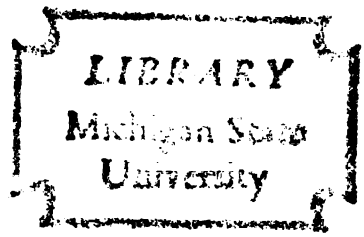

LIFE STYLES VS BEHAVIOR SEGMENTS: A STUDY OF DENTAL HEALTH CONSUMERS

By

Nancy Lois Tschirhart

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ABSTRACT

LIFE STYLES VS BEHAVIOR SEGMENTS: A STUDY OF DENTAL HEALTH CONSUMERS

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The purpose of this research, funded by the Russell W. Bunting Periodontal Study Club, was to examine consumers of dental health care services relative to developments in the area of life style as contrasted to behavior segments.

The concept of life style, defined in at least thirty-two ways, proved ineffectual in dealing with subjective behavior. Proponents of life style prefer to deal with behavior in the aggregate using objective units of analysis. What was needed, however, was a concept that would deal with "chunks" of a consumer's life using subjective units. Kantor and Stephenson have each dealt with such a notion of behavior segments.

What is at issue in studying consumer behavior is that a consumer has a particular set of needs to be satisfied in any given situation, with a set of alternatives that he evaluates as possible solutions to his needs. Such an

interaction of person X in a given situation Y constitutes a behavior segment. In a behavior segment an individual has a subjective criterion for measuring benefits and deficits as they satisfy his needs in that given situation.

Q-methodology is a useful tool for measuring subjective behavior as is characterized in an "XY interaction." This research instrument operantly segments consumers as they relate to a variety of dental health situations.

Subjects were chosen as they reflected a range of demographic variables and a breadth of dental experiences.

Five factors emerged to characterize the possible "XY interactions," or behavior segments. Included here for each is a descriptive shorthand term.

Factor I--The Cool Coper

Factor II--The Suffering Escapist

Factor III--The Reluctant Pragmatist

Factor IV--The Social Idealist

Factor V--The Pressed Duck

The findings of this research proved that consumers could, indeed, be segmented according to their behavior relative to a dental health situation.

Application of the findings are provided in the final chapter that are suggestive of theoretical and practical implications, including specific communication strategies.

Accepted by the faculty of the Department of Advertising, College of Communication Arts, Michigan State University, in partial fulfillment of the requirements for the Master of Arts degree.

Charles R Mauldin
Director of Thesis

May 16, 1974
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The nature and scope of an undertaking such as this, with its resultant worth and value was made possible through the supportive interest of many people.

To the officers of the Russell W. Bunting Periodontal Study Club, my thanks for their financial assistance.

To Dr. John Simpkins, teacher cum friend, my appreciation for the hours tallied in informal chats, that were bound to include some theory, a sense of practicality, a dose of opinion, and some helpful perspective.

To Dr. Charles Mauldin, mentor and likewise, good friend, my sincerest gratitude for his unfailing interest and patience, coupled to a keen desire to share his knowledge and understanding. Together, they served as both a challenge and a buoy. Indeed, without his guidance and infectious humor, the going would have been a lot rougher.

And to my family and friends, the warmest of thanks, for their willing gift of time and the comfort of their encouragement.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

INTRODUCTION

In recent years, scholars and professionals interested in consumer behavior have frequently used the term "life style" in expounding the behavior of consumers. In spite of its popularity, the term has hardly come to a consensus meaning, nor as one shall see, a modicum of agreement about its usefulness to those who would study consumers consuming. Whether or not the arguments about "life style" prove fruitful remains to be seen, but eventually some of the credit (or blame) may come to William Lazer, who provided an early definition in 1968 for scholars to chew on. Lazer conceived of "life style" as . . .

> . . . a systems concept. It refers to the distinctive or characteristic mode of living in its aggregative and broadest sense of a whole society or segment thereof. It is concerned with those unique ingredients or qualities that describe the style of life of some culture or group, and distinguishes it from others. It embodies the patterns that develop and emerge from the dynamics of living in a society.

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[1]William Lazer, "Life Style Concepts and Marketing," in Stephen A. Greyser (ed.), Toward Scientific Marketing (American Marketing Association, 1968), p. 130.

Perhaps the fecundity of the definition lies in its abstractness. One notes that Lazer posited a "characteristic mode of living," a way of living. The concept offered an alternative to the somewhat sterile concept of "life cycle." (One soon discovers that all persons in a certain stage of the life cycle do not react to products, services, or themselves in homogeneous ways.)

If this concept marked a turning away by scholars from an impotent concept, it was not altogether clear what they were turning to. If the concept of "life cycle" had rather clear operational possibilities, "life style" did not. And Lazer offered no guidance in that early reference, suggesting only such abstractions as "unique ingredients" or "qualities" that "embody" divergent behavior patterns of groups. Presumably, the changing direction reflected the growing disavowal of demographics and more fundamentally, of objective characteristics of consumers as useful in understanding consumer behavior. Presumably, also, the changing direction marked the increasing embrace of subjective variables. There already existed a number of predominately unsuccessful attempts to link personality

traits to consumer behavior.[2, 3, 4, 5, 6] Often, these researchers "backslid" and mixed demographics with personality traits in vain attempts to increase the effectiveness of their independent variables.[8, 9, 10]

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[2]William T. Tucker and John T. Painter, "Personality and Product Use," Journal of Applied Psychology, Vol. 45 (1961), 325-329.

[3]Ronald E. Frank, "Market Segmentation Research: Implications and Findings," in Frank M. Bass, Charles W. King, and Edgar A. Pessemier (eds.), Application of the Sciences in Marketing Management (New York: John Wiley & Sons, Inc., 1967).

[4]Daniel Greeno, Montrose S. Sommers, and Jerome B. Kernan, "Personality and Implicit Behavior Patterns," Journal of Marketing Research (February, 1963), 63-70.

[5]Thomas S. Robertson, Consumer Behavior (Chicago: Scott Foresman and Company, 1970).

[6]Ralph Westfall, "Psychological Factors in Predicting Product Choice," Journal of Marketing, Vol. 26 (April, 1962), 34-40.

[7]Joseph M. Kamen, "Personality and Food Preferences," Journal of Advertising Research, Vol. 4 (September, 1964), 29-32.

[8]William F. Massey, Ronald E. Frank, and Thomas M. Lodahl, Purchasing Behavior and Personal Attributes (Philadelphia: University of Pennsylvania Press, 1968).

[9]John G. Myers, "Determinants of Private Brand Attitudes," Journal of Marketing Research, Vol. 1, No. 1 (February, 1967), 73-81).

[10]Arthur Koponen, "Personality Characteristics of Purchasers," Journal of Advertising Research, Vol. 1, No. 1 (September, 1960), 6-12.

Definitions and Operations

But the heyday of the subjective variable was at hand, and concepts such as "life styles" and "psychographics" were (and perhaps are) still to have an impact. Scholars still have not agreed upon appropriate units of analysis. And given a position on units of analysis, broad constructs such as "life styles" and "psychographics" tend to overlap or completely merge. (One finds some writers using the terms interchangeably.)[11, 12, 13, 14] Perhaps this explains much of the confusion, disagreement, and ambiguity in the literature.

For example, one finds Plummer (1971) operationalizing "life styles" by first segmenting consumers on the basis of overt behavior (level of product usage), then on

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[11]William D. Wells, "Psychographics: A Critical Review" (unpublished working paper, Chicago: University of Chicago, November, 1973).

[12]Lester R. Dorny, "Observations on Psychographics," in Charles W. King and Douglas J. Tigert (eds.), Attitude Research Reaches New Heights (American Marketing Association, 1970), pp. 200-201.

[13]William D. Wells and Douglas J. Tigert, "Activities, Interests and Opinions," Journal of Advertising Research, Vol. 11, No. 4 (August, 1971), 27-35.

[14]William D. Wells, "Seven Questions About Life Styles and Psychographics," in Boris W. Becker and Helmut Becker (eds.), Marketing Education and the Real World and Dynamic Marketing in a Changing World (American Marketing Association, 1973), pp. 462-465.

the basis of an amalgam of units including attitudes, interests, opinions and demographics.[15, 16, 17]

One finds Ziff (1972) defining "life style" by overt behaviors that include uses of leisure time, home entertaining, and "community involvement."[18]

One finds Yoell (1972) complaining that there is really nothing new about "life styles"; that when one scratches "life styles," one discovers the "product personality," "product image," and "personality profile" concepts of Ernest Dichter, vintage 1939.[19]

One finds Ziff (1972) identifying "life styles" as a subclass of a larger set of variables that she labeled "psychographics."[20] Meanwhile, Wells (1973), using the

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[15]Joseph T. Plummer, "Life Styles and Advertising: Case Studies," in Fred C. Allvine (ed.), Combined Proceedings (American Marketing Association, 1971), p. 293.

[16]Joseph T. Plummer, "Life Style Patterns: A New Constraint for Mass Communications Research," Journal of Broadcasting, Vol. XVI, No. 1 (Winter, 1971-1972), 79-89.

[17]_____, "Life Style Patterns and Commercial Bank Credit Card Usage," Journal of Marketing, Vol. 35 (April, 1971), 35-41.

[18]Ruth Ziff, "Closing the Consumer-Advertising Gap Through Psychographics," in Boris W. Becker and Helmut Becker (eds.), Marketing Education and the Real World and Dynamic Marketing in a Changing World (American Marketing Association, 1972), p. 459.

[19]William A. Yoell, "Can There Be a Universal Behavior in a Diverse Society?" in Russell I. Haley (ed.), Attitude Research in Transition (American Marketing Association, 1972), p. 113.

[20]Ziff, op. cit.

terms "life styles" and "psychographics" interchangeably, found no less than thirty-two different definitions in two dozen papers dealing with the subject.[21]

While scholars do not seem to be coming to consensus on definitions or units of analysis, they are perhaps coming closer together in another matter, namely turning away from believing in the relevance of very general life styles (as Lazer defined them, for example) to specific classes of consuming behavior. The alternative would seem to involve dealing with "life style" as a situation-specific matter. Just as attitude theorists such as Rokeach (1966) had earlier called for examining the situational aspects of attitudes,[22] some scholars now called for the analysis of life styles within the context of a particular product category.[23, 24, 25, 26, 27]

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[21]William D. Wells, Psychographics: A Critical Review" (unpublished working paper, Chicago: University of Chicago, November, 1973), p. 3.

[22]Milton Rokeach, "Attitude Change and Behavioral Change," Public Opinion Quarterly, Vol. XXX, No. 4 (1966-1967), 529-550.

[23]Harry E. Heller, "Defining Target Markets by Their Attitudes Profiles," in Lee Adler and Irving Crespi (eds.), Attitude Research on the Rocks (American Marketing Association, 1968), p. 46.

[24]Shirley Young Grey, "Psychographics Research and Marketing Relevancy," in Charles W. King and Douglas J. Tigert (eds.), Attitude Research Reaches New Heights (American Marketing Association, 1970), p. 221.

[25]Yoell, op. cit., p. 116.

[26]Ziff, op. cit., pp. 457-458.

[27]Ronald E. Frank, William F. Massy, and Yorman

(Simultaneously, one found personality theorists taking the same tact. Dunn (1970), for example, called for analysis of specific manifestations of individual personality with respect to a product class.)[28]

While the prospect of dealing with "life style" as a situation-specific matter seems to have merit, the term itself seems inappropriate to now describe the phenomenon of interest. Before, one was interested in "life style," a way of living one's life. Now, instead, one is keen on examining a specific life situation, a "unique" or perhaps recurring chunk of the consumer's life. Fortunately, the theorist need not invent new terms and derive new implications, at least until familiar ones are reviewed, for the researcher has expressed interest in "behavior segments," as others have before her. Kantor (1933) long ago postulated the study of segments of behavior as fundamental.[29] Skinner (1938) developed his own version of that theme, although more narrowly (he wanted to deal with behavior segments, but wished not to deal with subjective units of

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Prentice Hall, 1971), quoted in Jerry Wind, "Life Style Analysis: A New Approach," in Fred C. Allvine (ed.), Combined Proceedings (American Marketing Association, 1971), p. 302.

[28]Theodore F. Dunn, "Attitude Research Reaches New Heights," in Charles W. King and Douglas J. Tigert (eds.), Attitude Research Reaches New Heights (American Marketing Association, 1970), p. 203.

[29]J. R. Kantor, A Survey of the Science of Psychology (Bloomington, Indiana: Principia Press, 1933).

analysis).[30] Bentley (1935) first attended to the spacial and temporal suppositions of behavior segments,[31] and others have followed.[32, 33]

Stephenson (1953), after Bentley, rejected the postulations of isolated behavior "spaces" or "worlds" but chose instead to study behavior segments in situ, not as a concept to be developed and tested, but as a phenomenon, "much as a mountain might be surveyed apart from the land mass of which it is a part."[34] Of special interest, Stephenson held that the study of behavior segments from the subjective vantage point would be of decided usefulness and provided techniques and operations for probing subjective behavioral segments. Stephenson held that specific behavior segments were not matters of simple person-product interactions, but involved certain situational conditions that he called "facilitating conditions." Thus a behavior

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[30]B. F. Skinner, The Behavior of Organism (New York: Appleton-Century Company, 1938).

[31]A. F. Bentley, Behavior, Knowledge, Fact (Bloomington, Indiana: Principia Press, 1935).

[32]K. A. Lewin, A Dynamic Theory of Personality: Selected Papers (New York: McGraw-Hill Book Company, Incorporated, 1935).

[33]R. Cantril, et al., "Psychology and Scientific Research. III. The Transactional View in Psychological Research," Science (1949), pp. 517-522.

[34]William Stephenson, The Study of Behavior (Chicago: University of Chicago Press, 1953), pp. 94-99.

segment would involve a person (X), a product (Z), and relevant facilitating conditions (Y).[35] An example of such an "XYZ interaction" appears in his description of housewives' uses of tuna fish:

> In a study on the promotion of tuna fish, one begins by interviewing housewives to elicit from them their opinions about it--how they use it, what they prefer, what others say about it, what they have read about it. From the protocol it is a simple matter to collect statements of opinion, as distinct from fact, about tuna fish. To say "I like the white flesh only" is opinion; to say that "the last can I bought cost 58 cents" is a matter of fact. Our concern systematically is always with opinion. . . ."[36]

Segmenting the housewives according to their opinions, two factors, or "groups," were found to exist that shared similar behaviors:

> . . . the women of [one] "group" are interested in tuna fish largely as a "filler" for a staple meal--to give flavor to a casserole of macaroni or rice; the others use it as a "snack" only, for a dainty, weight-watching lunch or the like. Obviously different social factors are involved--women with low incomes and many mouths to feed are likely to use the fish as a "filler;" women, alone, are more likely to use it as a "snack."[37]

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[35] _____, The Play Theory of Mass Communication (Chicago: University of Chicago Press, 1967), p. 192.

[36] William Stephenson, unpublished paper expounding methodological and theoretical foundations in application of Q-methodology to advertising, Columbia, Missouri, University of Missouri, 1971, pp. 9-10.

[37] Ibid.

On the surface, Stephenson's description is one of a consumer-product interaction. The role of "facilitating conditions" was described by Mauldin (1972).[38]

> The part that facilitating conditions play becomes apparent when one considers the situation in which the consumer uses the product. One of the tuna fish users provides an example. For the housewife who uses tuna fish as a "dainty, weight-watching snack," the fish enters into a minor, recurring episode in her life. Perhaps she is busy at home and becomes hungry. She goes into the kitchen and surveys the contents of the refrigerator, then the cabinet. Perhaps, as Stephenson suggested, she is concerned about her weight. Perhaps, also, she wants something that can be quickly and easily prepared. Perhaps she wants variety, a change from the lunch she had yesterday. Tuna fish fills the bill. It is not overburdened with calories, nor too time-consuming to prepare, and, now that she thinks of it, tuna fish could be rather tasty. Such an episode is an XYZ interaction in which housewife X, in "snacking" situation Y, chooses tuna fish (Z) as a snack. The "snacking" situation is clearly basic to the selection of tuna fish, and the housewife, in that functional situation, might choose something else as well, some other "snack." A paradigm for such behavior, then would be:
>
> Person X, in functional situation Y, "evaluates" product Z.
>
> The reaction to product Z would be in terms of functional situation Y. Tuna fish is a snack to the hosuewife who uses it in a "snacking" situation, but a "filler" to the housewife who uses it to fill out a staple meal. Presumably, the functional definition of the product would be preserved in the buying situation, i.e., the "snacking" housewife could buy tuna fish as a snack, perhaps buying other snacks at the same time. The other housewife would purchase the fish as a "filler," and would think of it in the same way she might think of hamburger. The two types constitute very different approaches to the fish. "Its significance

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[38]Charles R. Mauldin, "A Subjective Systems Approach: Application of an Image Study to Aggregate Behavior in a Socio-Economic System" (unpublished Ph.D. dissertation, Columbia, Missouri, University of Missouri, 1972), pp. 11-13.

> in the family budget, quality considerations, the type of recipe involved, and so forth, differentiate the segments."[39]

It is these existing needs or wants as characterized by family budgets, recipes, "quality considerations," "and so forth," that define the two behavior segments, or types, of tuna fish users. And those specific needs or wants of a particular person that identify a particular "XY interaction" are governed by a sense of benefits and deficits. That is, in a particular situation, there are certain things a person wants to achieve (benefits) and certain things a person wants to avoid (deficits). Looking at person X in "snacking" situation Y, she wants to have something tasty and easy to prepare (benefits) while avoiding too many calories (deficit). Consequently, she may choose tuna fish over pizza, but not necessarily over a cup of bouillon. Each person determines an acceptable balance of benefits and deficits when it comes to satisfying his needs or wants in a particular situation.

Researchers of consumer behavior investigate different people with different needs or wants and study how those people react to different products (or services) that satisfy their needs or wants.

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[39]William Stephenson, The Play Theory of Mass Communication (Chicago: University of Chicago Press, 1967), pp. 35-36.

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The Research Instrument

Q-methodology has often been used to segment people according to their expressed needs or wants. Indeed, the aforementioned tuna fish study elicited consumer response using Q-technique. There are numerous other examples in which Q-technique was the research tool. These studies can be categorized according to products, services, institutions and more abstract concepts.

Products studied via Q-technique include automobiles,[40] men's toiletries,[41] magazines,[42] and toothpaste.[43] Haley's study of toothpaste users identified four segments--one concerned with decay prevention, which Haley labeled "The Worriers," one with brightness of teeth, "The Sociables," one with the flavor and appearance of the product, "The Sensory Segment, and one with price, "The

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[40]Eric D. Fischer, "The Automobile and the Consumer: Operant Market Segmentation" (unpublished M.A. thesis, East Lansing, Michigan, Michigan State University, 1973).

[41]Ricky H. McCarty, "Packaging and Advertising of Men's Toiletries: An Intensive Analysis of a Pure Type" (unpublished M.A. thesis, Columbia, Missouri, University of Missouri, 1972).

[42]Laurel Booth, "An Image Study of McCall's Magazine" (unpublished M.A. thesis, Columbia, Missouri, University of Missouri, 1968).

