. encompasses three tracks of decision-making which include administrative action, the interplay between formal and informal leadership, and the public via the machinery of the referendum. This research is focused mainly on the process of decision-making through

the referendum. It seeks to discover factors within the political structure as well as those outside it that contributed to the large variations in the outcomes of fluoridation referenda found among the communities. Third, the referendum outcomes analyzed by Crain et al. were scheduled either through administrative action or petitions filed by the citizens in the communities. The present study results from the special situation created by a law enacted by the Nebraska Legislature, mandating fluoridation of community water in the absence of specific community referenda deciding not to do so. Fourth, the nature of the referenda is also somewhat different, i.e., this is a series of referenda which originated as counter-movement to fluoridation, as contrasted with those which originated as positive attempts to introduce fluoridation.

The present study will focus on the decision-making process in small communities. Its intended contributions are:

1. Further understanding of community decision-making on the fluoridation issue.
2. A test of whether principles developed in studies of larger communities can be applied to smaller ones. About two-thirds of those in the present study are not even classified as "urban" in census terms.

Plan of the Study

In Chapter II, an overview of theory and research on the fluoridation issue is presented. A brief background of fluoridation actions

in Nebraska in its political administrative and legislative context is discussed in Chapter III.

In Chapter IV, the research procedures are presented. These include also the selection of the sample, selection of the variables and their operationalization.

The basic results of the study are presented in Chapter V. An extension on the study by Crain et al. (1969) makes possible the presentation of additional findings.

The concluding chapter, Chapter VI, presents a discussion of the research findings, a summary of the research findings, and their implications for further research in fluoridation.

PREVIEW

CHAPTER II

THEORY AND RESEARCH

The fluoridation issue has provided a laboratory which has been used to test two major types of explanation: social psychological and social structural. As a social issue, fluoridation has interested anthropologists, sociologists, social psychologists, and political scientists.

Social psychological approaches in the explanation of opposition to fluoridation suggest the involvement of pathological processes and the notion of "alienation" among segments in "mass society" (Crain et al., 1969:31). There are a number of variations on the alienation theory.

On the other hand, the social structural approach to fluoridation assumes that the explanation lies more in participation in "normal politics" and "normal people" than in the politics and psychology of alienation. The participation theory involves the process of community decision-making.

Although the present study focuses on the decision-making process, the social-psychological explanations generated by the fluoridation issue will be reviewed before proceeding to the decision-making approach. This will be done in order to examine the question of whether the two approaches have in fact revealed different parts of the same picture.

Social Psychological Approaches

The major social psychological variable that has been drawn upon to explain defeat of fluoridation referenda has been alienation. Originally formulated by Hegel, the theoretical concept of alienation has been a pervasive theme in the classical works of Marx, Durkheim, and Weber. Marx (1932) stressed the process of alienation most profoundly in the relations of production and in the division of work where the factory-worker was deprived of self-realization and the world remained alien to him. Durkheim (1951) introduced the concept anomie (normlessness) to analyze anomic suicide.

According to Gould (1969) alienation is most often conceptualized as a syndrome wherein an individual perceives other people as hypocritical, selfish and uncaring, and the social order as oppressive and impersonal.

Seeman (1959) identified five alternative meanings of alienation as:

- (a) powerlessness, as the expectancy or probability held by the individual that his own behavior cannot determine the outcomes, or reinforcements he seeks;
- (b) meaninglessness, when the individual is unclear as to what he ought to believe--when the individual's minimal standards for clarity in decision-making are not met;
- (c) normlessness, in which there is a high expectancy that socially unapproved behaviors are required to achieve given goals;
- (d) isolation, the assigning of low regard value to goals or beliefs that are typically highly valued in the given society; and
- (e) self-estrangement, as the degree of dependence of the given behavior upon anticipated future rewards,

that lie outside the activity itself. Seeman used the concepts of value reward, behavior, and expectancy as key elements in his theory that underlies his characterization of alienation.

One basic assumption of the theory of mass society is that the average individual has been overwhelmed by modern society. To the extent that the individual has been freed from the constraints of primary groups such as the family and the church of premodern society, the individual now finds it hard to make his own choices due to the rapid changes in modernization and the taking over of the process of decision-making by other agencies and officials. Kornhauser's (1959) description of mass society shows how the "mass man" is related to one another through the centralized state:

Mass society is a situation in which an aggregate of individuals are related to one another only by way of their relation to a common authority, especially the state Social atomization engenders strong feelings of alienation and anxiety and therefore the disposition to engage in extreme behavior to escape from these tensions. (p. 32)

The alienation argument has been formulated to show a relationship between the individual's personal alienation from the social order and a negative vote in the fluoridation referendum. In protesting the adding of fluoride, a chemical to drinking water, the alienated individual feels that at the least, this is one issue where he can make his choice and say "no" to people and groups who advocate fluoridation.

