ESO 286

DISCUSSANT PAPER FOR PUBLIC RESPONSE TO ENVIRONMENTAL ISSUES

by

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Rural Sociological Society Meeting
San Francisco
August 1975

Hornback paper

The theory portion of this paper needs considerable elaboration in my opinion. The author mentions an "orbital model" but fails to articulate the theory in such a way that a reader is able to comprehend the essence of its meaning. I was anticipating the discussion of the theoretical model and the development of testable hypotheses when I discovered myself reading the methodology employed in the study. The lack of theory greatly reduces the utility of the study both from an interpretive perspective (what does the study tell us) and from an application perspective (what do we do with the knowledge gained from the study).

Very quickly I encountered what I consider to be a major problem with the study which was the operationalization of the dependent variables. I feel that a response to the question "what do you think is the nation's greatest problem?" (MIP) does not measure a person's commitment to nor involvement in the environmental movement. All that is evaluated is a perceived number 1 priority of concern. Numerous people may perceive environmental issues as being of significant concern and in need of immediate attention as well as actively engaged in conservation oriented programs, both in an overt and covert manner, but have concerns that are of equal or somewhat higher concern. To argue that individuals are nonparticipants in the environmental movement if they do not rank some type of environmental issue as being of greatest concern is arbitrary. An analogy would be an argument to the effect that people who do not indicate religious concern to be of primary national concern are not associated with the religious movement. Also no real basis is laid to support the position that the individuals who do mention environmental issues are active in the movement.

The operationalization of the "anti-environmental bias" variable is also subject to question. Are people anti-environment if they believe "industry ought to be allowed to handle its own problems"? They may be oriented toward non-government involvement in the economic system but be very much committed to environmental issues and feel that private industry through the operation of public opinion should handle the pollution problem. The respondents could easily fear more government control and respond accordingly. Those respondents who feel that government should become active in pollution control may not be motivated by a deep concern for the environmental movement but have only an anti-business orientation. In essence, it is possible that the responses to the question may not reflect their attitudes toward pollution abatement per se but their attitude toward private enterprise. Also, the rationale for arguing that people who are not concerned about pollution are not pro-environment is unclear to me. Recreation development, wise use of land (land use controls) recycling of waste products, and so forth form an equally important role in the environmental movement but are not even considered in the measurement instrument. The question could also be raised that many MIP's mentioned may have some environmental motivating factor operating but be hidden away in the jargon used to express the problem. Perhaps people say the most significant problem is poor response of the Congress to the needs of people. Is this an environmental MIP? It may well be if the person has attempted to get environmental legislation passed and the Congress has ignored his/her pleas. How does one know when an environmental issue is being raised with the variety of responses possible?

It is also interesting to me that no mention is made relative to the assumption of costs of pollution abatement. A person may be abstractly for

pollution control but not be willing to assume the higher costs for the products produced by the industry. Some significant shifts in "commitment" may have been noted had this variable been analyzed even at the most active time of the social movement.

Given the problems of operationalization of the dependent variables, I find the comparisons and interpretation of the findings for the two dependent variables somewhat confusing. The argument appears to be that if the respondents mention environmental issue for the MIP then they are pro-movement and if they respond on the pollution scale (I think item is a better term) that industry should be free to handle their own problems, then they are anti-movement. To compare the findings of the pro and anti-movement variables is not acceptable since they are measuring different things. This may be only a function of the use of terms but it is something that needs consideration in future writings.

I take strong issue with the "no opinion" category to represent those people who did not respond with environmental issues to the MIP. If they mentioned the Viet Nam War, corruption in government, Civil Rights, etc., etc. as the most important problem does not preclude their concern and active involvement in other issues and movements. I am left with the feeling that the assumption is made that one can only become active in one social movement at a time which is questionable given the way the variables were measured.