[43]Russell I. Haley, "Benefit Segmentation: A Decision-Oriented Research Tool," Journal of Marketing, Vol. 32, No. 3 (July, 1968), 30-35.

Independents."[44] Each consumer segment, Haley noted, "represents a potentially productive focal point for marketing efforts."[45]

Q-technique has been used for such services as golf[45] and for such institutions as libraries,[47] utilities,[48] small colleges,[49] universities,[50] and non-profit organizations.[51]

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[44]Ibid., p. 31.

[45]Russell I. Haley, "Beyond Benefit Segmentation," Journal of Advertising Research, Vol. 2, No. 2 (August, 1971), 3-8.

[46]Dan H. Zimmerman, "Attitudes About Golf: Operationalizing the Kernan and Sommers' Theory of Promotion" (unpublished M.A. thesis, East Lansing, Michigan, Michigan State University, 1974).

[47]William Stephenson, "An Image for Missouri's Public Libraries" (unpublished research paper, Columbia, Missouri, University of Missouri, 1962).

[48]_____, "Public Images of Public Utilities," Journal of Advertising Research (1963).

[49]Philip Ganz, "The Student and the Small College: Operant Market Segmentation" (unpublished M.A. thesis, East Lansing, Michigan, Michigan State University, 1973).

[50]Steven Shinn, "An Image Study of the University of Missouri, Columbia" (unpublished M.A. thesis, Columbia, Missouri, University of Missouri, 1971).

[51]Mauldin, op. cit.

Concepts of a more abstract nature based on Q-technique include studies dealing with mental retardation[52, 53] and with matters of public opinion.[54]

The Proposed Study

The present study on dental health is most closely related to this final group of studies. It is the purpose of this study to utilize Q-methodology as an instrument for identifying behavior segments as they relate to dental health XY interactions.

A further purpose will be to examine the usefulness of the methodology in suggesting communication strategy, themes and ideas so as to facilitate and enhance the dental professional-patient relationship. Such a goal is desirable as it stems from the primary interest dentists have in their patients. Understanding how dentists feel about proper dental health care is one thing. Understanding how today's consumer feels about it is an even more vital concern.

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[52]Gerald F. King, "Sex Education for the Mentally Impaired: An Attitude Segmentation Study" (unpublished Research Report, East Lansing, Michigan, Michigan State University, May, 1974).

[53]Charles R. Mauldin and Janeen A. Mauldin, "Institutional Employee Attitudes About the Retarded" (unpublished Research Report, Columbia, Missouri, University of Missouri, November, 1971).

[54]William Stephenson, "Application of Q to the Assessment of Public Opinion," Psychological Record, XIV (1964), 265-273.

The Current State of Dentistry and Dental Health

For those involved in the functions of delivering dental health care services, no further introduction is necessary. For the reader whose knowledge is more likely to fall within the scope of patient, a few basics are provided to position the nature of this study.

About 98 percent of all Americans have suffered, or will suffer, some form of dental disease; 25 million living Americans have no teeth left; 9 out of 10 people age 60 and above do not have any teeth; about 42 million people have never been to the dentist; and in 1970 alone, at least 60 million teeth were pulled.[55] Those statistics are not nice numbers as far as dentists are concerned. Over the years dentists have struggled to instill within people the desire to maintain proper dental health care. The dental profession has undertaken various programs to facilitate better dental care. Nearly all dentists actively teach the tenets of preventive dentistry to their patients. They encourage regular check-ups, usually scheduled every six to twelve months as the dentist sees fit. Styles of toothbrushes and toothbrushing have changed over the years with emphasis today on soft-bristled brushes used with an angular, rotary motion. Plaque has come into focus as the most serious of problem areas to control. Dentists

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[55]Thomas McGuire, The Tooth Trip (New York: Random House, Incorporated, 1972), pp. 1-11.

prescribe the use of disclosing tablets or liquid that brightly color harmful plaque as sources needing special cleaning attention. Dental floss is the toothbrush's companion in removing plaque and decay-causing particles from between the teeth.

Dentists and their auxiliaries use supplementary instructional materials such as pamphlets, visual slides, cassette-recorder devices, and compact audio-visual displays to encourage better dental care by their patients. Mobile units now travel about rural and suburban areas dispensing dental health care services to the needy, including visitations to the nearby school systems.

These programs are all well and good, but how does the consumer perceive them and the dentists' desire for proper care? This is the more important question. For once the profession understands the various types of consumers, then will it know where to start to be able to communicate with them.

Prior Research

Dental health consumer research done in the past has been found to be of limited value, particularly when it comes to practical applications. Available data concentrate on the barriers (or deficits) to good dental health behavior. These "barriers" are essentially interpreted to be demographic statistics. Numerous studies correlate a low education level (usually high school or less) and low

socioeconomic status with poor dental health care.[56, 57, 58, 59] The most prominent study purporting this correlation is one by the American Dental Association conducted in 1958.[61] This was a motivational study that stated the key to understanding peoples' attitudes and feelings, and their dental health practices was the concept of social class. Instead of allowing for consumer feelings to be grouped operantly, i.e., arising of their own accord, a structured category was applied attempting to force conformation. This present study will allow the respondents to define such

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[56]Robert A. Bagramian and David S. Gochman, "Preventive Dental Behavior in Children," The Journal of the Michigan Dental Association, Vol. 55 (January, 1973), 5-7.

[57]Robert M. O'Shea and Shirlene B. Gray, "Dental Patients' Attitudes and Behavior Concerning Prevention," Public Health Representative, Vol. 83 (May, 1968), pp. 405-410.

[58]Joanna J. Samuels, P. Jean Woodbury, Robert A. Bagramian, and John Proshek, "Parents' Satisfaction and Dissatisfaction With Dentistry" (paper presented at the 1972 Annual Meeting of the American Public Health Association, Atlantic City, New Jersey, November 12-16, 1972).

[59]Rhea J. Meyers, Beverly Giss, and Kenneth A. Easlick, "Blocks to Attainment of Optimum Oral Health, A Survey of the Available Literature" (paper prepared at the School of Public Health, University of Michigan, Ann Arbor, during the academic years of 1955-1957).

[60]Kriesberg and Treiman, "Socio-Economic Status and Utilization of Dentists' Services," Journal of the American College of Dentists, Vol. 33 (April, 1966), 151-152.

[61]American Dental Association, "A Motivational Study of Dental Care," The Journal of the American Dental Association, Vol. 56 (March, 1958), 434-443, 567-574, 745-751, 911-917.

consumer groups by their feelings, both positively and negatively, about dental health "XY interactions."

This has been the basic concern, and problem of prior research. Studies attending to dental health consumer behavior have dealt with feelings or behaviors in the aggregate.[62, 63, 64] Instead of dealing with the subjectivity of the situation a person finds himself in when he has to deal with dental health (e.g., does he get excited, scared, anxious, try not to think about it, or merely take it in stride), prior research has concentrated on the XZ interaction, i.e., person X and dental visit Z or toothbrushing Z or flossing Z. This study will examine how different consumers of dental health care think and feel and react (i.e., determine their own benefits/deficits balance) when confronted with a dental health situation. It will investigate how consumers of dental health care services operantly formulate their own behavior segments and, as previously mentioned, implications for communication between the profession and its patients will be suggested.

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[62]Earl Lomon Koos, "The Health of Regionville" (New York: Columbia University Press, 1954), pp. 118-125.

[63]Wesley O. Young and David F. Striffler, The Dentist, His Practice, and His Community (Philadelphia: W. B. Saunders Company, 1964).

[64]Kriesberg and Treiman, op. cit.

CHAPTER II

METHODOLOGY

The rationale for using Q-technique to identify behavior segments was stated in Chapter I. To repeat, Q-technique was chosen because of its successful use in consumer behavior research and because it provides a basis for operantly identifying behavior segments. The term "operant" refers to the fact that the subjects themselves define the segments, first by providing the opinion statements that comprise the instrument and then by performing the operations. Finally, factor analysis of the data provides groupings of like sorts which are independent of and unexpected by the researcher.

Selection of the Q-Sample

Subjects were chosen for in-depth interviews to reflect a wide range of opinions about dental health. They were chosen on the basis of sex, age, income, race, education, marital status, family size, and occupation. Included were both persons working within the profession of dentistry and those not associated with dentistry as a

profession. There were additional criteria for selection that were significantly important in that they reflected a range of dental health experiences. Dental health behavioral background of the interviewees spanned from one person who had but a few cavities to one who had spent over $6,500 for a complete dental restoration. Additional background included average toothbrushings per day and dental flossings per month, average number of months between dental visits, self-evaluation as to satisfaction or dissatisfaction with appearance and condition (i.e., healthiness) of mouth and teeth, age at first dental visit, and the reason each respondent had for disliking (if indeed he did) dental visits.

The interview schedule was arranged to elicit the widest range of opinions from the respondents. Two versions of the schedule were prepared, one for dental professionals and one for everyone else. The two schedules were very similar except for questions directed to the dental professionals as regards their perceptions of patients, the cost and method of educating dentists and auxiliaries, and the state of socialized dentistry (see interview schedules in Appendix A).

The interview schedules for both groups began with general questions about dentists, their hygienists, dentistry as a profession and evolved to more specific questions about the interviewee as a dental patient, his expectations, his behavior in the dentists office, his

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personal dental hygiene. Finally, questions were asked regarding dental aids used, channels of communication that influence dental behavior, and the effects of dental advertising. Non-directive interviewing techniques were used. The questions were asked neutrally, the prompting minimal. The object of each interview was to exhaust the respondent's opinions about dental health.

From a theoretically limitless number of statements of opinion about dental health, some 300 opinion statements were gathered from sixteen interviews. No more than sixteen interviews were conducted, because the interviewer extracted no "new" opinions from the last interview, that is, with wording exceptions, the opinions duplicated those in the previous interviews.

The 300 statements were reduced to fifty-seven, eliminating duplications and idiosyncratic statements. The final fifty-seven statements were selected on the basis of self-reference that is, they allowed respondents to project their own interpretations upon them. The Q-sample can be categorized into statements dealing with the dentist (his image, his behavior, his competency), dentistry as a profession (implications of responsibility to society), waiting room feelings (anxiety, nervousness, desire to read magazines), observations while sitting in a dentist's chair (self-perceptions, expectations of the dentist), reactions to pain, impressions regarding cost, personal reactions to brushing, flossing, dentures, and general appearance of

one's teeth, and finally, opinions about personal dental health care. It was thought that such a combination would reflect an individual's feelings toward dental health, hence aiding in the interpretation of behavior segments (see statement set in Appendix C).

The Q-sample was pre-tested by five persons of various ages and dental experiences. After reviewing the Q-sample with these people, the wording of several statements was changed to clarify their meanings.

Selection of Respondents

Quota control sampling was used in selecting the respondents, the P-sample. The P-sample was classified into selected categories thought to be relevant to differences in feelings about dental health. The P-sample comprised the same variables as the subjects in the depth interview. Restated, they are: sex, age, income, race, education, marital status, family size, and occupation, in addition to dental health experiences. Of the original sixteen subjects interviewed, seven were included in the P-sample.

Administration of the Q-Sample

The Q-sample was administered to sixty-five persons. Errors occurring during the execution negated the use of five of those Q-samples. Of the sixty used, each subject was asked to perform a Q-sort (a ranking of the statements) to describe what seemed to him to be important or significant. The respondents placed the statements on a value

scale according to their projected interpretation of them. First, an individual in the P-sample was asked to sort the statements into three piles. One pile contained those statements with which he agreed (+), another pile those statements with which he disagreed (-), and a third those statements about which he was neutral or could not make up his mind (0) (see instructions for sorting statements in Appendix B).

The respondents then sorted the statements into piles that satisfied the following frequency distribution.

N = 57	Most Disagree											Most Agree	
Value:	-6	-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5	+6
Pile Number:	1	2	3	4	5	6	7	8	9	10	11	12	13
Number of Statement:	2	3	4	5	5	6	7	6	5	5	4	3	2

Respondents were asked to comment on their reasons for placing particular statements at the -6 and +6 ends of the continuum. In addition, respondents were asked to indicate the area of the distribution diagram in which their neutral statements occurred. The reason for this was to determine if the respondent's neutral area differed from the neutral column outlined on the distribution diagram. As was the case, most answers of a neutral nature ranged from 0 to -1; that is, subjects tended to somewhat agree

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with slightly more statements than with which they disagreed.

Analysis of the Data

The sixty completed Q-sorts were processed by the University of Missouri IBM 360/65 computer using the QUANAL program developed at the University of Iowa by N. Van Tubergen. The respondents' sorts were intercorrelated to provide a correlation-matrix, which the computer then factored using the principle-axes method. Factors are thus obtained, made up of groups of individuals who have sorted the statements in a similar manner. The factors are then rotated orthogonally through a varimax solution, to obtain mathematically a maximum number of "pure" loadings (significant loadings[1] on one and only one factor).

The Spearman weighting formula[2] was then applied to the factor loadings. Individual sorts for each factor were weighted according to the factor loadings. Then the computer added the weighted rankings across each statment, producing an "average" sort for each factor. After converting the arrays to z-scores, the computer arranged

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[1]Significant factor loadings are determined by computing the standard error for a zero correlation coefficient; SE = 1/n, where n = number of statements. In this case, SE = 1/57 = .17. Thus, loadings greater than .42 (2 1/2 SE) are significant at p .01.

[2]Weighting is by means of Spearman's formula: $\frac{1}{1-r^2}$. Charles Spearman, The Abilities of Man (New York: Macmillan Company, 1927), Appendix XIX.

statements on a "most agree-most disagree" continuum for each factor. The array for each factor provided the basis for interpretation of the factor.

The factor analysis yielded five factors judged "interpretable," based on two criteria. One interprets only those factors with at least a minimum number of persons with significant "pure" loadings. The number chosen for this study was four persons. Second, the QUANAL program computes eigenvalues, the amount of variance accounted for by each factor, and it is then possible to reject a factor when the amount of variance accounted for is less than a minimum amount of variance, as represented by a designated eigenvalue. It is common for factors with eigenvalues less than 1.000 to be judged as uninterpretable, and that criterion was used in this study. The five factor solution included as "pure" loadings, the sorts of fifty-three of the sixty subjects. With the data analyzed, one is ready to interpret the data and that step is reported in the following chapter.

CHAPTER III

INTERPRETATION

Introduction

In a study using Q-methodology, individual respondents sort a group of statements into a distribution wherein the placement of all statements constitutes a behavior segment (the entire sort). Each sort is correlated with each other sort, and those sorts correlating beyond a given level of significance are grouped together, producing factors. The sorts for each factor are then averaged, to produce a "typical" sort representative of that factor. Each factor is different from every other factor and the "typical" sort represents the behavior for those persons loaded on the factor. Factors are models of how people see the subject matter from their subjective viewpoints, and in representing behavior segments, it is stressed, the factors are operant; i.e., concepts determined by the respondents in performing their task, but not by the researcher before the research began.

The process of interpretation of each factor involves seeking the explanation of statements in the sort.

Stephenson has defined interpretation as fitting "the meanings of Q-statements, with their scores, into an overall explanation of the factor."[1] Interpretation of Q-factors consists of explaining what the relations of elements within each factor are, what makes them representative, and how factors are related to other factors. While seeking these answers is a subjective task for the researcher, the interpretation must be based on the operant evidence, the data and the explanation offered must fit that data. Thus, it is common practice in Q to qualify the interpretation as follows: if the reader disagrees with the interpretation, he may seek his own solution from the data listed in the appendices.

As previously noted, five interpretable factors were generated and examined individually. In interpreting the factors, an "if-then" approach is used, i.e., one examines combinations that emerge in the factors, and attempts to explain why these combinations occur. The comparisons involve individual statements, groups of statements, and combinations of comparisons, until conclusions are reached.

Early attention is also given to consensus items, or those statements upon which all the factors essentially agree.[2] Inter-factor agreement upon opinion statements can

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[1]William Stephenson, "Immediate Experience of Movies" (Columbia, Missouri: University of Missouri, 1962).

[2]A consensus item is defined as a statement where the factor scores differ by less than 1.0 standard score across the five factors.

be of great importance in improving communication with consumers of dental health care. Special attention is also afforded to discriminating items, or those statements ranked significantly higher or lower by one factor than by any of the other factors. Finally, one arrives at a generalized explanation for the factor, an algorithm, that explains the schema represented by the factor array in question.

The interpretation is offered in three parts: (1) a two-word label which supplies a convenient "handle" or reference point for the factor, (2) a brief thumbnail sketch describing each factor, and (3) an expanded sketch, with evidence, providing a more detailed explanation and discussion of the factor. Finally, because the sort for each factor represents a "typical" behavior segment, and because the algorithm given for each factor represents a hypothetical person (the Cool Coper), the factor is referred to in third person. ("Hypothetical" is meant to refer only to the interpretation. Presumably, persons with significant loadings on a single factor are "real" holders of the typical attitude.)

Taken <u>in toto</u>, the interpretation, made up of consensus items and factor explanations, is used in various ways. Certain interesting theoretical implications are drawn, e.g., a comparison with the American Dental Association's motivational study of dental care (1958), and likewise, many practical implications are suggested. Practically, the interpretation is used in generating communication

approaches to reach consumers of dental health care, and creative communication ideas are formulated. These are described in detail in the conclusions chapter. As Haley (1971) notes, this kind of study can be used "as a tool for improving communications with the group or groups of consumers selected as the market target by selecting themes which improve the chances of capturing the attention of your prospects."[3]

Brief Sketches

As stated, the factor analysis yielded five interpretable factors. The following are brief descriptions intended to familiarize the reader with the factors before proceeding with a more detailed presentation.

Factor I, The Cool Coper

Populating Factor I are those persons best known as Cool Copers. To such a person, maintaining face is important. No matter how he is really feeling on the inside, he will be very cool, calm, and collected on the outside. That is not to say he deserves an Oscar for acting, because actually, very little about going to the dentist even bothers him.

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[3]Haley, op. cit., pp. 3-4.

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Factor II, The Suffering Escapist

The Suffering Escapist is that dental patient who is petrified at the thought of suffering pain. He suffers from the mere thought of suffering. So, how does he cope with going to the dentist? He goes, but tries all the while to pretend he really is not there. He attempts to mentally escape from the experience. But, even at that, he is not very successful.

Factor III, The Reluctant Pragmatist

Individuals who comprise Factor III are best typified by the term Reluctant Pragmatist. This person is rather bored with the whole experience of going to the dentist, for him it is just another of life's inconveniences. His reaction is intellectually rational, never emotionally tied to the physical sensations experienced. It all pretty much boils down to being a financial transaction when it comes to dental health care.

Factor IV, The Social Idealist

To think of those persons on Factor IV, is to think of a group best characterized by the tag Social Idealist. Such a person is possessed by an overall social consciousness that manifests itself in several areas. This social aspect is coupled to a streak of idealism that colors his beliefs and opinions. It is at that point of discrepancy

between what is desired and what actually is that the Social Idealist meets frustration in the guise of reality.

Factor V, The Pressed Duck

The expression Pressed Duck is appropriate for those persons on Factor V because they feel very pressed, or pressured, by the state of their teeth and their dental experiences. It is not only a physical experience, but even more so, an emotional one. And most importantly, an experience they would like to duck out of, knowing all the while, they cannot.