In a study of defeated school-bond referenda in two communities, Horton and Thompson (1962) found support for the hypothesis that

. . . voting down local issues may be in part a type of mass protest, a convergence of the individual assessments and actions of the powerless . . . who have projected into available political symbols the fears and suspicions emanating from the alienated conditions of their existence. (p. 493)

It did not represent the awareness of class-consciousness, but rather, a diffuse power consciousness of a powerless mass tied neither to the community working classes nor the ruling classes. ". . . it was a type of power consciousness founded on social reality, social reality as lived and perceived by the alienated and projected onto the political world" (p. 493).

The generalization offered by Horton and Thompson applies as well to the fluoridation issue as to the issues they studied.

Mausners (1955), in an opinion survey of 397 potential voters during the 1953 Northampton, Massachusetts referendum, found two independent trends: (1) the younger people were more likely to be for fluoridation than older ones, and (2) the people of higher education, occupations, and incomes were more likely to be for it than those of lower social status. They explained that opposition to fluoridation stemmed from the anti-fluoridation voters' hostile and suspicious attitudes towards science and scientists (pp. 38-39).

This "anti-science" theme is echoed in a survey by Kirscht and Knutson (1961). In a stratified area sample of 217 voters in Berkeley, California shortly before fluoridation was rejected, they found those supporting fluoridation differed somewhat from those opposing it in their general evaluation of the effects of science.

They suggested that what characterized the unfavorable group was not so much the things that science does but rather its diffuse, unanticipated consequences and the overemphasis placed on scientific endeavor. They further suggested that the general attitudes set the interpretive framework for the fluoridation issue where values precede the content of particular issues and form a primary frame of reference.

In a study of voters in Cambridge, Massachusetts, Gamson (1961) found that people who voted against a measure, in general felt more powerless than those who voted for it. Arnold Simmel (1961) conducted opinion surveys in two communities which were in the decision-making process to fluoridate their water supplies. Simmel found also this tendency of powerlessness among those who opposed fluoridation. However, he viewed political helplessness as only one of four types of sensed deprivation, others being economic deprivation, prestige deprivation, and rank disequilibrium. His findings confirm the hypothesis that some sense of deprivation is being expressed through opposition to fluoridation. He explains that people who feel deprived tend to express their resentment against society by voting against fluoridation.

Green's study (1961) was more concerned with the anti-fluoridation leaders' ideology rather than the voters'. In interviews with 28 anti-fluoridation leaders in six Massachusetts communities, Green found that intense opposition to fluoridation is enmeshed in a wider constellation of cognitive beliefs and evaluative judgments. Structuring the belief that fluoridation may be poisonous is the

conviction that American society is marked by profound contradictions in American values and current societal conditions. The presumed violation of personal freedom is more fundamental than the danger of poisoning. Opponents of fluoridation are striking out at the increasing impersonality and distantness of the sources of power that have brought about despair and estrangement (Green, 1962:24-25). Gamson (1961) also found that opposition leaders were more articulate in their ideological reasonings than voters who simply voted against it.

Some of the literature which has been reviewed helps in understanding the feelings of alienation, powerlessness, political deprivation, relative deprivation, attitudes of voters, and ideologies of opposition leaders in fluoridation and their relationships to fluoridation defeats. Yet, alienation theory and its variations seem inadequate in explaining fluoridation defeats in a number of communities where there are few alienated individuals. Alienation theory also cannot explain why there are fluoridation victories in some communities and defeats in others.

Crain et al. (1969) have offered seven chief objections to the literature of alienation in general, and as it has been applied to fluoridation:

1. The conception of alienation is not often given adequate operational definition
2. Little attention is paid to how and under what conditions alienation is translated into action
3. When the alienated is moved to act--however it occurs--they are credited with different sorts of actions which ought to be distinguished from each other. Is the brand of alienation expressed in the voting booth the same as that which leads to riots and revolutions?
4. Furthermore, if one equates extremism with alienation, one implication is that revolutionary behavior is always alienated. But alienated from whom or what?