Consensus Items

Consensus items, or those statements about which all the factors agree, are very important in a Q-study. These statements can provide the basis for communication strategy. Of most importance are those statements scored highly positive; these statements are not only agreed upon, but are of value to the respondents. Conversely, negatively scored consensus items are to be avoided in communication strategy. Those items surrounding the neutral point offer least in terms of communication. The study yielded thirteen consensus items and this section examines those items.

Items of General Consensus

Nearly one-quarter of the statements (i.e., 13 out of 57) were held in similar regard by all five factors.

Four statements were highly positive, one slightly positive, three essentially neutral and five negative.

The highest positive "agree" statement reflects not so much the respondents' perceptions relative to their own dental behavior, but rather measures their own dentists' performance:

(10) I want my dentist to have modern equipment and to know the best techniques.

FI	FII	FIII	FIV	FV
2.0	1.7	1.8	2.0	2.1

This most highly valued consensus item is a measure of the respondents' expectations. Expecting the best treatment is a very natural desire. These respondents believe they are worth the best, and modern equipment and skills serve to facilitate having mouths and teeth in optimum condition. Less than the best indicates less than the best treatment. Consumers of dental care relish expertise, it is very reassuring, and, it helps to somewhat reduce the anxiety surrounding the dental experience.

While desirous of modern equipment and expert techniques, the respondents value what those seem to insure, that is, a healthy mouth. And a healthy mouth ranks priority over a smile. After all, one without the other is possible, but what good is a nice smile of unhealthy teeth.

(45) A smile is nice, but a healthy mouth is more important to me.

FI	FII	FIII	FIV	FV
1.2	1.2	0.9	1.5	1.5

The next two consensus items relate to a very significant aspect of going to the dentist--pain. Dental patients are willing to admit that a dental visit invariably means pain; at the same time, the less pain, the better (43). Despite the inevitability of it all, respondents believe the degree of pain can be monitored. That responsibility for curbing pain belongs to the dentist. All of the respondents feel that their dentists should be considerate of their sensitivity to pain (34).

(43) I don't expect going to the dentist to be painless, but the less pain the better.

FI	FII	FIII	FIV	FV
1.3	1.5	1.4	0.6	0.7

(34) I don't think it's asking too much for the dentist to go out of his way and be gentle when he knows the pain really bothers me.

FI	FII	FIII	FIV	FV
0.9	0.9	0.8	1.2	0.6

Dental patients like to believe that their dentists care about them. Dentists can exhibit interest in their patients by reminding them with a telephone call or a card when it is time for their next visit.

(25) I like for my dentist to remind me--with a phone call or a card--when it's time for another visit.

FI	FII	FIII	FIV	FV
0.9	0.7	0.5	0.4	0.3

Reflecting a basically neutral stance is the thought one has beforehand of how much better one will feel afterwards for having gone to the dentist. What seems to be at work here is the conflict between the positive reinforcement of performing a good and necessary act (i.e., going to the dentist), and the acute realization of time "lost," money spent, and pain experienced.

(23) One of the things I always think about before I go to the dentist, is that by going, I'll feel better afterwards. That makes going to the dentist a lot easier.

FI	FII	FIII	FIV	FV
0.4	0.0	0.1	0.4	-0.4

Reading magazines in the dentist's waiting room also elicited a relatively neutral response. Relative to other issues, this just does not seem to command much interest, but it is probably still advisable to provide some current reading material.

(19) If I have to wait to see the dentist, I like to spend it browsing through magazines.

FI	FII	FIII	FIV	FV
0.3	0.2	-0.1	-0.1	-0.2

Dental patients seem to expect lectures from their dentists, even if they do not like them. This seems to account for a relatively neutral position regarding dental instruction.

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(6) I can understand when a dentist instructs me about taking care of my teeth, but I don't want him to keep lecturing me about it.

FI	FII	FIII	FIV	FV
0.4	-0.1	0.2	-0.2	-0.2

The general consensus against associating dentures and bi-focals with old age stems from the belief that people of all ages are wearing both today, and if someone needs dentures or bi-focals, he is foolish not to get them.

(7) Getting dentures is like getting bi-focals, you know you're getting old.

FI	FII	FIII	FIV	FV
-1.0	-1.5	-1.5	-0.9	-1.0

Dental patients seem to believe certain aspects of going to the dentist must simply be tolerated as part of the experience (24, 44).

(24) The pain isn't as bad as having someone poking around inside my mouth. That's annoying.

FI	FII	FIII	FIV	FV
-1.1	-1.2	-0.7	-1.0	-0.7

(44) I dislike the <u>smell</u> of a dentist's office. It's so medicinal, so overpowering.

FI	FII	FIII	FIV	FV
-0.9	-1.2	-0.9	-0.9	-0.7

Placing value on a healthy mouth likewise explains the general disagreement with the importance of toothpaste for one's breath. A fresher breath achieved from

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toothpaste is advantageous, but it is secondary to the benefits ascribed to one's teeth.

(49) What toothpaste does for my teeth is one thing, but what it does for my breath is just as important, if not more so.

FI	FII	FIII	FIV	FV
-0.8	-0.6	-0.5	-0.4	-0.4

Teeth are important, that goes unquestioned, but as to their effect on keeping or losing friends, that is dubious.

(26) I'm me, and if I changed my mouth and teeth to have them perfect-looking, I wouldn't be me. People I care about wouldn't like me any better just because my teeth looked better.

FI	FII	FIII	FIV	FV
-0.4	-0.7	-0.6	-0.7	-0.2

Factor I, The Cool Coper

Evidence for Sketch

Factor I, the Cool Coper, is comprised of 19 individuals, 7 females (3 single, 3 married, and 1 widowed), and 12 males (4 single and 8 married). Ages of the respondents ranged from fifteen to eighty-one years, the average age being 30.8 years. The average reported income was $14,768 per year, the lowest of all factors. Discrepancy was made between students financially independent of their parents and those who were not. Total family income of their parents was recorded for all financially dependent

students on all five factors. As regards Factor I, if the four financially independent students were deleted, the average income would increase to $17,767 per year.

There were seventeen Caucasians and two blacks on this factor. The average number of years the Cool Coper has attended school is 14.7; or high school plus almost three years of college. Family size was determined by taking the average of all married couples, inclusive of any children financially dependent upon those couples. The average family size of Factor I is six, or two parents with four children. Occupations included 5 college students, 1 high school student, 1 dentist (general practitioner), 3 associated with factories, 1 special education teacher, 1 lawyer, 1 engineer, 1 advertising person, the wife of an advertising person, the wife of a custodian, a custodian, a Christian Science Practitioner, and a great-grandmother.

Dental health behavioral background data included some of the following experiences. The Cool Coper spent any where from $0.00 to $800.00 on his or his family's teeth last year, the average reported as $148.05. While only two respondents claim to brush their teeth three times a day, the average is 1.7 brushings per day. The Cool Coper is not particularly conscientious when it comes to flossing his teeth; he averages 4.6 flossings per month, although eleven persons said they never flossed. As for visiting their dentists, the respondents claim to go every

8.1 months (excluding the two denture wearers) with only one Cool Coper waiting to go until he has a problem. Fourteen said they were satisfied with the appearance of their teeth and mouth, and twelve agreed that they were satisfied with the condition, or healthiness, of their teeth and mouth. Recalling their age at their first visit to the dentist, the range was from two years to sixteen years, with the average age being 8.4 years. Forced to choose one reason as to why they disliked going to the dentist, 5 said cost, 2--nuisance, 4--anxiety, 4--pain, 2--fear, and 2 said there really was not any thing they disliked.

Following is a detailed analysis of the Cool Coper based upon his interpretation and value of certain statements within the Q-sort. Included are those statements with which he agreed more than any other factor agreed (i.e., positive discriminating items) and those statements with which he disagreed more than any other factor disagreed (i.e., negative discriminating items). In addition, consensus items were utilized when they would enrich the interpretation, or characterization, of the Cool Coper.

This person on Factor I is so cool about the dental experience, he more so than any other factor, could even possibly conceive of going to the dentist as an adventure or he at least finds it interesting (21). The Cool Coper takes his dental visits in stride, he is rather casual and

comfortable about the whole thing. A very well adjusted coping behavior is his; but, one at which he consciously works.

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(21) With nitrous oxide (a relaxing gas) and such modern equipment, going to the dentist is more like an adventure nowadays. It's somewhat interesting and enjoyable.	-0.040	-1.274	1.234

There is a sense of shared responsibility that is very important to this patient. He approaches the dental experience cooly, believing, i.e., conscious that he is in control. He figures dental work is something one has to afford, it has to be done (30). He easily reconciles himself to this, accepting it as a fact of life. Nonetheless, he does have set ideas and expectations, both about himself and the dentist.

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(30) Dental work is just one of those things you have to afford. The work has to be done.	1.757	0.912	0.845

Those statements with which he most strongly disagrees are prescriptive of the behavior that he expects of himself, that he would be most proud to exhibit. He does

not always feel exactly, or as strongly as the statements indicate. He does though, expect (and sometimes it might be more a wish) to behave in a very confident manner. He does not really care to ponder, let alone discuss, his need to project an image of courage and cool.

His strongest disagreement was with the statement that would label him "miserable" (48). He disagrees that going to the dentist is an "exhausting experience" (53). He usually is not nervous while waiting in the dentist's office (37) and if perchance he is, he likes to show how cool he is by reading magazines, nervous or not (19). Such a state of calm, i.e., being cool enough to read a magazine conveys just that image, not only of being cool in front of others in the office, but also to himself. It is rather cool to be brave.

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(48) If I could step away from the dentist's chair and see myself, I'd see a miserable soul waiting for it to be over.	-1.927	-0.733	-1.193
(53) Going to the dentist is an exhausting experience to me.	-1.642	-0.633	-1.009
(37) I'm usually nervous when I'm waiting in the dentist's office.	-1.451	-0.154	-1.296

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(19) If I have to wait to see the dentist, I like to spend it browsing through magazines.	0.309	-0.048	0.358

Fear of the unknown does not bother him (22). He disagrees that the anticipation is really worse than any of the pain (17). He does not dislike the smell of a dentist's office (44). And he does not agree that the pain is not as bad as having someone poke inside his mouth (24).

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(22) Fear of the unknown, not knowing exactly what's going to happen while in the dentist's chair is what I dislike most about going to the dentist.	-1.239	-0.034	-1.205
(17) The anticipation of going to the dentist or of having work done is really worse than any of the pain involved.	-0.811	0.338	-1.149
(44) I dislike the smell of a dentist's office. It's so medicinal, so over-powering.		Consensus Item Average Z-Score:	-0.92
(24) The pain isn't as bad as having someone poking around inside my mouth. That's annoying.		Consensus Item Average Z-Score:	-0.97

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He sees going to the dentist as an experience with which one must cope. He does not even expect it to be painless, but then again, the less pain the better (43). To cope, that is his part of the bargain. He believes in doing his best to be a good and responsible patient. In the same vein, he expects his dentist to be a good and responsible dentist.

Statement	
(43) I don't expect going to the dentist to be painless, but the less pain the better.	Consensus Item Average Z-Score: 1.11

The Cool Coper believes that the three letters D.D.S. (Doctor of Dental Surgery) signify (and insure) expertise. He trusts his dentist. He expects his dentist to be an expert. He not only expects, but believes, that his dentist is an expert (unless given cause to believe otherwise). This firmly held conviction is his reason for going along with whatever his dentist recommends (54). He expects a high degree of professionalism (31) and believes that for his efforts, a dentist should be well paid (40).

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(54) I pretty much go along with whatever the dentist wants to do, because he's the expert.	1.645	0.206	1.440

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Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(31) A good dentist should act professionally and run an efficient office maintaining high standards.	1.60	(highly valued, although not a discriminating item)	
(40) It takes a lot of time and money to get through dental school. It's only fair that a dentist should make a good living afterward.	0.846	-0.348	1.194

The Cool Coper is willing to pay for what he gets. He also expects to get what he pays for. He would not go to a particular dentist, if he did not know beforehand that the dentist was going to help him, and that he would feel better afterwards for having gone (23).

Statement		
(23) One of the things I always think about before I go to the dentist, is that by going, I'll feel better afterwards. That makes going to the dentist a lot easier.	Consensus Item Average Z-Score:	0.10

He expects his dentist to go out of his way and be gentle (34). And most importantly, he expects his dentist to tell him what must be done to help his mouth feel better. He does not expect his dentist to beat around the bush. He is willing to accept his responsibility in taking care of his teeth, and expects the dentist to

assume his. That means telling the Cool Coper exactly what the situation is, and what is needed. No more, no less.

Statement

(34)
I don't think it's asking too much for the dentist to go out of his way and be gentle when he knows the pain really bothers me.

Consensus Item
Average Z-Score: 0.89

Which in turn means, no lectures about his teeth (6). The Cool Coper goes to the dentist for work, not lectures. After all, his presence is proof that he is interested in taking care of his teeth.

Statement

(6)
I can understand when a dentist instructs me about taking care of my teeth, but I don't want him to keep lecturing me about it.

Consensus Item
Average Z-Score: 0.01

He expects his dentist to have modern equipment (10). It is very reassuring because it is a symbol of his expertise. So is an attractive office (35). He realizes that office decor is not really the measure of a dentist's professional stature and performance. The Cool Coper does find it comforting, though. It reflects the dentist's success and he interprets it to mean, "He must be a really good dentist, look at the kind of office he can afford." Outward appearances are important to the Cool Coper. He wants to be cool, and that is much more possible in a

supportive environment. The Cool Coper would respond to the recommendation that qualified a dentist as having "a nice office." He can feel and act much more confident if the dentist looks like he is confident. He tends to be a rather confident person that respects confidence in another. The Cool Coper expects the best dentist because it helps make it easier for him to be cool about the whole thing. It is important to reiterate that the degree of discrepancy between being cool and wanting to be cool is overall quite slight. It varies with each individual and each type of visit.

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(10) I want my dentist to have modern equipment and to know the best techniques.		Consensus Item Average Z-Score:	1.92
(35) I prefer a dentist with an attractive office in a good neighborhood.	0.301	-0.257	0.558

Fulfilling his expectations about having a responsible, expert dentist, tends to bias the Cool Coper's view of dentistry as a profession. That is only expected. If one only deals with experts in any profession, and is generally satisfied, one tends to project such affirmative beliefs over the entire profession. This is what happens with the Cool Coper. His dentist is an expert, with an

attractive office (which necessitates having modern equipment, and more importantly, the skill to use it), and he generalizes his experiences to other dentists. Consequently, he disagrees that dentistry moves too slowly, that improvement and research are needed (16). If his dentist is an expert (or so he thinks), is not everyone's?

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(16) Dentistry moves too slowly. There should be more improvement in dentistry, more research.	-0.904	0.251	-1.155

Another expectation he has regarding the dentist is that he likes his dentist to remind him with a call when it is time for his next visit (25). Basically, it is a part of the service expected--it indicates his dentist's share in the responsibility for healthy teeth. It proves that his dentist is interested in his mouth, if not his money.

Statement	
(25) I like for my dentist to remind me--with a phone call or a card--when it's time for another visit.	Consensus Item Average Z-Score: 0.55

The two-way responsibility for healthy teeth is quite important. The Cool Coper believes he has a

responsibility for teeth, but it is not as great as that which he attributes to the dentist. The Cool Coper on the whole expects the dentist to take care of his teeth, to give him direction. At the same time, the Cool Coper does not really do quite as much as a dentist would like him to do. Behavioral background data on Factor I subjects show that he will brush once a day, usually twice, but sporadically, if ever, flosses. Likewise, his visits to the dentist are little less than a year apart. He cares about his teeth, but he tends to be only as conscientious as he wants to be.

This is an important point because the Cool Coper's behavior is tempered by his belief that the appearance of his teeth somewhat relates to how people treat him (26). Part of that image of being cool implies that people do treat others better when their teeth look better, or at least one cannot be very cool if he goes around with obviously unattractive teeth. As an example, the person with the second highest loading on this factor (second by .001) reminisced about going without his left incisor for ten years--how he mumbled, covered it with his hand and would not smile--that is, until he met his wife and bought a cap.

Statement

(26)
I'm me, and if I changed my mouth and teeth to have them perfect-looking, I wouldn't be me. People I care about wouldn't like me any better just because my teeth looked better

Consensus Item
Average Z-Score: -0.53

The Cool Coper does however, place more emphasis on a healthy mouth than on a nice smile (45). The Cool Coper realizes he can have one without the other, and that a healthy mouth is preferable. The Cool Coper realizes that an unhealthy mouth can detrimentally affect the rest of a person's physiological system. Besides, he says, who could make his lips smile, if his mouth hurt because it was unhealthy.

Statement

(45)
A smile is nice, but a healthy mouth is more important to me.

Consensus Item
Average Z-Score: 1.23

Regarding a healthy mouth, the Cool Coper disagrees that toothpaste is just as important for his breath as for his teeth (49). He brushes to prevent decay and knows that it is the brushing that is foremost in importance--the cleansing effect on his breath is a secondary benefit. Most people on this factor know that they could just as easily use salt or baking soda to do the job, or so they said.

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(49) What toothpaste does for my teeth is one thing, but what it does for my breath is just as important, or even more so.	-0.759	-0.477	-0.282

The Cool Coper does believe that if the only way to have a healthy mouth is to have dentures, then have them. That is cool. He does not associate them or bi-focals with old age (7). Young people today wear both. The objective is to see and eat properly. It is the dentist's responsibility to honestly determine the need for dentures and the responsibility of the patient to accept them.

Statement	
(7) Getting dentures is like getting bi-focals, you know you're getting old.	Consensus Item Average Z-Score: -1.17

A rational approach to dental responsiblity makes the Cool Coper firmly disagree that good teeth are in a person's genes (56). He believes that the only thing about teeth that is inherited, is the number, thirty-two of them. From that point, the environment determines whether they will be good or bad teeth. This explains why he disagrees that cavities are really a person's own fault and can be controlled (14). It is only a slight disagreement however, because he believes that you can control cavities if you

can control the environment. If a "bad" environment, i.e., one of poor nutrition, infrequent dental visits, improper or negligent brushing cannot be controlled, the result will be cavities. Likewise, an environment in which the aforementioned concerns are adequately monitored, should help in the prevention of cavities.

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(56) I think good teeth are in a person's genes. No matter how well you take care of your teeth, you have to be born with good teeth in order to have good teeth during your life.	-1.313	0.048	-1.361
(14) Cavities are really a person's own fault and they can be controlled by eating the right things, by avoiding sweets and brushing and flossing daily.	-0.350	0.696	-1.045

All in all, this Cool Coper is a very self-controlling kind of person.

Factor II, The Suffering Escapist

Evidence for Sketch

Factor II, the Suffering Escapist, has 7 persons on it, 4 females (2 single and 2 married) and 3 males (all married). Ages ranged from twenty-one to sixty-one years,

the average age being 39.3 years. The average reported income was $21,428 per year, the highest of all factors. There was one student on this factor, but she is financially dependent upon her parents, and therefore, it was their family income that was reported.

Six respondents were Caucasians and one anonymous respondent did not indicate her race. The average number of years the Suffering Escapist had attended school was 15.7 years; or a high school degree and nearly four years of college. The average family size, based upon married couples, inclusive of any children financially dependent, was 3.1, or two parents and one child. Occupations included 2 housewives of newspaper advertising men, 1 advertising man/teacher, 1 secretary, 1 college student, 1 newspaper advertising photographer, and 1 dentist (general practitioner).

Dental health behavioral background data included the following. The Suffering Escapist spent anywhere from $50.000 to $600.00 on his or his family's dental health care last year. With the dentist registering $0.00 and one response not given the average spent was $308.33 last year.

Brushing teeth averages out to 2.1 times per day and flossing reported to be 7.7 per month. He claims to visit his dentist every 14.1 months. Five said they were satisfied with the appearance of their mouth and teeth, and all, but one of those same five (i.e., a total of four) were satisfied with the condition of their mouth and teeth.

First visits occurred from age two years to seven years, or an average age of 5.5 years, with one not given. The dentist gave no reason for disliking dental visits; among the others, 2 said anxiety, 2--fear, 1--pain, and 1--cost.

Following is a detailed analysis of the Suffering Escapist based upon the same criteria as Factor I.

The Suffering Escapist is very nervous while waiting in the dentist's office (37) and like most dental patients, is not quite sure of what to expect. However, his fear of the unknown bothers him more than anyone else (22). His mind works overtime in this anxious state, and yet his anticipations are worse than any of the actual pain (17). What fertilizes that fear of pain? The thought of needles! He hates needles (2); but there is a hierarchy of pain for this Suffering Escapist. To him, it is better to bear the pain of a needle so as to thwart the pain of the work involved to correct the problem (27). He hates to suffer pain so much he might even let his dentist experiment a little, if it meant less pain (42).

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(37) I'm usually nervous when I'm waiting in the dentist's office.	1.076	-0.786	1.862

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(22) Fear of the unknown, not knowing exactly what's going to happen while in the dentist's chair is what I dislike most about going to the dentist.	1.708	-0.771	2.479
(17) The anticipation of going to the dentist or of having work done is really worse than any of the pain involved.	1.727	-0.296	2.024
(2) If only there wasn't that needle when I went to the dentist . . . then I wouldn't mind going so much.	1.421	-0.896	2.317
(27) I prefer a little bit of pain to the dead feeling that novocaine leaves in my mouth.	-1.768	-0.401	-1.367
(42) I want a cautious, conservative dentist. I don't want my dentist using my mouth for experimenting.	0.233	0.879	-0.646

It may seem that someone who hates pain so much would avoid going to the dentist, unless he had a problem. Not so (1). It is because of that he does go, and for two reasons. One--preventive dentistry, i.e., by going for periodic check-ups he circumvents serious problems and likewise, the serious pain associated with those kinds of

problems and their correction. Secondly--the Suffering Escapist would probably like to master his fear and certainly is not proud of it, such that the act of "regular" visits, exclaims (outwardly, at least), "See, I'm not really afraid."

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(1) It isn't sensible to go to the dentist just to be going. When you have a problem--that's when to go to the dentist.	-2.298	-1.581	-0.717

Similarly, he prefers to have the work spread out over several appointments (11) because it is easier to endure a little pain, bit-by-bit, rather than all at once. And the less pain the better (43).

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(11) I'd rather have my dental work spread out over 2 or 3 appointments than have it done all at once.	0.240	-0.768	1.008
(43) I don't expect going to the dentist to be painless, but the less pain the better.	1.474	1.013	0.461

How does he suffer dental pain when the time comes? By blocking out the experience; by escaping from the situation as best he can. He keeps his eyes closed (12) and

heaven forbid if the dentist should magnify the suffering by discussing his practice and techniques (3), or worse yet, give a blow-by-blow description of what he is doing (13). He wants information to ease the anxiety and counter the fear of the unknown, but it must be of a special nature. It cannot be along the lines of "I've switched from five inch needles to four inch ones," or "Now I'm going to dig out all the dead nerve pulp." It should be of an abstract, non-personal nature. The Suffering Escapist does not want to associate anything he hears to what is going on in his mouth at that very moment. Nothing that will remind him of the pain should be mentioned.

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(12) I prefer to keep my eyes closed when the dentist is working on my teeth.	0.796	-0.500	1.296
(3) I like to talk to my dentist about his practice and about his techniques.	-0.451	0.329	-0.780
(13) When the dentist is working on my teeth, I want him to explain what he's doing--step-by-step.	-1.855	0.139	-1.993

The Suffering Escapist is well aware of the fact that he is enduring pain so as to alleviate or prohibit a greater pain. And the sooner it is all over the better;

for that is the best feeling for him, knowing he would not have to go again for awhile (41). And furthermore, he is not ashamed to admit the misery of the whole experience (48).

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(41) One of the very best feelings about going to the dentist is knowing I won't have to go again for awhile.	1.909	-0.126	2.035
(48) If I could step away from the dentist's chair and see myself, I'd see a miserable soul waiting for it to be over.	0.214	-1.268	1.483

Suffering pain is a very personal experience and with the Suffering Escapist, he has more than enough to worry about when it comes to himself, let alone worry about anyone else's dental needs or experiences (8, 46, 47).

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(8) People need some kind of outside help with dentists. The layman has no way of judging a dentist's work, of finding out who is a good dentist.	-1.191	0.775	-1.966

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(46) I want my dentist to be good with children, to treat them as people who can understand.	-0.010	1.071	-1.081
(47) I feel that something should be done to make dentists available to everyone.	0.050	1.703	-1.654

He is not really unreasonable about going to the dentist, probably because he feels just a little embarrassed about his attitude and coping behavior. He does not hold the experience of pain against the dentist, as a matter of fact, if his dentist could not see him in an emergency, he probably would not stop going to him (57). And more than likely for two reasons. First, he does not take very well to the thought that his mouth might be in the state of an emergency, that is pretty serious, and of course it implies pain. Second, the fear of the unknown involved in selecting a new dentist and learning to feel somewhat comfortable all over again would be too much to take. The fewer the unknown variables with which he has to deal, the better.

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(57) I would stop going to a particular dentist if he wouldn't see me when I had an emergency.	-0.228	1.330	-1.558

Then again, he may in his very personal experience of pain lash out against the dentist as a defensive measure, as if to sublimate his real fears, by disagreeing with the statement, that a dentist should make a good living considering the time and effort it takes to become a dentist (40).

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(40) It takes a lot of time and money to get through dental school. It's only fair that a dentist should make a good living afterward.	-0.393	-0.039	-0.354

No human being's reactions are completely rational all of the time, and as regards a Suffering Escapist, who may inordinately fear pain, he may subconsciously and emotionally react to a professional making all that money while causing him so much pain. Besides, he may guiltily and enviously think, "Look how well that dentist can cope with pain, why can't I?" The degree of disagreement is slight though, probably because he knows in his more rational thought, that for the pain a dentist causes, which of course is unintentional, he is also preventing greater pain.

Factor III, The Reluctant Pragmatist

Evidence for Sketch

Factor III, the Reluctant Pragmatist, is peopled with 9 individuals, 4 females (all married), and 5 males (1 single and 4 married). Ages ranged from twenty-five years to sixty-nine years, the average age being 42.0 years, making it the oldest factor. The average reported income was $20,167. There was only one student (employed as a university instructor) who had recently left the business world to pursue a Ph.D. degree.

All respondents on Factor III were Caucasian. The average number of years the Reluctant Pragmatist had attended school was 12.9 years; or a high school degree and nearly one year of college. The average family size, based upon married couples, inclusive of any financially dependent children, was 5.6, or two parents and roughly four children. Occupations included two secretaries, a sales engineer, the wife of an autoparts company owner, an advertising person, a custodian, a Ph.D. student, a blue-collar "jack-of-all-trades," and a retired grandfather.

Dental health behavioral background data included the following. The Reluctant Pragmatist spent from $0.00 to $1,000 on his or his family's dental health care last year. With one response not given, two at $0.00, the average amount spent last year was $523.75.

Reluctant Pragmatists claim to brush their teeth 1.2 times a day. Six said they never used dental floss; along with one response not given, the average flossings per month were .55 times. Regarding dental visits, three of the respondents said they only went when they had a problem; of the remaining six, their average time between visits was 40.0 months. Six said they were satisfied with the appearance of their teeth and mouth and the same six were also satisfied with the condition, or healthiness, of their teeth and mouth.

Age at first visit ranged from three years to seventeen years, with the average being 7.7 years. Reasons for disliking dental visits fell into three categories; 1--pain, two--nuisance, and six--cost.

A detailed analysis of the Reluctant Pragmatist, based upon criteria similar to Factor I, follows herewith.

Factor III is comprised of individuals who view going to the dentist as one of life's inconveniences, i.e., a necessary nuisance (28). A Reluctant Pragmatist reacts to the dental experience more on a rational, intellectual level than on a physical one. He knows he has to go to the dentist and take care of his teeth as he sees fit. At the same time, he is reluctant because he would just as soon not have to go. Going to the dentist, even taking care of his teeth, is a bothersome necessity.

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(28) More than anything else, I think of going to the dentist as an inconvenience, a nuisance.	0.513	-1.397	1.909

Seeing the dental experience as such tends to make him consider the dentist in a very practical position--a seller of service. He, as the patient, is the buyer. Now, considering any financial transaction of a substantial amount, one usually finds a buyer to be inquisitive. He is apt to haggle; to weigh the costs and benefits; in other words, to be somewhat reluctant and pragmatic about his decision "to buy."

So is the nature of a Factor III individual. As regards dentistry, this person realizes that the dentist knows more than he, but he is reluctant to accept everything the dentist says as gospel truth; after all, a dentist is still in business to sell his services (54). Likewise, he expects the dentist to make recommendations, but he will make the final decision (20). He will do so having considered the alternatives, and aware of what it is going to cost and why (9). Such is the case when approaching a situation with a pragmatic, business-like attitude.

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(54) I pretty much go along with whatever the dentist wants to do, because he's the expert.	-0.548	0.754	-1.302
(20) A dentist should explain things and make recommendations, but I want to make the final decision about what treatment I undergo.	1.512	0.334	1.178
(9) I want my dentist to tell me what he is charging me, and why.	1.821	0.839	0.982

Pragmatism infers having definite opinions. This person has specific expectations regarding dentistry. His lack of control over certain things in dentistry and dental health care account for his reluctance. This is why he rejects the thought of letting a dentist experiment in his mouth (42). Knowing what has to be done and what it is going to cost, eases his anxiety. He wants to know what he is getting for his money. Likewise, he does not want to waste time over something of dubious value that might leave him permanently worse off; or wanting for further appointments to remedy the problem which would only add to the original inconvenience.

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(42) I want a cautious, conservative dentist, I don't want my dentist using my mouth for experimenting.	1.343	0.602	0.742

What does this mean? In the opinion of the Reluctant Pragmatist there are two distinct words that describe his dental expectations: Inconvenience and Cost, and an area of overlap between the two. Of course, he also has expectations as to the benefits he will receive.

He expects a dentist to act professionally and maintain high standards (31). This is indicative of the integrity and value of the exchange. He believes the dentist should accord his patients special handling and gentle treatment (34). This makes him a little less reluctant.

Statement	Z-Score
(31) A good dentist should act professionally and run an efficient office maintaining high standards.	1.02 (valued highly, although not a discriminating item)
(34) I don't think it's too much for the dentist to go out of his way and be gentle when he knows the pain really bothers me.	Consensus Item Average Z-Score: 0.89

The Reluctant Pragmatist is apt to be impatient regarding his dealings with the dentist. Having selected a dentist, he expects him to be available as he needs him (57). That is what he is going for, and paying for--service. He would stop going to a dentist who would not see him in an emergency because such an experience would cause him a great deal of inconvenience: the initial inconvenience of merely having to go to the dentist; the inconvenience and reluctance of having to locate another willing dentist; all on top of the inconvenience caused when an emergency disrupts the status quo. A dentist best watch how he handles emergencies where the Reluctant Pragmatist is concerned, lest he lose a patient!

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(57) I would stop going to a particular dentist if he wouldn't see me when I had an emergency.	2.489	0.651	1.838

Being pragmatic about the situation, he expects his dentist to have modern equipment (10). It also eases his reluctance, since he dislikes the noise and vibrations characteristic of the old-fashioned drill. Modern equipment makes sense to this person. It is certainly more important than an attractive office (35). He expects to pay for the equipment and skill of the dentist, not for the

decor. The decor does not contribute to the value of the service.

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(10) I want my dentist to have modern equipment and to know the best techniques.	Consensus Item Average Z-Score: 1.92		
(35) I prefer a dentist with an attractive office in a good neighborhood.	-1.069	0.085	-1.154

The dentist has to have a reasonable looking office, no back alley garage would do, but neither would an expensive, manicured, fancy set-up either. Both would be suspect, neither practical.

How does he cope with the reality of going to the dentist? Of dealing with the inconvenience of the whole thing? In a very practical manner. He is reluctant to spend any more time than he has to courting the experience. One way he does this is to make sure that when he leaves the dentist's office the experience is completely over. He may accomplish this, for example, by foregoing the shot of novocaine. He prefers a little pain to the dead, numb feeling of novocaine that lingers after one leaves the office (27). Yet, he is pragmatic, and if the situation should call for novocaine, he will take it, probably

somewhat reluctantly, but will do so because it is part of the price he pays for good dental service (2).

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(27) I prefer a little bit of pain to the dead feeling that novocaine leaves in my mouth.	0.266	-0.910	1.175
(2) If only there wasn't that needle when I went to the dentist . . . then I wouldn't mind going to much.	-1.431	-0.184	-1.247

Going to the dentist is such an inconvenience that the Reluctant Pragmatist resists multiplying the inconveniences that come with spreading out the work over several appointments. He prefers to make one trip, disrupt one morning or afternoon instead of several, and have everything taken care of all at once (11).

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(11) I'd rather have my dental work spread out over 2 or 3 appointments than have it done all at once.	-1.432	-0.350	-1.082

He is also reluctant to engage the work of more than one dentist. He feels he is paying his dentist to take care of his teeth, and expects him to do all the work, the whole job (39). It is an inconvenience to travel all

over town, going through "get acquainted rituals" all over again with another dentist's style, procedures, and personality. Besides this cost in time, there is an additional monetary cost when his dentist charges for the initial examination, that says he needs to see a specialist, who will charge for another preliminary exam, to determine what must be done! That also makes for a lot of inconvenient trotting all over town.

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(39) I want my dentist to handle all my dental problems. I don't want to have to go to specialists.	0.538	-1.008	1.546

He is also reluctant to see a dental hygienist every time he goes to the dentist. He wants to decide whether or not he wants to partake of a hygienist's services. He dislikes the thought of making two trips, one for the hygienist, one for the dentist. He resents the regular appearance of a hygienist as a routine expense. If the hygienist were not there, he would be saving time and money.

All in all, going to the dentist certainly is not an adventure for the Reluctant Pragmatist (21). It is not fun. It is a bothersome fact of life that has to be accepted, almost like a haircut. As a matter of fact, whether he is in a dentist's chair, or a barber's chair,

usually makes no difference. Why? More often than not, he is preoccupied and not thinking about what is going on inside his mouth. He probably even has his eyes open, concentrating on other things in the room or staring blankly into space (12). There are exceptions of course, such as a sudden shot of pain or the noise and vibrations of the drill to bring him back to reality (29). These are momentary discomforts that, in effect, are less bothersome than the inconvenience of the situation itself. Like most people, the Reluctant Pragmatist dislikes pain, and the less pain for him the better (43), but he also accepts that as part of the deal, as part of life. Besides, he also believes that one has to act grown up about going to the dentist (15). And to be pragmatic about it, behaving as an adult means accepting things as they are, right down to the smell of the dentist's office (44), and accepting the fact that the dentist has to put his fingers inside one's mouth to do the job (24). It is all part of the inconvenience he accepts, but does not particularly care for.

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(21) With nitrous oxide (a relaxing gas) and such modern equipment, going to the dentist is more like an adventure nowadays. It's somewhat interesting and enjoyable.	-2.110	-0.756	-1.353

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(12) I prefer to keep my eyes closed when the dentist is working on my teeth.	-0.717	-0.122	-0.595
(29) What I dislike most is the noise and vibrations of a dentist's drill.	0.363	-0.290	0.653
(43) I don't expect going to the dentist to be painless, but the less pain the better.	Consensus Item Average Z-Score: 1.11		
(15) You have to be grown up about going to the dentist. When I go, I expect to have to bear a little pain.	0.83 (valued, although not a discriminating item)		
(44) I dislike the smell of a dentist's office. It's so medicinal, so over-powering.	Consensus Item Average Z-Score: -0.92		
(24) The pain isn't as bad as having some-one poking around inside my mouth. That's annoying.	Consensus Item Average Z-Score: -0.97		

The inconvenience aspect also extends to the Reluctant Pragmatist's dental habits. His teeth are important to him as regard their function, not their looks. Consequently, he is a little lax when it comes to brushing. Brushing is like breathing to him, a part of his routine existence; and because of this, he usually is preoccupied

when brushing. He goes through the motions, not particularly caring or concentrating on his stroke. He is reluctant to spend much time brushing, nor does he really use dental floss as evidenced in the behavioral background data for this factor. To him, brushing's a necessary nuisance, and he just does not believe it really makes a difference how you do it, as long as you do it (52). He similarly does not place that much faith in regular dental visits and of all the factors, has the longest average time between visits, usually going when he has a specific problem (behavioral background data).

Statement	Z-Score	Average of Other Z-Score	Difference (Z-Z Ave.)
(52) It really makes a difference which toothbrush and brush stroke you use to have healthy teeth.	-0.987	0.808	-1.795

This functional approach toward dental health care expresses itself in other pragmatic opinions he holds. Because he tends not to pay too much attention to his teeth, as long as they work comfortably, he believes that other people pay as little attention to their teeth and to others' as he does. Of course the sight of obviously decayed teeth or extremely crooked ones, or no teeth at all, would elicit expected attention. But these are atypical conditions. This person has all kinds of other things to cope with in life, including more costly

expenditures and inconveniences than to worry about his teeth as long as they work satisfactorily. Which explains why he is reluctant to listen to lectures from his dentist; even if he is aware of what he should be doing, it just might not be that important (6).

Statement

(6) I can understand when a dentist instructs me about taking care of my teeth, but I don't want him to keep lecturing me about it.	Consensus Item Average Z-Score: 0.01

Dentures do not faze him. He does not really care that he, or anyone else, should be wearing dentures (36). He could not possibly care that he would have to have dentures or bi-focals, both are bought out of a need, i.e., to serve a function of providing greater efficiency (7). As a matter of fact, to have full dentures is rather practical. It eliminates the inconvenience of careful brushing and flossing. More importantly, it eliminates the cost and inconvenience of dental visits. It is understandable why someone who wanted all of his teeth pulled and full dentures put in, would fall on this factor (Subject #18).

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(36) Even when you do get used to wearing dentures, you're always self-conscious that people will notice.	-1.657	-0.156	-1.501
(7) Getting dentures is like getting bi-focals, you know you're getting old.	-1.465	-1.099	-0.366

As for being treated nicer because one looks nicer, a good haircut (or lack of it) is certain to affect peoples' reaction to someone more so than top-notch dental care (18). So goes the mind of a Reluctant Pragmatist.