5. Too often investigators who invoke a psychological explanation for voting behavior assume that a "yes" vote on referendum is unquestionably good, and the opposition is therefore unquestionably irrational.
6. While alienation theories may explain the emergence of opposition leaders, it is unlikely that it can be used as an adequate explanation for the consistently lopsided defeats of fluoridation.
7. Almost no effort has been made to relate alienation theory to the actions of governments To what extent is the extremist behavior supposedly attributable to alienation really the result of a governmental action which provides the voter with an extremist alternative? (pp. 50-51)

The answer to the critique of Crain et al. on the alienation approach is that it is inherently unlikely that individual attitudes and community decisions will be explained by the same variable. These decisions have typically been determined by pluralities among the minority of citizens actually voting, which means that one side or the other has been more effective in mobilizing that segment of the community whose attitudes are congruent with the position it advocates. Why people vote against fluoridation and why fluoridation referenda are defeated are simply different questions, though not unrelated, of course. The answer to the first must be applied in a logical way to the second, rather than simply appropriated as an answer to it.

Community Decision Process and Social Structure

Community structure and the adoption of innovation. When innovations are introduced into a community, their adoptions will require individual decisions and/or community decisions.

In adoptions requiring individual decisions there is a tendency to diffuse from persons high in status and central in community

interaction networks to persons lower in status and more peripheral in the interaction network. Another factor is the perceived utility of the innovation.

In adoptions requiring collective decisions the nature of the diffusion process implies that these will be advocated by persons who are (1) higher in status; (2) more central in the interaction network and more influential; and (3) in positions giving them a better chance to perceive the utility of the innovation, i.e., occupation and age.

The nature of the diffusion process also implies that community decisions to adopt innovations are likely to be opposed by those least likely to have adopted innovations diffusing on an individual basis. These persons are likely to be (1) lower in status; (2) more peripheral in the interaction network, i.e., less influential, more isolated, more alienated; and (3) in positions for which the innovation has relatively less utility, and/or higher cost.

Community structure and conflict over adoption decisions.

Coleman's (1957) theory of community conflict argues that when social networks are weak in cities, community conflict is likely to break out. He cites social relations as a basis of response on issues over which disagreement exists, be they economic interests, power interests, or values. He points out two major processes through which social ties draw into a dispute: (1) the psychological phenomenon of identification; and (2) the multitude of ties that individuals are equipped with

through formal and informal associations in the community.

Association and issues are more important pull into controversy for the upper and middle classes (who are more fully integrated into organizations) than for lower-class people. . . . However, when the lower classes do enter disputes, it seems to be more often through issues than through ties to organizations. (Coleman, 1957:19)

Coleman explains that the lower-class people ordinarily respond only to certain kinds of issues, i.e., those which catch up peculiarly the frustrations and dissatisfaction of persons. He cites the data on fluoridation referenda outcomes that suggest the lack of attachment to community organizations or through them to the national government that allows people to vent on the government those frustrations and aggressions which would ordinarily be expressed elsewhere. To test his "attachment" thesis, Coleman tabulated data of fluoridation referenda outcomes which show that the issue is much more likely to win in the smaller towns where there is attachment to community affairs. According to Coleman, these data seem to confirm his hypothesis that the lack of attachment to community affairs permits the release of aggression against city government and the activities it sponsors.

Pinard (1963) used census data to test Coleman's theory of community conflict. Using the results of 262 town meetings and fluoridation referenda, Pinard found support for Coleman's theory, especially in a more favorable vote in small cities which were neither losing population nor having considerable in-migration and in ethnically homogeneous communities. Pinard's "attachment theory" explains the fluoridation defeats in cities with high unemployment or decreasing

populations. His theory argues that when networks are strong, then social control and influence by others will prevent factionalism, and thus, in issues like fluoridation, these people will maintain their influence (Crain et al., 1969:208).

The process by which a community arrives at a collective decision-making is marked by a series of states of development. Some issues are controversial in nature while others are not.

In a study of fluoridation decisions in ten communities in Massachusetts, Sanders (1961) devised a scheme of six temporal stages through which the fluoridation controversy moves in a community. These six stages are initiation, preproposal, proposal, community action, decision, and aftermath. Sanders points out that when the fluoridation controversy has gone through only one sequence of stages in a community and where the anti-fluoridationists have not been very active, the aftermath stage was used by opponents to convince people that the decision was not fairly arrived at. New proposals are put forth for another community decision and thus set the stage for starting a new sequence. In his review Paul (1961) cites the merit of the six-part sequence in facilitating cross-community and cross-issue comparisons.

People who have a general reputation in influencing others play important roles on the outcomes of issues. Investigating the role of reputational leaders on the outcome of issues, Gamson (1966) studied data from interviews with 426 informants of eighteen New England communities ranging in population size from 2,000 to 100,000 with the median