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(18) People tend to treat you nicer when you look nicer; that's why I take care of my teeth.	-1.396	-0.248	-1.148

Factor IV, The Social Idealist

Evidence for Sketch

Factor IV, the Social Idealist, had 14 individuals identify with it, 7 females (2 single and 5 married) and 7 males (3 single, 3 married, and 1 divorced). Ages ranged from seventeen years to forty-seven years, the average age being 28.3 years, making it the youngest factor. The

average reported income was $17,478. There were five students on this factor; two supported by their spouses, two in high school supported by their parents, and a self-supporting college student. Deleting two would raise the reported annual income to $19,542.

Eleven were Caucasians and three were blacks. The average number of years the Social Idealist had attended school was 16.1 years; or both a high school and college degree, plus the beginnings of graduate work. The average family size, based upon married couples inclusive of any financially dependent children, was 2.7, or two parents and nearly one child. Occupations included a travel consultant, a speech pathologist, an advertising director, a mechanical engineer, three elementary school teachers, two college students, two high school students, a newspaper account executive, a dental student, and a professor of community dentistry (dentist).

Dental health behavioral background data included the following. The Social Idealist spent from $0.00 to $500.00 on his or his family's dental health care last year. With three responses at $0.00, the average amount spent was $190.00.

Social Idealists said they brush their teeth 2.0 times per day and floss 16.3 times per month, with three never flossing and two only once a month. While only one respondent said he goes to the dentist only when he has a problem, the average time between visits is 8.4 months.

Ten said they were satisfied with both the appearance and condition of their mouth and teeth.

The youngest age at which a Social Idealist visited the dentist was three years, and the oldest, nine years; the average age being 5.3 years. Although 2 said they did not dislike going to the dentist, 5 disliked pain, 4 said cost, and 1 vote each for fear, anxiety, and nuisance.

Following is a detailed analysis of the Social Idealist based upon the same criteria as Factor I.

This person exhibits a sense of social consciousness in several specific areas; i.e., as regards the dental profession, his personal dentist, and himself as a dental patient. He looks upon these with a deep sense of moral sobriety. He is idealistic in his sensitivity to many issues surrounding dental health care.

This person's social concern is registered through the statement with which he most agrees. He believes that something should be done to make dentists available to all (47). The Social Idealist believes professional dental health care is a basic right, belonging to all people, a right similar to one's right for education. At the same time, he realizes that everyone does not have a dentist, and ideally, something should be done about that.

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(47) I feel that something should be done to make dentists available to everyone.	2.007	1.214	0.794

This explains why he agrees that dentistry moves too slowly and that more improvement and research are needed (16). He believes dentists are conservative and behind the times and he wishes that everyone could have a dentist, and one that provided optimal dental care. He sees the dental profession as slow to respond, slow to change in order to meet the public's dental needs.

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(16) Dentistry moves too slowly. There should be more improvement in dentistry, more research.	1.207	-0.277	1.484

His staunch belief that everyone should be able to see a dentist regularly dictates his evaluation of the statement, "Dental work is a thing you have to afford, it has to be done" (30). The Social Idealist agrees with this less than any other factor. He believes good dental health care should be made available to every single person, even if he cannot afford it. At the same time, he disagrees that dental bills are excessive (4). Relative to life's other necessities such as food, clothing, shelter or

education, the cost of dental health is not really that expensive (behavioral background data). Most importantly, cost should never be prohibitively expensive.

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(30) Dental work is just one of those things you have to afford. The work has to be done.	0.321	1.271	-0.950
(4) Dentist's bills are not just expensive. They are excessive.	-0.607	0.345	-0.952

The social and idealistic notions also pertain to his feelings and expectations regarding dentists. He can hold a great deal of respect for a dentist. Ideally, he wants to. Often though, his feelings of trust are betrayed, when he finds he cannot respect or trust his dentist. His social consciousness is easily riled when he loses confidence.

He respects the role of a dentist. He, of all the factors, could conceive of being a dentist (51). It is a socially desirable and respected position in our society. And he believes this stature comes with experience, and he prefers not to go to a dentist right out of school (5).

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(51) I'd never want to be a dentist. It's much too tedious, always putting your hands in other people's mouths, giving shots, etc.	-1.258	-0.364	-0.894
(5) I'd rather not go to a dentist right out of school; he may be a good mechanic, but it takes time to understand and work with patients.	0.277	-1.064	1.341

He expects to hear lectures (6), which are more apt to come from a gentle, old, more experienced dentist. There is, however, a reason for this expectation. The Social Idealist envisions his dental appointment as an opportunity to gain knowledge. He rather expects it. If he has to go to the dentist, he will turn it into a chance to improve himself. He can grow in knowledge and experience, and considers it one of the things in his life effort of "becoming." Whatever he perceives his idealized self to be, this is just one minor activity of many that helps to fulfill his desire to succeed.

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(6) I can understand when a dentist instructs me about taking care of my teeth, but I don't want him to keep lecturing me about it.	-0.237	0.069	-0.306

He achieves this while in the dental chair by having his dentist talk about his practice and techniques (3). The dental experience is also a source of social encounter. To the Social Idealist the talents of a dentist do not mean a thing unless the dentist takes a personal interest (50). One of the ways a dentist indicates his interest is by reminding the Social Idealist with a call for his next visit (25).

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(3) I like to talk to my dentist about his practice and about his techniques.	1.038	-0.043	1.081
(50) The talents and abilities a dentist has are one thing, but they don't mean a thing unless he takes a personal interest in me.	0.258	-0.421	0.678
(25) I like for my dentist to remind me--with a phone call or a card --when it's time for another visit.	Consensus Item Average Z-Score: 0.55		

He needs that personal involvement, that personal attention from his dentist. For this he is willing to put up with whatever else goes along with the experience. Even without pretentions about acting grown up (15)--ah, the pang of reality. Pain is one of those requisites. He agrees less than any other factor with the statement, "I

don't expect it to be painless, but the less pain the better" (43). He does expect pain. Besides, the ideal behavior is to expect the pain and take it, how ever you can. For the same reason, he disagrees with the statements, "I hate the smell of a dentist's office" (44) and "The pain isn't as bad as having someone poke inside my mouth" (24). He believes he has to take all the experiences that are involved with going to the dentist. But, he does expect the dentist to show he cares by at least trying to be gentle. He needs to know that the dentist is trying to be gentle more so than any other factor. It helps to build trust and respect.

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(15) You have to be grown up about going to the dentist. When I go, I expect to have to bear a little pain.	-0.248	0.696	-0.944
(43) I don't expect going to the dentist to be painless, but the less pain the better.	0.605	1.231	-0.626
(44) I dislike the smell of a dentist's office. It's so medicinal, so overpowering.	Consensus Item Average Z-Score: -0.92		
(24) The pain isn't so bad as having someone poking around inside my mouth. That's annoying.	Consensus Item Average Z-Score: -0.97		

It also makes sense that before he goes to the dentist, he thinks about how he will feel better afterwards for having gone (23). He will feel better, not so much physically, as he will emotionally and psychologically for having tallied another experience and for the attention and information gained.

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(23) One of the things I always think about before I go to the dentist, is that by going, I'll feel better afterwards. That makes going to the dentist a lot easier.	0.401	0.023	0.378

He expects his dentist to assume this role of servicing both mouth and mind. To do this requires a dentist to have high standards and act professionally (31). This is crucial to the image he holds of the ideal dentist, that dentist who is most fit and trustworthy to deal with the public.

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(31) A good dentist should act professionally and run an efficient office maintaining high standards.	1.728	1.064	0.664

Expecting so much in a dentist can pose a problem when it comes to locating such an expert. That is why the Social Idealist believes people need some kind of outside help in finding a good dentist (8). The Social Idealist is somewhat more adept at doing this, or would hope that he is. His selection criteria includes more factors than "a nice office."

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(8) People need some kind of outside help with dentists. The layman has no way of judging a dentist's work, of finding out who is a good dentist.	1.136	0.193	0.943

He likes a dentist to explain what he is doing step-by-step (13), this along with talking about his practice and technique serve two purposes. First, it reveals the dentist's competency, working to gain the Social Idealist's confidence and giving him a basis for choosing a permanent dentist. Second, the more the dentist talks, the more the Social Idealist picks up, i.e., the more competent he, himself, becomes. It serves as a niche for self-improvement. It helps the Social Idealist find out just how good a particular dentist is if the dentist talks about his modern equipment (10), alludes to practicing preventive dentistry, admits to handling dental insurance, etc.

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(13) When the dentist is working on my teeth, I want him to explain what he's doing--step-by-step.	1.314	-0.654	1.967
(10) I want my dentist to have modern equipment and to know the best techniques.	Consensus Item Average Z-Score: 1.92		

The need for a personable, experienced, competent dentist, the need for "ideal" treatment, make him the first person to turn to a specialist (39). Dealing with more than one dentist also serves to multiply his social encounters and personal interactions and broaden his information base.

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(39) I want my dentist to handle all my dental problems. I don't want to have to go to specialists.	-1.409	-0.521	-0.888

Through his desire to better himself, through his need to become more knowledgeable about dental health care, the Social Idealist knows why he should go to the dentist every six months. He realizes that healthy teeth are a cooperative venture between himself and his dentist. He knows that even if he does take care of his teeth, he still

needs to see his dentist regularly (38). Besides, if he is a good dentist, the Social Idealist has something to look forward to when he goes to the dentist in addition to having his teeth taken care of. The social encounter.

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(38) As long as I take good care of my teeth, why should I go to the dentist every six months.	-1.799	-1.293	-0.506

This desire for knowing what the dentist is doing, and what is going on inside his mouth is vital, because it provides the Social Idealist a sense of control. This need to control, to be in charge, aligns itself with the Social Idealist's desire for perfection. The Social Idealist associates dentures and bi-focals with old age and believes that as long as one takes care of his teeth, the only reason for dentures is old age, or neglect. There is no way dentures look just as good as natural teeth to him (55). Ideally, natural teeth are superior to false teeth, because they are natural, not fake.

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(55) I think dentures look just as good as natural teeth.	-0.862	-0.148	-0.714

The social attitude is further reflected in how he relates to his mouth and teeth. He believes people tend to treat people nicer when they look nicer, so that is why he takes care of his teeth (18). He disagrees that people would not like him better because his teeth looked better (26). All of the factors disagree with the statement, "Toothpaste is just as important for my breath as for my teeth," (49) but the Social Idealist disagrees least. Behavioral background data indicates that the Social Idealist realizes that toothpaste's first purpose is to clean away plaque and help prevent decay, but his concern for social acceptability values any additional benefits, such as fresher breath.

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(18) People tend to treat you nicer when you look nicer; that's why I take care of my teeth.	0.168	-0.639	0.807
(26) I'm me, and if I changed my mouth and teeth to have them perfect-looking, I wouldn't be me. People I care about wouldn't like me any better just because my teeth looked better.	Consensus Item Average Z-Score: -0.53		

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(49) What toothpaste does for my teeth is one thing, but what it does for my breath is just as important, or even more so.	-0.360	-0.577	0.217

Yet, in spite of wanting both a nice smile and healthy mouth, the Social Idealist recognizes the latter as preferable (45). It is preferable because it is the more ideal.

Statement	
(45) A smile is nice, but a healthy mouth is more important to me.	Consensus Item Average Z-Score: 1.23

Factor V, The Pressed Duck

Evidence for Sketch

Factor V, the Pressed Duck, was comprised of 4 individuals, 2 females (1 married and 1 widowed) and 2 males (1 single and 1 married). Ages ranged from fourteen years to sixty-three years, the average age being 33.2 years. The average reported income was $20,750. There was one high school student on this factor, the income of his parents was taken as his family income, as was the case on other factors.

Three were Caucasians and one was black. The average number of years the Pressed Duck had attended

school was 13.5 years; or high school plus one and a half years of college. Deleting the ninth grade student, the average years of education would increase to 15.0; or high school plus three years of college. The average family size, based upon married couples, inclusive of any financially dependent children and their families, was 5.0, or two parents and three children. Occupations included one school nurse, a police officer, a high school student, and the wife of a factory foreman.

Dental health behavioral background data included the following. The Pressed Duck spent from $100.00 to $1,500.00 on his or his family's dental health care last year, or an average of $687.50. Pressed Ducks said they brush their teeth once a day. Unlike any other factor, these respondents said they use dental floss every day. Although one person had dentures which circumvented her need for regular dental visits, she did say she took her children every six months. The average time between visits for the factor was 10.5 months (every six months for two of the respondents and every two years for the high school student who had to wait for his mother, a Reluctant Pragmatist, to take him). All were satisfied with the condition of their mouth and teeth, and all but the high schooler, were satisfied with the appearance.

The age at which the Pressed Duck went for his first dental visit ranged from two years to sixteen years,

the average age being 7.7 years. Two listed cost as their reason for disliking dental visits, one said pain, and the other said nuisance.

What follows is a detailed description of the Pressed Duck based upon the same criteria as Factor I. For the Pressed Duck, going to the dentist is downright exhausting (53). Duck is descriptive of their desire to literally duck the experience, knowing all the while, they cannot. This attitude of resignation exists, however, intertwined with a deep sense of guilt, which all results in a rather anxious state of coping behavior. They are constantly struggling with the pressure of dental problems, all the while actively seeking a solution. They feel compelled to do something about the state of their teeth.

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(53) Going to the dentist is an exhausting experience to me.	-0.371	-0.951	0.580

The Pressed Duck clearly observes and defines the roles of those involved, which in turn determine the accompanying behaviors that predicate the dental experience *in toto*. Take, for example, how he views himself as a dental patient. The statement with which he most strongly agrees states, "Cavities are really a person's own fault and they can be controlled" (14). He believes that the responsibility for a healthy mouth and set of teeth is

solely his own. This takes on greater significance when it is known that he relates to his mouth quite seriously. He believes, "A smile is nice, but a healthy mouth is even more important" (45). He also believes the toothbrush and brush stroke he uses make a difference in having healthy teeth (52).

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(14) Cavities are really a person's own fault and they can be controlled by eating the right things, by avoiding sweets and brushing and flossing daily.	2.171	0.066	2.105
(45) A smile is nice, but a healthy mouth is more important to me.	1.495	1.169	0.325
(52) It really makes a difference which toothbrush and brush stroke you use to have healthy teeth.	1.226	0.255	0.971

This conviction of personal responsibility for having a healthy mouth induces guilt and anxiety. Why? Because he does get cavities. And when he gets them, he feels guilty because he believes if he were properly caring for his mouth and teeth, he would not get cavities. The Pressed Duck feels trapped.

There is a reconciled hopelessness about the condition and looks of the Pressed Duck's mouth. Consequently, he also needs to believe there is hope. One way is his belief that good teeth are in a person's genes (56). Such a belief makes the reality of unhealthy teeth a little easier to cope with.

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(56) I think good teeth are in a person's genes. No matter how well you take care of your teeth, you have to be born with good teeth in order to have good teeth during your life.	0.527	-0.412	0.939

This belief, however, is two-sided. It also signals a futility about the situation. It means that whatever the state of his teeth, he is forever carrying his problems with him. Therefore, he would very much like to think that there was something that he could do, such as using "the right brush and stroke."

Take one such Pressed Duck and introduce a dentist into the situation, and we will further understand him and his behavior. To him, the dentist is "the word," "the source." The pressure of the dentist presses on him, all too clearly, that he is trapped. It is to the dentist he must go to take care of what he failed to take care of.

The Pressed Duck agrees less than any other factor with the statement, "The dentist should go out of his way and be gentle," because the Pressed Duck is resigned to the notion that he deserves to be punished for getting cavities (34). He disagrees less than any other factor about disliking the smell of a dentist's office (44) or that the pain is not as bad as having someone poke inside his mouth (24) for the same reason he disagrees with disliking the noise and vibrations of the drill (29). It is the price he pays for not taking care of his teeth as he believes he should.

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(34) I don't think it's asking too much for the dentist to go out of his way and be gentle when he knows the pain really bothers me.	0.592	0.966	-0.374
(44) I dislike the smell of a dentist's office. It's so medicinal, so overpowering.	-0.653	-0.983	0.330
(24) The pain isn't as bad as having someone poking around inside my mouth. That's annoying.	-0.734	-1.024	0.289
(29) What I dislike most is the noise and vibrations of a dentist's drill.	-0.785	-0.004	-0.781

The dentist is as the scourging task master, or avenging angel as it were; a foil to the Pressed Duck's behavior, or lack of it; a source of guilt. That is why he does not want the dentist to take a personal interest in him (50). He wants to avoid the encounter. But, he does expect his dentist to be good with children (46). Perhaps because a child is more vulnerable, and has less responsibility for his actions? On the other hand, a dentist that is good with vulnerable children would also be good, or kind, with him. Either way, he may feel guilty about seeming childish, which he may feel is absolved by believing he has to be grown up about going to the dentist (15).

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(50) The talents and abilities a dentist has are one thing, but they don't mean a thing unless he takes a personal interest in me.	-1.479	0.013	-1.492
(46) I want my dentist to be good with children, to treat them as people who can understand.	1.321	0.738	0.584
(15) You have to be grown up about going to the dentist. When I go, I expect to have to bear a little pain.	0.899	0.409	0.490

This authoritative force he ascribes to the dentist is characterized more particularly in an "older" dentist. This is interpreted from his desire to have a dentist with modern equipment (10) and through the statement with which he most strongly disagrees, "I'd rather not go to a dentist right out of school" (5). A younger dentist is less threatening to him and tends to lessen his anxiety, somewhat like the difference children perceive between young and old school teachers, the latter more apt to preach from their years of wisened experience.

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(10) I want my dentist to have modern equipment and to know the best techniques.	2.081	1.884	0.197
(5) I'd rather not go to a dentist right out of school; he may be a good mechanic, but it takes time to understand and work with patients.	-1.814	-0.542	-1.272

Whatever his perceptions of dentists, he would still rather duck the whole experience of going to the dentist. One way of at least delaying it, is to have the hygienist work on his teeth. He is eager to see her (33). On one hand, she is less threatening as a source of knowledge and instruction. On the other, the more work she

does on his teeth, the less work the dentist will have to do.

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(33) When I go to the dentist, I expect to see a dentist. I'm not all that eager to see a hygienist every time I go to the office.	-0.972	0.149	-1.122

Regarding the dental experience itself, the Pressed Duck does not see it as an inconvenience or a nuisance (28); it is something he has to do to somehow cope with the futility of his teeth. He also knows one does not go to the dentist only when one has a problem (1), as much as he wishes that were true. Assuming dental responsibility means adhering to the tenents of preventive dentistry. Behavioral background data indicate that the Pressed Duck believes if he does what the dentist says (i.e., preventive dentistry) that somehow this will help his teeth; it is a source of hope.

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(28) More than anything else, I think of going to the dentist as an inconvenience, a nuisance.	-1.633	-0.861	-0.772

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(1) It isn't sensible to go to the dentist just to be going. When you have a problem--that's when to go to the dentist.	-1.237	-1.847	0.609

The worry and anxiety it causes him prove how incredibly important his dental experience is to him. He keeps trying to displace and distance the experience as much as he can. He does not like his dentist to remind him with a call when it is time for his next visit (25). And when he is actually sitting in the dentist's office, he is so consumed by the whole experience mentally and emotionally, he could not think of trying to read a magazine (19).

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(25) I like for my dentist to remind me--with a phone call or a card --when it's time for another visit.	0.283	0.621	-0.338
(19) If I have to wait to see the dentist, I like to spend it browsing through magazines.	-0.215	0.083	-0.297

Plagued mentally and emotionally as he is, it is understandable why he disagrees with the statement, "The best feeling about going is knowing I won't have to go

again for awhile" (41). That is the hopelessness of the whole thing; he is resigned to the fact, that indeed, he will have to go again, and that no matter how hard he may have tried, the dentist is bound to find something wrong. Likewise, just the knowledge that he has to go to the dentist presses against him. He feels guilty and anxious prior to, during and after the experience. He finds no use in attempting to think beforehand how better he will feel afterwards for going (23).

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(41) One of the very best feelings about going to the dentist is knowing I won't have to go again for awhile.	-0.567	0.493	-1.060
(23) One of the things I always think about before I go to the dentist, is that by going, I'll feel better afterwards. That makes going to the dentist a lot easier.	-0.365	0.214	-0.578

He will not feel better. He will probably feel worse. He will have encountered the dentist face-to-face and been made unavoidably aware of the inevitable--dental problems that he failed to prevent. Forced to confront his guilt again he will seek out hope. He will let the dentist make the final decision about what work should be done (20).

This way, if something should go awry, the blame and guilt are not his, but the dentist's, or so he thinks. Believing that "dentist knows best" explains why the Pressed Duck would expect his dentist to assume the final authority and decision-making power.

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(20) A dentist should explain things and make recommendations, but I want to make the final decision about what treatment I undergo.	-1.503	1.088	-2.591

Another reaction, or means of coping, is for the Pressed Duck to believe the dental bills are not only expensive, but excessive (4). After all, for the Pressed Duck, paying for his dental bills is like paying for his sins.

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(4) Dentist's bills are not just expensive. They are excessive.	0.923	-0.038	0.961

The Pressed Duck also has definite feelings about dentures. He tends to see dentures as the ultimate price paid for failing to take proper care of one's teeth. It is a source of much guilt. He is also self-conscious that others will notice such a failure on his part (36). Where

is the hope in such a circumstance? Believing that dentures look just as good as natural teeth (55).

Statement	Z-Score	Average of Other Z-Scores	Difference (Z-Z Ave.)
(36) Even when you do get used to wearing dentures, you're always self-conscious that people will notice.	0.080	-0.590	0.670
(55) I think dentures look just as good as natural teeth.	0.309	-0.440	0.749

Generally speaking the Pressed Duck is self-conscious, apologetic in nature. He disagrees less than any other factor that people would not like him better just because his teeth looked better. He somehow has to believe that for all the discomfort and anxiety involved, it really does matter. His sense of guilt and anxiety relate not only to his dental habits, which he outwardly claims are ideal (behavioral background data reveal that this group of individuals brush and floss daily and visit their dentist every six months, or so they said), but also relate to a strong need to bring his general health under personal control, i.e., the need to overcome not only cavities, but all physical ailments. Such a futile wish, but he refuses to give up hope.

CHAPTER IV

CONCLUSIONS

Theoretical Implications

The objective of this study was to group consumers into behavior segments relative to their dental health "XY interaction." The facilitating conditions that characterize behavior segments are functional, i.e., when confronted with a particular situation Y, person X evaluates alternative Z's, choosing behaviors that result in a suitable balance of benefits and deficits.

This study provides evidence that supports that interpretation of the role that "facilitating conditions," or situational variables, play in identifying behavior segments. It was found that when confronted with a dental health situation, different consumers reacted differently. The different needs or wants that consumers expressed in a dental health "XY interation" fell into five characteristic groups, or rather, five behavior segments. Of course, while there could be more than five such groups, the number of these behavior segments is not unlimited.

The identification of these behavior segments was the first objective of this study, the second being to analyze the usefulness of the information in terms of theoretical and practical implications. Implications for theory cover broad areas of application, while practical implications have specific application to the behavior segments.

While the findings of this study have implications for numerous other studies, perhaps one of the more interesting comparisons is with the American Dental Association's 1958 investigation, "A Motivational Study of Dental Care." Not a statistical study, the intention was " . . . to reveal underlying motives which the respondent would not or could not consciously divulge."[1] The ADA referred to it as "a social psychological study of attitudes toward dental care."[2] Overall, this study collected an array of attitudes and opinions relative to dental health care and services. The difference between this study and the present one is that data collected in the former failed to adequately discriminate among consumers holding particular attitudes or opinions. Instead of dealing with the functional nature of subjective variables, the ADA study proffered such objective variables as social class and education (i.e.,

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[1]American Dental Association, op. cit., p. 434.

[2]Ibid.

socio-economic status) as causal. The present study showed that when faced with a dental health situation, similar opinions were not shared by all consumers. Not only did subjective variables account for five identifiable behavior segments sharing similar opinions, but this study provides evidence for conclusions contrary to those of the ADA study. Review of the subjects on each factor shows that, indeed, across a behavior segment there are people of different ages, races, income levels, educational backgrounds and employment sharing similar needs or wants, attitudes or opinions.

This study operantly segments dental health consumers by their behavior. While the ADA study identified dental health behavior in the aggregate, the present study was able to identify specific behaviors characteristic of segments of the population sampled.

Specific examples will assist in helping one to understand the differences between the ADA study and the present one. One notion suggested by the ADA study is that the act of brushing one's teeth is "symbolically related to sin"; that is, toothbrushing is "an attempt to atone, to purify, to become good."[3] The present study found similar evidence; however, not all people identified with such a notion. This study found that Factor V (Pressed Ducks)

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[3] Ibid., p. 442.

expressed similar feelings that stemmed from the level of guilt they maintain over their cavities. Brushing, for the Pressed Duck, is "an attempt to become good," to brush away the evil, decay-causing particles.

Both studies found that people give credence to the roles heredity (i.e., "Good teeth are in a person's genes."), luck and diet play as determinants of one's dental health.[4] The ADA study attributed such opinions to one's socio-economic status. This study found evidence for such conclusions, but they only characterize individuals on Factor V (the Pressed Duck). For the Pressed Duck, the notion of attributing cavities, and such, to heredity is a means of coping with the sense of inevitability and futility he feels about his teeth.

The ADA study characterized individual as viewing "the dentist (as) the symbol of punishment."[5] The present study shows that while some behavior segments may think as such, those typified by the Cool Coper, Reluctant Pragmatist or Social Idealist probably do not relate to their dentist in such a manner. The ADA Study also noted that rewards and punishments implicit in dental health and dental neglect are not successful in moving people to take care of their teeth.[6] It appears, however, that this is not true for the Pressed Duck.

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[4] Ibid., p. 745. [5] Ibid., p. 750. [6] Ibid., p. 751.

Interest in how people perceive younger versus older dentists was another issue considered by the ADA study.[7] This study found certain types of people that would indeed feel differently about a younger dentist (Factors IV and V). The notion of a young, skilled dentist versus a gentle, old, lecture-prone dentist takes on meaning in light of a total behavior segment. Factor IV (the Social Idealist) tends to prefer an older dentist. A dentist with many years of experience has many experiences about which he can tell and enrich the Social Idealist's dental visit/social encounter. Whereas Factor V (the Pressed Duck) likes a younger dentist who is probably concerned first with getting the patient's oral treatment correct, and if there is time left, then pays attention to other needs the patient may have. The Pressed Duck shuns personal involvement, which is usually more characteristic of an older "willing-to-share-his-years-of-wisdom-in-lecture-form" dentist.

The ADA, upon analysis of its research, advocated updating the dentists' image by releasing information on developments within the dental profession, e.g., research, new equipment, advances in techniques, etc.[8] This study found that indeed, "progress" is important, but "progress" means different things to different behavior segments, a

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[7] Ibid., p. 912.

[8] Ibid., p. 913.

matter for later discussion in the practical applications section of this chapter.

The ADA study claimed that people think that dental costs are too high.[9] This study, however, indicates that the Social Idealist feels that dental costs are not excessive. However, the Reluctant Pragmatist and the Pressed Duck in particular, felt that dental costs are excessive. Yet each reacts differently to the idea of "excessive cost." The Reluctant Pragmatist, for example, seems primarily concerned with value, with whether he gets enough attention and service from the dentist for the money he pays. The Pressed Duck, more than any other group, felt the weight of "excessive cost," perhaps because he feels the inevitability of further cost and his meager hope for a return on that investment.

The ADA study also said that people in general felt that dentists took an interest only in one's mouth and not in one's person.[10] As for taking an interest, this study indicates that one group, the Pressed Duck, may prefer that the dentist attend only to his mouth.

In the present study, consumers of dental health have not been examined as a homogeneous mass, but instead, they have been segmented into groups with divergent feelings about dental health. This marks a major difference between

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[9] Ibid., pp. 913-914. [10] Ibid.

the ADA study and the present study. A further difference lies in the different tasks required of subjects. Where the ADA study sought independent responses to individual items, the present study required subjects to indicate the relative value to them of the opinion statements in the sort. Thus, one has evidence not only of what people feel --for different groups--but indications of why they feel as they do. These differences are perhaps most apparent in the preceding examples.

The present research has additional theoretical implications that deal with the identification of consumers through subjective variables rather than objective ones. Various segmentation instruments have different uses, and likewise, different values. Segmentation based upon such objective variables as demographics or product usage patterns tends to have a more limited value, and perhaps a more limited validity, for communication purposes. Attempting to define and understand a group of consumers based upon their product usage patterns may run into the problem of different consumers using the same product (or amount of it) for different reasons,[11] that is, their functional needs may differ. Inaccurate, or inadequate, measures may result when consumers are grouped by objective,

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[11]John C. Bieda and Harold H. Kassarjian, "An Overview of Marketing Segmentation," in Bernard A. Morin (ed.), Marketing in a Changing World (American Marketing Association, 1969), p. 252.

non-causal variables rather than allowing them to group themselves according to subjective, causal variables.

There appears in the present study no indication of behavior segments paralleling demographic patterns, i.e., there are no predominant demographic patterns, demographic characteristics of all kinds and degrees appear on every factor. As Haley (1968) said of segmentation based upon geographics, demographics or product usage patterns,

> All are based on an ex-post facto analysis of the kinds of people who make up various segments of a market. They rely on descriptive factors rather than causal factors. For this reason they are not efficient predictors of future . . . behavior.[12]

Beyond a discussion of subjective versus objective variables, is a consideration for operant versus "predetermined" units of analysis. Operant units of analysis are those units determined by the subjects of the research to be used to discriminate among behavior segments. "Predetermined" units of analysis are those units selected by the researcher to gauge and analyze consumer behavior. Plummer, for instance, selected 300 statements that reflect a range of activities, interests and opinions (AIO's), including additional facts such as social class, stage in the life cycle, media usage and purchasing patterns.[13] His approach is used by others in the field. Wells and

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[12]Haley, op. cit., p. 31.

[13]Joseph T. Plummer, "Life Style and Advertising: Case Studies," in Fred C. Allvine (ed.), Combined Proceedings (American Marketing Association, 1971), p. 291.

Tigert (1971), two life style researchers using Plummer's format, explain that numerous AIO's come from "intuition, hunches, conversations with friends, readings, head scratchings, day dreaming and group or individual narrative interviews."[14]

Discussion has been offered both defending and criticizing such "pre-determined" units of analysis. The choice of very generalized "pre-determined" units has been preferred because "it doesn't focus on the obvious, doesn't preclude the unexpected."[15] Wells (1968) commented that if a particular type of AIO was missing in a life style instrument, it would be "hard to imagine what that type of item might be."[16] Using such generalized, "pre-determined" units has been criticized by Yoell (1972) as the use of statements that "are artifacts of the designer's preconceptions."[17] He continues by restating a claim of others

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[14]William D. Wells and Douglas J. Tigert, "Activities, Interests and Opinions," Journal of Advertising Research, Vol. 11, No. 4 (August, 1971), 27-35.

[15]Thomas P. Hustad and Edgar A. Pessemier, "Industry's Use of Life Style Analysis: Segmenting Consumer Markets With Activity and Attitude Measures," in Fred C. Allvine (ed.), Combined Proceedings (American Marketing Association, 1971), p. 297.

[16]William D. Wells, "Segmentation by Attitude Types," in Robert L. King (ed.), Marketing and the New Science of Planning (American Marketing Association, 1968), p. 126.

[17]Yoell, "Can There Be a Universal Behavior in a Diverse Society?" in Russell I. Haley (ed.), Attitude Research in Transition (American Marketing Association, 1972), p. 129.

that, "In factor analysis, the factors extracted depend on the particular items which are included in the original rating scale. You (get) out what you put in."[18] Finally, Stephenson (1968) recognized the value of operant units of analysis when he said:

> . . . it is an easy matter to ask (family) members to say what they feel and think about the consuming, shopping, advertising complex. At least we can begin with their reflections on the matters, rather than with ours (as social or marketing scientists). We needn't believe them necessarily. But what they say in depth is likely to be far more apposite to matters than what a Thurstone scale can say in the shallow waters of a weak methodology.[19]

The application such a discussion has to the present study is noteworthy. If, as Wind (1971) admits, the "proper use of AIO's or any other measure of life style is based on the assumption that the set of life style attributes are fairly exhaustive,"[20] then can one argue that units of analysis pre-determined by the researcher are equally, or more, exhaustive than units operantly decided upon by the subjects themselves, independent of the researcher? It is doubtful. One has only to review the very general nature of the "pre-determined," standardized AIO arrays to realize

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[18] Ibid., p. 130.

[19] William Stephenson, "The Contribution of Q to Attitude Research," in Lee Alder and Irving Crespi (eds.), Attitude Research on the Rocks (American Marketing Association, 1968), p. 166.

[20] Jerry Wind, "Life Style Analysis: A New Approach," in Fred C. Allvine (ed.), Combined Proceedings (American Marketing Association, 1971), p. 302.

that consumers of dental heatlh care would not likely be adequately divided into behavior segments by such a tool.

The study of behavior segments has further theoretical implications. Whereas prior dental research investigated the person-product interaction (i.e., person X in the act (Z) of going to the dentist), this research expands that "chunk" of a person's life involved with dental health care. This comes about when one recognizes the importance of the "XY interaction." Dealing with situational variables introduces a significant number of "XYZ interactions" that occur both within and without the dental office. People are thrust into an "XY interaction" that demands a resolution, not only as they sit in their dentist's chair, but even when they see an advertisement for toothpaste, or denture adhesive, or corn-on-the-cob; when they wake up with a toothache; or bite into something and chip a tooth; or when the receptionist calls to notify them of an upcoming dental appointment. This recurring dental health "chunk" of someone's life is broader than "going to the dentist." These behavior segments are not always, or even usually, under the control and influence of the dentist. Looking at it from an "XY interaction," perhaps so; aware of the multitude of "XY interactions," certainly not.

Recognizing the need state, or potential benefits and deficits as a component of the "XY interaction" provides further theoretical implications. As stated in Chapter I,

the bulk of dental health studies concentrated on the "barriers" to desirable dental health behavior, notably cost, fear, and pain. If the intention of studying consumer behavior is to understand consumers, so as to relate and communicate with them, knowing these barriers exist has not proved very useful.

One cannot hope to influence consumer behavior by dealing with such barriers, but should rather aim to understand what moves consumers to behave as they do. This research does that. It examines the needs different people express when confronted with a dental health situation. It suggests why they think dental services are expensive, or why they react to pain as they do, or why they have such a sense of fear.

The usefulness of knowing, for example, that someone dislikes pain, and its very thought, is limited in its value for both understanding the consumer and communicating with him. This study was able to examine such a reaction to pain, not as an isolated measure, but as it related to a particular behavior segment as one measure among many. For example, many dental studies have shown that, indeed, pain is a barrier to regular dental visits. Looking at the Suffering Escapist in this study, one is able to recognize his preoccupation with pain. However, unlike previous studies, this study shows such a person to believe (and usually practice) preventive dentistry, i.e., he maintains a somewhat regular visitation pattern. His motivation to

visit the dentist, rather than stay away, stems from his desire to endure a little pain now so as to avoid a greater pain later (see evidence for sketch in Chapter III). Giving a perspective to such a notion of pain helps one to better understand this person and should provide more specific ideas on how to communicate with him (see practical implications later in this chapter).

A final theoretical implication can be found in Yoell's (1972) criticism of standard life style measurements.[21] He faults such measurements because they only express a likelihood of interest and not the amount of interest in the topic under discussion. This is not the case in the present study. Using Q-methodology compensates for the flaw he cites. Subjects not only determine the areas of interest (via depth interviews), but likewise, determine the level of interest (via Q-sorts). Ranking statements on a continuum from "most disagree" to "most agree," the subjects themselves determine how important, or how valued, certain areas of interest are, and consequently, the level of interest.

Practical Implications

Practical implications may be drawn from the interpretation of the factors. Perhaps the single most important implication of this research is that it gives the

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[21]Yoell, op. cit., p. 122.

dental profession a new way to look at patients. Dentists and their auxiliaries should be able to better understand their patients and their needs. They will, perhaps, be able to see how consumers relate to their dental experience, to their dentists, to their hygienists, and to themselves as patients. But, how does one go about looking at dental patients in this new way? And more importantly, how does one then communicate with those patients?

Practical implications such as these can be divided for discussion purposes into two categories. First, how as a profession, to relate and communicate to dental health consumers, and secondly, how to relate and communicate on a one-to-one basis in the dental office.

Communication by the Dental Profession to the General Public

Haley (1968) said, "No brand can expect to appeal to all consumers. The very act of attracting one segment may automatically alienate others."[22] Adapting his interpretation, no single communication approach will attract and move all dental health consumers. All consumers do not relate identically to dental health, therefore, care must be taken in communicating with those various behavior segments. This study, however, does provide for ideas for

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[22]Haley, op. cit., p. 34.

both general communication strategies and strategies for specific behavior segments.

This information can be used when there is a specific communication task outlined by the profession. For example, if the objective were to plan a communication campaign to fight plaque, there might be evidence for each factor that could suggest a suitable message strategy targeted to each behavior segment. Then again, analysis of the five behavior segments themselves may suggest a particular communication task, suitable for all five groups, or a subset thereof. Perhaps another communication objective would aim to reach all five groups, but with greater emphasis on one or two of them. In such an instance, the information can be gleaned from the research to suggest a commercial pool of "five" announcements, for example, for each of the primary audiences and "two" spots for the secondary audiences. Perhaps for another communication task one message strategy would have appeal to more than one behavior segment. The profession can determine message strategy and content by looking at the evidence for each group once the specific communication task has been outlined.

Those items held in consensus by all five behavior segments can also be used as a basis for communication. Using the two most highly valued consensus items as an example, one can see how message strategies can be adapted for all the groups.

The most highly valued consensus item deals with dentists having modern equipment and the "best" techniques. While important to all groups, evidence suggests that the needs each behavior segment has for "modern equipment" and the "best techniques" may differ. A message could be designed to reach all five groups by attending to the needs of all five at once. Another strategy would be to design two or three messages with each one covering two or three of the needs of the five groups. Finally, five separate messages could be prepared, each one focusing on one need of one group.

A message for the Suffering Escapist based upon this consensus item might emphasize how much easier dental treatment has become with the advances in dental techniques. The Pressed Duck might feel encouraged to know that such advances could eventually give people greater control over cavities and hope for healthier teeth. The Reluctant Pragmatist would probably appreciate knowing that advances in research will make his visits less frequent, less time consuming. The Social Idealist would like to hear evidence that dentists were committed to making proper dental health care available to all. Finally, the Cool Coper would probably enjoy learning about something trivial and tangential that is "cool." For example, knowing that his dentist takes continuing education courses at night (or whenever) to brush up on technical procedures, so as to heighten his own level of expertise.

The next important consensus item deals with the value people place on having a "healthy" mouth. A "healthy" mouth is important to all of the behavior segments, but reviewing the evidence for each sketch, one can see what "healthy" probably means to each. To the Reluctant Pragmatist, "healthy" means teeth that function comfortably with a minimal amount of attention. The Suffering Escapist wants "healthy" teeth that do not hurt. The Pressed Duck wants "healthy" teeth with no cavities. The Cool Coper wants a "healthy" mouth filled with handsome teeth. The Social Idealist wants to understand what constitutes "healthy" teeth and he wants to make sure everyone gets a chance to visit a dentist and have "healthy" teeth.

Communication by the Dentist in His Office

How can dentists use this information in their offices? Following are two specific suggestions.

First, the dentist can recognize different situations that may arise in dealing with his patients. These situations have implications for communication strategy. Secondly, the dentist can react to his patients by organizing a pamphlet display. This kind of display would include pamphlets that speak directly, and differently, to each behavior segment. In such a set-up the consumer himself selects the communication that satisfies his needs. Such an idea is two-fold in its purpose. First, it allows the consumer to react to his own need state, i.e., to determine

what kinds of information would best satisfy his benefits/deficits balance relative to dental health. Secondly, through observation, a dentist could learn to react to his patient based upon the types of pamphlets his patient selected (i.e., based upon the needs the patient seemed to be expressing by his selection of reading material).

Different situations that may arise in a dental office are numerous. Included here are but a few ideas and suggestions for dealing with them.

A patient that seems overly worried about his teeth; who believes that no matter how well he takes care of his teeth, he still gets cavities; who may be apologetic; who possibly avoids eye contact or much personal involvement with the dentist--such a series of situations or types of people should cue the dentist to possibly consider the following communication strategy.

People exhibiting any of these behaviors probably need some hope and encouragement to counter any fatalistic attitude they may have. Such a person may inquire about genes and may question if good teeth are hereditary. He would probably like to know how many of his problems are hereditary, how many are under his control.

He may be the type who seems to get along better with the hygienist than with the dentist. If this is the case, the dentist might consider letting the hygienist spend more time with him, or have her serve as the source of any dental instruction.

He may admit to taking very good care of his teeth, and may show less plaque, for example, than many other patients. He should be positively reinforced with a statement something like, "You know, John, it often seems that the people with more cavities take the best care of their teeth." Such an observation would not only reinforce this type of person, it would not alienate any of the other types of patients, in case the dentist erred in his judgment of the concerns of the patient he was dealing with.

Another set of situations that would indicate that the dentist should react in a particular way would involve a person who was obviously nervous. He may complain to his dentist about pain, or perhaps about the needle. He may make great efforts at keeping his eyes closed while in the dental chair. He may never ask the dentist about what he is doing inside his mouth. Then again, he may ask very general kinds of questions about dental procedures.

He may seem worried about when he will next have to visit the dentist and appear relieved to learn it will not be for six months (or a year).

Implications for communication include allaying his fears. "Pain" is a word that should probably never be mentioned to any patient, but most particularly to him. Any need for information should probably be non-personal, just enough to reduce his anxiety. Not, "This new high speed drill doesn't cause as much pain as the old one," but rather, "What we have to do shouldn't take long at all,

it should be relatively easy." If he seems uncomfortable with the needle, it should be kept out of sight beforehand and as much as possible when the dentist is to use it.

In another situation, a patient may be particularly inquisitive about the dentist's practice or procedures. Another person may want to know step-by-step what is going on inside his mouth. He may ask questions as to how to best take care of his teeth. Another person may notice a new piece of equipment and inquire about research developments the profession is making. One person may wonder if his dentist does any dental work outside his office in the community. Another person may respond in favor of a dentist's efforts to educate his patients.

A dentist can recognize such situations and in his communication react by explaining his procedures, for example. He can explain about advances in dental research that are being made so as to deliver dental health care to everyone. He could elaborate as needed on what it takes to have good teeth and why. He can convey his professional commitment to dentistry and society. He could mention continuing education dental courses that he attends.

There are other possible situations that could arise. There is the type of person who might like to discuss and influence the decision making as to what dental work should be done. Another may quibble over the cost involved. Someone may reject the suggestion to see a specialist, or may indicate he would rather not have to see

the hygienist everytime he comes to the office. Another may prefer not to have novocaine. He may generally seem disinterested in his teeth and may admit to not using dental floss regularly, if at all.

A dentist may react in many different ways. He might consider negotiating over what work should be done, explaining what it will "cost" both in the short run and in the long run. The willingness on the part of the dentist to negotiate may foster a better relationship and elicit more desirable dental health behavior on the part of such a patient.

Such a person might be given the option of having a shot of novocaine.

Depending on how a dentist sees such a person's need, he may do all the patient's work and not automatically recommend a specialist.

These people in general may seem disinterested with their teeth so a dentist must probe for those things that might be important and use those needs as a basis for communication.

Ideas for pamphlet headlines and content are also numerous. Included here are a few suggestions on headlines that might attract and satisfy the interests of each behavior segment.

I. The Cool Coper

"Your Smile: How It Reflects Your Image"

"Five Simple Steps to More Beautiful Teeth"

II. The Suffering Escapist

"How to Cope With Going to the Dentist"

"How to Decrease Your Dental Visits"

III. The Reluctant Pragmatist

"Going to the Dentist: Do You Find It a Nuisance?"

"So, You Don't Want to See a Specialist?"

IV. The Social Idealist

"How Your Dentist Serves Your Community"

"The Dental Profession's Commitment to Research"

"Little Known Facts About Dental Health"

V. The Pressed Duck

"Good Teeth: How Much Is Hereditary?"

"A Dentist Talks to Children"

"Better Teeth: What You Can Do"

One Final Implication

Several ideas have been suggested that would facilitate dentists' understanding and communicating with their patients. A final application of this information might be to institute a role-playing seminar for dentists. In an actual or simulated dental office, dentists could use

the factor descriptions to cast roles for themselves in a hypothetical dentist-patient interaction.

To act out the scene, one dentist would assume the role of a patient--one of the five types described in the study, while another dentist would play himself. The "patient" would then act out a particular situation, as proposed here, or as it might actually happen in a dental office. Dentists observing this role-playing scene would have to make sure that the "patient" was accurately portrayed, neither understated, nor overstated. "Corrections" would be required when a negative, or inaccurate interpretation was offered.

Having adequately enacted the scene, the dentists would then reverse roles, so that the dentist-"patient" would then get a chance to react as a dentist-"dentist" and vice versa. Observations and reactions would be discussed, critiqued, and recorded.

Such a program might train dentists to deal better with their real patients when they have such an opportunity to closely identify with them. This study provides information to use in such a program and it also acts as a springboard by encouraging the exploration of other uses for the factor descriptions.

Limitations

One of the limitations (that can be dealt with by instituting a role-playing seminar) is to avoid getting

caught up in stereotypic behavior. Stereotypes infer "lost" information. They narrow one's vision and consequently, diminish the potential usefulness of the information. Wells (1973) warned that "since no thumbnail sketch can do full justice to the data from which it was derived, the results of a complex study may easily degenerate into stereotyped over-simplification."[23] This information will be useful only as it is practical and has implications for real life situations.

Another consideration is that the research instrument sampled people at a given point in time. (Peoples' actual behavior is dynamic, not static.) An example of this state of change concerns one of the present study's subjects on Factor III (the Reluctant Pragmatist). At the time of interviewing he wanted all of his teeth pulled and replaced with full dentures. He has since established a very good relationship with a particular dentist (for whom his sister works as a hygienist) and has come to value his natural teeth. While he may, in essence, still be typified by that behavior segment, his situation has begun to change as his dentist was willing to react to his needs (the desire for dentures, of course, was not a need, but a symptom of something else).

Recognizing this ongoing state of behavior, it follows that every consumer will not automatically and

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[23]Wells, op. cit., p. 39.

readily conform to a given behavior segment. Obviously, some consumers will barely fall on any factor; some on more than one; some on none at all. Attempting to force conformation by all patients to a particular behavior segment would negate the objective of understanding so as to communicate.

There are three points at which this research could be in error: use of the instrument, making the interpretation and/or applying the findings. The instrument has its own theoretical and mathematical checks. It measures operant behavior, not some entity "pre-determined" by the researcher. The interpretation is performed using standard objective analytical techniques. There are, of course, numerous alternative applications. Such applications represent creative extensions of the interpretation, and, as such, might best be evaluated with consumers prior to their general use.

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APPENDICES

APPENDIX A

FOCUS INTERVIEW SCHEDULES

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FOCUS INTERVIEW SCHEDULES

Schedule for Dental Professionals

1. Did you always want to become a dentist? Why? Is anyone else in your family a dentist?

2. Can you remember your childhood dentist? What do you remember?

3. Can you recall your first visit to a dentist?

4. Do you think your value orientation toward dentistry and dental health came from your family or from your dentist?

5. What does dentistry as a package mean to you?

6. What are some of the innovations that have had a marked effect on dentistry?

7. How do you perceive the role of a dental hygienist?

8. (At this point a recent article on the rising costs of dentistry was presented to the dentist as a lead-in to the following question.) What with such rising costs do you feel the answer lies in socialized dentistry?

9. What about the cost of turning out one dentist today? Do you think the educational process is at its best? Could it be changed? Should it?

10. Do you think dentists differ in terms of their professional beliefs and practices across the country?

11. Why did you decide to practice in this area?

12. How frequently do you see a dentist?

13. Whom do you see?

14. How long have you been going to him? Why?

15. What would make you ever stop going to him? Why?

16. What are your expectations preceding each visit?

17. If you could step away from the dentist's chair when you're a patient, and see yourself--what would you see?

18. Can you tell me how serious your own problems have been?

19. What about the nature of your children's problems?

20. What kinds of treatment have they needed?

21. How often do they see you as their dentist?

22. What kind of health care do you give them?

23. What do your children think about their teeth?

24. If you could create the ideal patient, both during the visit and between visits, what type of person would that be?

25. (At this point comment was made by the interviewer regarding the reactions of dental patients as they categorize their feelings according to pain, fear, cost, implicit trust, cosmetic dentistry, and the "missionary" patient.) What are your reactions to such patient feelings?

26. What do you think motivates people to go to the dentist?

27. What makes them avoid going?

28. What can a dentist do to improve a patient's attitude and behavior regarding dental health care, going to the dentist, etc.?

29. Which dental aids are important? Why?

30. Which do you use? Why?

31. Does today's dentist have sufficient time to keep up on research?

32. How important are salesmen in your profession as regards updating you on new products, techniques, equipment, etc.?

33. How do you feel about current advertising claims in the dental profession?

Schedule for General Public

1. Are you satisfied with your dentist?

2. Does he have a dental hygienist? Are you satisfied with her?

3. What are your views of dentistry in general? As a total package?

4. How many different dentists have you gone to over how long a period of time?

5. Have you noticed differences in dentists according to geographic areas of the country?

6. What do you look for in selecting a dentist? Why is that important?

7. What do you think would make you stop going to a particular dentist? Why?

8. How frequently do you go to the dentist? Why?

9. How do you feel about going to the dentist? Why?

10. What are your expectations preceding each visit?

11. Can you remember your last visit? How long ago? What do you remember about it?

12. Can you recall your first visit to a dentist? What happened? How did you feel?

13. Have you ever gone to a specialist? What for?

14. If you could step away and see yourself when you're in the dental chair, what would you see?

15. How important are your teeth to you?

16. What kinds of things do you do to take care of your mouth and teeth? Why? (Probe for use of dental aids.)

17. What dental aids do you think are the most effective? Why?

18. What dental aids do you use? Why?

19. How did you decide on the particular dental aids that you use?

20. Who or what channels of communication influence your selection of dental aids?

21. What kind of effect do advertising claims have on you? Why do you think that is?

APPENDIX B

INSTRUCTIONS FOR SORTING STATEMENTS

APPENDIX B

INSTRUCTIONS FOR SORTING STATEMENTS

STEP ONE: Read through the 57 statements and sort them into three piles:

PILE A--Those statements with which you agree.
PILE B--Those statements with which you disagree.
PILE C--Those statements toward which you feel neutral or "don't know."

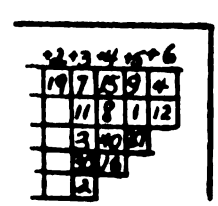
Pile B
Disagree

Pile C
Neutral

Pile A
Agree

STEP TWO: Using the distribution diagram as a guide, pick the two statements with which you most agree and write their numbers in the diagram under (+6) "Most agree." Then, continue filling in the diagram with statement numbers of "agree" statements. For example:

Diagram

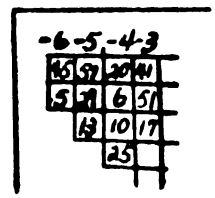


Most
Agree

STEP THREE: When you run out of agree statements, do the same thing with your "disagree" pile. Choose the two statements with which you most disagree and place their numbers under (-6) "Most disagree." Then continue filling in the distribution

diagram with statement numbers until you run out of "disagree" statements. For example:

Most Disagree



Diagram

STEP FOUR: When you run out of disagree statements, choose the statements from the "neutral" pile with which you most agree and continue filling in the "agree" side of the distribution diagram. Then fill in the rest of the "disagree" side of the diagram with those "neutral" statements which you find most disagreeable.

REMEMBER: You can change the order and placement of these statements whenever you wish until you're satisfied with the result. When you're done, you should have numbers in all the boxes of the distribution diagram, representing a range of statements from "most agree" to "most disagree." Double check to make sure you have not written the same number down more than once by accident.

APPENDIX C

STATEMENTS IN THE Q-SAMPLE

APPENDIX C

STATEMENTS IN THE Q-SAMPLE

1. It isn't sensible to go to the dentist just to be going. When you have a problem--that's when to go to the dentist.

2. If only there wasn't that needle when I went to the dentist . . . then I wouldn't mind going so much.

3. I like to talk to my dentist about his practice and about his techniques.

4. Dentist's bills are not just expensive. They are excessive.

5. I'd rather not go to a dentist right out of school; he may be a good mechanic, but it takes time to understand and work with patients.

6. I can understand when a dentist instructs me about taking care of my teeth, but I don't want him to keep lecturing me about it.

7. Getting dentures is like getting bi-focals, you know you're getting old.

8. People need some kind of outside help with dentists. The layman has no way of judging a dentist's work, of finding out who is a good dentist.

9. I want my dentist to tell me what he is charging me, and why.

10. I want my dentist to have modern equipment and to know the best techniques.

11. I'd rather have my dental work spread out over 2 or 3 appointments than have it done all at once.

12. I prefer to keep my eyes closed when the dentist is working on my teeth.

13. When the dentist is working on my teeth, I want him to explain what he's doing--step-by-step.

14. Cavities are really a person's own fault and they can be controlled by eating the right things, by avoiding sweets and brushing and flossing daily.

15. You have to be grown up about going to the dentist. When I go, I expect to have to bear a little pain.

16. Dentistry moves too slowly. There should be more improvement in dentistry, more research.

17. The anticipation of going to the dentist or of having work done is really worse than any of the pain involved.

18. People tend to treat you nicer when you look nicer; that's why I take care of my teeth.

19. If I have to wait to see the dentist, I like to spend it browsing through magazines.

20. A dentist should explain things and make recommendations, but I want to make the final decision about what treatment I undergo.

21. With nitrous oxide (a relaxing gas) and such modern equipment, going to the dentist is more like an adventure nowadays. It's somewhat interesting and enjoyable.

22. Fear of the unknown, not knowing exactly what's going to happen while in the dentist's chair is what I dislike most about going to the dentist.

23. One of the things I always think about before I go to the dentist, is that by going, I'll feel better afterwards. That makes going to the dentist a lot easier.

24. The pain isn't as bad as having someone poking around inside my mouth. That's annoying.

25. I like for my dentist to remind me--with a phone call or a card--when it's time for another visit.

26. I'm me, and if I changed my mouth and teeth to have them perfect-looking, I wouldn't be me. People I care about wouldn't like me any better just because my teeth looked better.

27. I prefer a little bit of pain to the dead feeling that novocaine leaves in my mouth.

28. More than anything else, I think of going to the dentist as an inconvenience, a nuisance.

29. What I dislike most is the noise and vibrations of a dentist's drill.

30. Dental work is just one of those things you have to afford. The work has to be done.

31. A good dentist should act professionally and run an efficient office maintaining high standards.

32. I want my dentist to level with me, to tell me the truth about my mouth.

33. When I go to the dentist, I expect to see a dentist. I'm not all that eager to see a hygienist every time I go to the office.

34. I don't think it's asking too much for the dentist to go out of his way and be gentle when he knows the pain really bothers me.

35. I prefer a dentist with an attractive office in a good neighborhood.

36. Even when you do get used to wearing dentures, you're always self-conscious that people will notice.

37. I'm usually nervous when I'm waiting in the dentist's office.

38. As long as I take good care of my teeth, why should I go to the dentist every six months.

39. I want my dentist to handle all my dental problems. I don't want to have to go to specialists.

40. It takes a lot of time and money to get through dental school. It's only fair that a dentist should make a good living afterward.

41. One of the very best feelings about going to the dentist is knowing I won't have to go again for awhile.

42. I want a cautious, conservative dentist. I don't want my dentist using my mouth for experimenting.

43. I don't expect going to the dentist to be painless, but the less pain the better.

44. I dislike the smell of a dentist's office. It's so medicinal, so overpowering.

45. A smile is nice, but a healthy mouth is more important to me.

46. I want my dentist to be good with children, to treat them as people who can understand.

47. I feel that something should be done to make dentists available to everyone.

48. If I could step away from the dentist's chair and see myself, I'd see a miserable soul waiting for it to be over.

49. What toothpaste does for my teeth is one thing, but what it does for my breath is just as important, or even more so.

50. The talents and abilities a dentist has are one thing, but they don't mean a thing unless he takes a personal interest in me.

51. I'd never want to be a dentist. It's much too tedious, always putting your hands in other people's mouths, giving shots, etc.

52. It really makes a difference which toothbrush and brush stroke you use to have healthy teeth.

53. Going to the dentist is an exhausting experience to me.

54. I pretty much go along with whatever the dentist wants to do, because he's the expert.

55. I think dentures look just as good as natural teeth.

56. I think good teeth are in a person's genes. No matter how well you take care of your teeth, you have to be born with good teeth in order to have good teeth during your life.

57. I would stop going to a particular dentist if he wouldn't see me when I had an emergency.

APPENDIX D

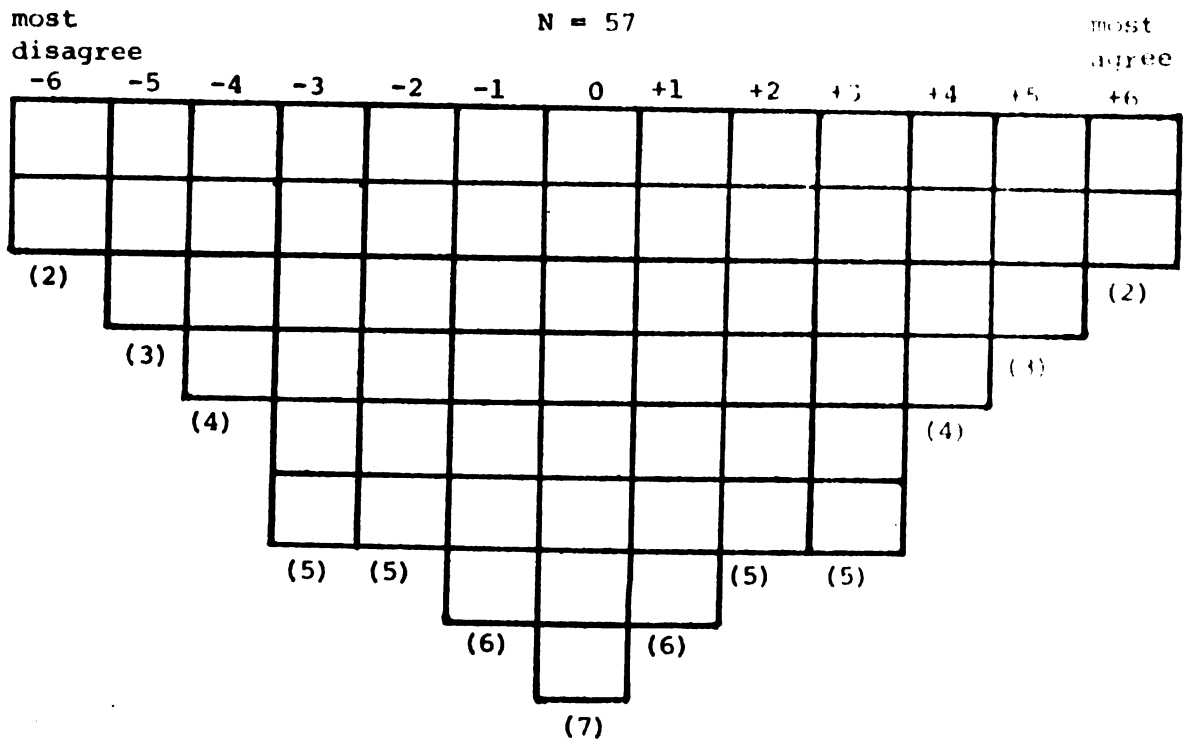
DISTRIBUTION DIAGRAM

APPENDIX D

DISTRIBUTION DIAGRAM

DENTAL HEALTH STUDY
1973

Subject #_____



Interviewer: _____

Name: _____ Sex: _____

Address: _____ Race: _____

Telephone: _____ Marital Status: _____ Age: _____

Family Size: _____ Age(s) of Children: _____

Education: _____ Occupation: _____

Family Income: _____

Indicate which column turned out to be "Neutral" for you: _____

Why did you choose ____ and ____ as the two statements with which you most agree?

Why did you choose ____ and ____ as the two statements with which you most disagree?

APPENDIX E

QUESTIONNAIRE

APPENDIX E

QUESTIONNAIRE

DENTAL HEALTH STUDY
1973

Subject # _____

1. Approximately how much of your family income last year was spent on dental health care?

   _____

2. How often do you brush your teeth? _____

3. How often do you use dental floss? _____

4. How often do you go to the dentist? _____

5. If you know your parents' dental health habits to be different from your own, as you've indicated in items 2-4, briefly explain how they are different. (If the same, please indicate "Same.")

6. Regarding the appearance of your mouth and teeth, are you satisfied or dissatisfied?

7. Regarding the condition (or healthiness) of your mouth and teeth, are you satisfied or dissatisfied?

8. Circle the type(s) of dental problems you have experienced.

   A. No serious problems / no cavities
   B. No serious problems / just cavities
   C. Braces
   D. Bridge work
   E. Cap(s) / Crown(s) How many? ____
   F. Root canal(s) How many? ____
   G. Periodontal work
   H. Gold work
   I. Wisdom teeth extracted
   J. Dentures Partial: ____ Full: ____

9. How old were you when you first visited the dentist?

   _____

10. Select the one reason that makes you most dislike going to the dentist.

    A. Pain
    B. Fear of the unknown
    C. Cost
    D. Anxiety
    E. Other _____

11. Which source(s) or channel(s) do you use to obtain information about selecting a dentist?

12. Which source(s) or channel(s) would you prefer to use to obtain information about selecting a dentist?

13. Which source(s) or channel(s) do you use to obtain information about dental health care?

14. Which source(s) or channel(s) would you prefer to use to obtain information about dental health care?

APPENDIX F

DEMOGRAPHIC DATA

Table F-1.--Factor I, Demographic Data.

Respondent	Sex	Age	Race	Marital Status	Family Size (Greater Than One)	Family Income	Years of Education	Occupation
1	F	23	C	S	0	$3,000	17	Student
2	F	22	C	S	0	$3,000	17	Student
3	M	56	C	M	2	$21,000	12	Factory
11	M	42	C	M	7	$35,-38,000	19	Dentist
15	M	23	C	S	0	$5,500	17	Student
25	M	20	C	S	0	$20,000	15	Student
28	M	43	C	M	6	$30,000	19	Lawyer
30	M	38	C	M	10	$20,000	16	Engineer
33	M	25	C	M	4	$10,000	12	Factory
35	F	15	C	S	6	$18,000	9	H. S. Student
36	F	81	C	W	0	$2,500	12	Retiree
38	F	35	B	M	10	$7,000	12	Housewife/ Custodian
39	F	43	C	M	11	$15,000	14	Housewife/ Advertising
40	M	25	C	S	0	$2,600	17	Student
44	M	60	C	M	2	$20,000	12	Christian Science Practitioner
46	F	30	C	M	5	$10,000	12	Housewife/Factory
52	M	30	B	M	2	$27,000	17	Teacher
56	M	51	C	M	7	$17,000	12	Maintenance
58	M	24	C	S	0	$12,000	17	Advertising

Table F-2.--Factor II, Demographic Data.

Respondent	Sex	Age	Race	Marital Status	Family Size (Greater Than One)	Family Income	Years of Education	Occupation
16	M	56	C	M	2	Not Given	19	Dentist
19	F	41	C	M	3	$19,-$20,000	16	Housewife/ Newspaper Adv.
20	F	29	C	M	4	$20,000	12	Housewife/ Newspaper Adv.
23	F	23	Not Given	S	0	$17,000	16	Secretary
32	F	21	C	S	3	$15,-$20,000	16	Student
34	M	34	C	M	5	$15,000	17	Teacher
53	M	61	C	M	2	$20,000	14	Photographer

Table F-3.--Factor III, Demographic Data.

Respondent	Sex	Age	Race	Martial Status	Family Size (Greater Than One)	Family Income	Years of Education	Occupation
4	F	47	C	M	7	$30,000	14	Secretary
5	F	47	C	M	7	$25,000	12	Secretary
6	M	47	C	M	7	$25,000	14	Sales Engineer
7	F	49	C	M	5	$40,000	16	Housewife/ Parts Dealer
18	M	26	C	M	6	$10,-$12,000	8	Blue Collar
29	M	69	C	M	7	$5,500	10	Retiree
43	M	27	C	M	4	$16,000	18	Student
55	F	41	C	M	2	$17,000	8	Custodian
60	M	25	C	S	0	$12,000	16	Advertising

Table F-4.--Factor IV, Demographic Data.

Respondent	Sex	Age	Race	Martial Status	Family Size (Greater Than One)	Family Income	Years of Education	Occupation
[illegible]	F	29	C	M	2	$19,000	13	Travel Consultant
[illegible]	F	27	C	M	3	$20,000	17	Speech Pathologist
12	M	47	C	M	4	$18,000	17	Advertising
13	F	37	C	M	4	$18,000	[illegible]	Student
22	M	24	C	M	2	$22,000	16	Advertising
24	M	17	C	S	4	$20,-$25,000	12	H. S. Student
41	M	34	C	S	0	$22,500	20	Mechanical Engineer
42	F	20	B	S	0	$1,200	11	Student
[illegible]	F	25	C	M	2	$20,000	16	Teacher
[illegible]	M	17	B	S	2	$10,000	12	H. S. Student
[illegible]	M	29	C	M	2	$9,000	19	Dental Student
[illegible]	[illegible]	[illegible]	[illegible]	D	0	$22,000	20	Dental Professor
[illegible]	[illegible]	[illegible]	B	M	2	$27,000	[illegible]	Teacher
[illegible]	[illegible]	[illegible]	[illegible]	S	0	Not Given	16	Teacher

Table F-4.--Factor IV, Demographic Data.

Respondent	Sex	Age	Race	Martial Status	Family Size (Greater Than One)	Family Income	Years of Education	Occupation
9	F	29	C	M	2	$19,000	13	Travel Consultant
10	F	27	C	M	3	$20,000	17	Speech Pathologist
12	M	47	C	M	4	$18,000	17	Advertising
13	F	37	C	M	4	$18,000	17	Student
22	M	24	C	M	2	$22,000	16	Advertising
24	M	17	C	S	4	$20,-$25,000	12	H. S. Student
31	M	34	C	S	0	$22,500	20	Mechanical Engineer
42	F	20	B	S	0	$1,200	14	Student
45	F	25	C	M	2	$20,000	16	Teacher
48	M	17	B	S	2	$10,000	12	H. S. Student
49	M	29	C	M	2	$9,000	19	Dental Student
50	M	36	C	D	0	$22,000	20	Dental Professor
51	F	32	B	M	2	$27,000	17	Teacher
59	F	23	C	S	0	Not Given	16	Teacher

Table F-5.--Factor V, Demographic Data.

Respondent	Sex	Age	Race	Martial Status	Family Size (Greater Than One)	Family Income	Years of Education	Occupation
8	M	14	C	S	7	$25,000	9	H. S. Student
14	F	63	C	W	0	$18,000	17	School Nurse
17	M	32	C	M	2	$25,000	16	Police Officer
37	F	34	B	M	6	$15,000	12	Housewife/ Factory

APPENDIX G

DENTAL HEALTH BEHAVIORAL BACKGROUND DATA

Table G-1.--Factor I, Dental Health Behavioral Background Data.

Respondent	$On Dental Care Last Year	Brushes/ Day	Flosses/ Month	Months Between Dental Visits	Appearance: Mouth/ Teeth	Condition: Mouth/ Teeth/	Age At First Dental Visit	Reason to Dislike Going
1	$250.00	3	20	12	+	-	2	Cost
2	$ 20.00	2	0	6	+	-	4	Nuisance
3	$ 60.00	2	Waterpik	5	+	+	12	Anxiety
11	$100.00	2	30	6	+	+	13	Pain
15	$ 40.00	2	12	6	+	+	4	Cost
25	$450.00	2	0	12	+	+	6	Anxiety
28	$300.00	2	0	18	+	+	10	Pain
30	$200.00	2	0	6-12	+	+	7	None
33	$ 50.00	2	15	6	+	+	4	Fear
35	$100.00	1	0	12	+	-	5	Fear
36	$ 0.00	1	Dentures	Dentures	+	+	14	Pain
38	$ 50.00	1	0	Problem Only	-	-	16	Pain
39	$800.00	1	8	9	-	-	7	Cost
40	$100.00	3	2	12	+	-	4	Cost
44	$ 68.00	2	Waterjet	6	-	+	6	None
46	$250.00	1	0	12	+	+	14	Cost
52	$ 25.00	1	1	12	-	+	12	Anxiety
56	$ 0.00	1	0	Dentures	-	-	10	Anxiety
58	$ 0.00	2	0	12	+	+	10	Nuisance

Table G-2.--Factor II, Dental Health Behavioral Background Data.

Respondent	$On Dental Care Last Year	Brusnes/ Day	Flosses/ Month	Months Between Dental Visits	Appearance: Mouth/ Teeth	Condition: Mouth/ Teeth	Age at First Dental Visit	Reason to Dislike Going
16	$ 0.00 (Dentist)	2-3	15	3	-	-	7	None
19	$200.00	2	30	6	+	+	7	Pain
20	$150.00	3	0	60	-	-	7	Cost
23	Not Given	2	4	6	+	+	Not Given	Fear
32	$400.00	2	1	6	+	+	5	Anxiety
34	$600.00	2	4	12	+	-	2	Fear
53	$600.00	1	0	6	+	+	5	Anxiety

Table G-3.--Factor III, Dental Health Behavioral Background Data.

Respondent	$On Dental Care Last Year	Brushes/ Day	Flosses/ Month	Months Between Dental Visits	Appearance: Mouth/ Teeth	Condition: Mouth/ Teeth	Age at First Dental Visit	Reason to Dislike Going
4	$1,000.00	2	4	6	+	+	7	Pain
5	$ 750.00	1	0	24-36	+	+	7	Cost
6	$ 750.00	2	0	8-12	-	-	5	Nuisance
7	$1,000.00	2	0	4	+	+	4	Nuisance
18	$ 650.00	1/7	0	Problem Only	-	-	3	Cost
29	$ 0.00	1	0	Problem Only	+	+	17	Cost
43	$ 40.00	1	1	180	+	+	6	Cost
[illegible]	$ 0.00	1	0	Problem Only	-	-	17	Cost
[illegible]	Not Given	1	Not Given	12	+	+	4	[illegible]

Table G-4.--Factor IV, Dental Health Behavioral Background Data.

Respondent	$On Dental Care Last Year	Brushes/ Day	Flosses/ Month	Months Between Dental Visits	Appearance: Mouth/ Teeth	Condition: Mouth/ Teeth	Age at First Dental Visit	Reason to Dislike Going
9	$150.00	2	12	6	+	+	3	Cost
10	$ 0.00	2	30	24	+	+	8	Pain/Cost
12	$175.00	2	4	6	+	+	6	Fear
13	$175.00	2	0	3-6	0	-	7	Cost
22	$440.00	1	1	6	+	+	5	Pain
24	$300.00	2	0	9	+	+	3	Cost
31	$200.00	3	30	6	+	+	4	Nuisance
42	$ 0.00	2	1	6	-	+	7	Pain
45	$100.00	2	30	6	+	+	5	Pain
48	$ 0.00	1	0	Problem Only	-	-	9	Cost
49	$200.00	1	30	6	+	+	5	Anxiety
50	$400.00	2	30	12	+	-	5	Pain
51	$ 20.00	3	30	6	+	+	3	Not Given
59	$500.00	3	30	12	-	-	5	Not Given

Table G-5.--Factor V, Dental Health Behavioral Background Data.

Respondent	$On Dental Care Last Year	Brushes/ Day	Flosses/ Month	Months Between Dental Visits	Appearance: Mouth/ Teeth	Condition: Mouth/ Teeth	Age at First Dental Visit	Reason to Dislike Going
8	$ 750.00	1	30	24	-	+	2	Cost
14	$ 100.00	2	30	6	+	+	4	Nuisance
17	$1,500.00	1	30	6	+	+	9	Cost
37	$ 400.00	Dentures	Dentures	Children: 6	+	+	16	Pain.

APPENDIX H

UNROTATED FACTOR LOADINGS

Table H-1.--Unrotated Factor Loadings.

Respondent	Factor I	Factor II	Factor III	Factor IV	Factor V
1	0.408	-0.045	-0.123	0.318	0.345
2	0.572	0.270	0.276	0.312	0.191
3	0.625	0.111	0.169	0.041	0.226
4	0.202	0.342	0.568	0.280	0.152
5	0.251	0.023	0.637	0.361	0.068
6	0.274	0.208	0.629	0.253	-0.095
7	0.166	0.214	0.413	-0.070	0.241
8	0.219	0.040	0.058	0.287	0.625
9	0.386	0.341	0.192	0.406	0.378
10	0.262	0.329	0.201	0.411	0.059
11	0.501	0.104	-0.032	0.470	-0.016
12	0.145	0.205	0.244	0.531	0.142
13	0.083	-0.189	0.412	0.594	0.192
14	0.254	0.135	0.298	0.104	0.398
15	0.585	0.021	0.017	0.447	0.415
16	0.339	0.387	0.158	0.118	-0.268
17	0.309	0.224	0.186	0.258	0.709
18	0.050	0.028	0.412	-0.272	0.086
19	0.433	0.512	0.127	0.261	0.076
20	0.306	0.556	-0.001	0.179	0.061

Table H-1.--Continued.

Respondent	Factor I	Factor II	Factor III	Factor IV	Factor V
21	-0.444	-0.090	-0.298	-0.178	-0.341
22	0.334	0.131	-0.013	0.511	0.236
23	0.104	0.595	0.185	-0.035	0.278
24	0.482	0.135	0.155	0.578	0.085
25	0.529	0.341	0.177	0.222	0.057
26	0.483	0.101	0.048	0.316	0.022
27	0.368	0.244	0.121	0.347	0.333
28	0.607	-0.153	0.360	0.284	0.048
29	0.159	0.026	0.550	0.107	-0.053
30	0.515	0.089	0.417	0.158	0.356
31	0.338	0.040	0.107	0.482	0.317
32	0.024	0.699	0.283	-0.015	0.135
33	0.539	0.341	0.097	0.204	0.333
34	0.086	0.698	-0.124	0.222	0.085
35	0.516	0.281	0.239	0.013	0.144
36	0.472	0.219	-0.045	-0.060	0.222
37	0.094	0.233	0.194	0.272	0.449
38	0.397	0.217	0.085	0.191	0.121
39	0.404	0.323	0.251	0.371	0.121
40	0.457	0.349	0.313	0.116	0.325
41	0.161	0.325	0.124	0.156	0.125
42	0.318	0.244	0.179	0.561	0.058
43	0.184	0.041	0.465	0.058	0.285
44	0.548	-0.107	0.156	0.301	0.172

Table H-1.--Continued.

Respondent	Factor I	Factor II	Factor III	Factor IV	Factor V
45	0.261	0.388	0.030	0.592	0.403
46	0.514	0.328	0.013	0.226	0.054
47	0.185	0.472	0.400	0.047	-0.191
48	0.381	-0.017	0.270	0.568	0.150
49	0.382	0.267	0.089	0.467	0.042
50	0.037	0.057	0.129	0.756	0.166
51	0.282	0.176	-0.063	0.676	0.223
52	0.667	0.320	0.233	0.394	0.032
53	0.039	0.697	-0.141	0.001	0.108
54	0.344	0.419	0.068	0.438	0.048
55	0.014	0.284	0.615	0.240	0.162
56	0.437	0.175	0.287	0.138	0.201
57	0.255	0.198	0.095	-0.095	0.194
58	0.668	-0.098	0.028	0.243	0.028
59	-0.030	0.339	0.079	0.507	0.170
60	-0.033	-0.158	0.392	0.016	0.043