The findings for the socio-economic status variables do not surprise me. The lower classes are concerned with jobs and survival while the higher SES groups may hold "liberal" orientations since they are usually not threatened. A classic example are the "liberals" who were for equality of education until busing was mentioned or redistrubtion of tax monies on

an equity principle become a possibility. This reinforces the assertion made earlier that costs were not being measured. The multitude of independent variables used as SES indicators are intercorrelated and reveal basically the same things over and over. Most of the variables could have been eliminated.

The author would be well advised to reconsider the concept names and the type of analysis. Each dependent variable should be evaluated alone and more descriptive names applied.

In general, the central thrust of the paper has considerable merit but the paper needs considerable theoretical development, better defense of the measurement devices and some modification of the interpretation.

Riley Dunlap paper

I find the information presented in Riley's tables to be most interesting. The trends are definitely toward retrenchment in the face of recession and the environmental issues look as though they are going to be sacrificed in favor of jobs.

Since I had very little of the paper to work with due to some difficulties Riley encountered, I will only comment that I have some question about the study being called a panel. Of the original 4,500 who were chosen for inclusion in the 1970 study only 36% participated in the 1974 study. While Riley correctly observes that some differences existed between the characteristics of the 1970 and 1974 study groups he makes no mention of the representativeness of the original sample nor the impact of about 64% loss of subjects. If the 1970 study sample 3,000+ was not representative how could about one-third of the original sample be claimed to represent the people in the State of Washington?

I would have liked to have seen a better defense of why the 1970 study was repeated. The author gives the impression that it was just decided upon rather than being some pressing need for the data. I would have liked to have seen some theory to posit why there should be changing attitudes or explanation of why change would be anticipated. If change was not expected, why do the study?

Donald DeLuca paper

I read this paper with considerable interest because the study appears to have extensive possibilities for isolating potential environmental problem areas. The theory is formulated throughout the paper and the author is thorough to a fault. Much of the verbage can be deleted but the theoretical underpinnings are quite good. Some additional work on the theory should produce theoretical closure at least for the model presented in figure one.

There are some problems of operationalization of the variables but the author readily focuses attention upon the short comings and in that respect the author should be commended for cautioning the reader. An example is the Guttman scale presented in table 5 where the coefficient of scalability is relatively low.

The reader must be very careful in the reading of the paper or key differences between variables are missed since they are at times only subtle differences. A case in point are the two variables termed "environmental problems" and "issues." The succeeding theorizing is predicated upon understanding the differences in the two concepts.

I am intrigued with figure 1 (path model). I think it is a rather good path diagram but probably will not be tested given your present thrust. If you continue using 22 variables which exhibit very high multi-colinearity your model will remain only a theoretical artifact. Numerous bivariate analyses will do little to put your model to test. Regression analysis will add to the knowledge base but many variables will not enter the analysis due to the intercorrelation of the independent variables. I would suggest that you either reduce the number of your variables to a manageable size for testing your model (choose the best indicator from each group of variables,

such as structural differentiation to represent macro structure) or re-evaluate your measurement devices and use factor analysis to generate index scores from the various indicators selected. The factor scores could then be used as a data set for regression and path analyses.

The model is interesting but in the context of the paper presented adds relatively little except to conceptualize the thinking process of the author.

I have some reservations about the operationalization of the variables used in the study such as the assumption that the items in the "land use issues" variables are equally weighted. Other variables had some similar weaknesses but overall I was impressed with the magnitude of the study and the potential that it has for planning purposes.

I feel, however, that until the number of variables used in the study is reduced the interpretation of the findings will be almost impossible except in a cursory overview manner as was done in this paper. There are several papers or a dissertation in the data presented here but certainly too much to present as a contributed paper in its present form.

The paper begins with a rather interesting conflict oriented theoretical model for explaining attitudes toward "economic growth," "environmental awareness" and "support for environmental reform." I believe a fairly good theoretical perspective is laid for the first variable but relative little for the two latter factors. Theoretical closure, therefore, is not achieved especially in the instance of the socio-demographic variables. While closure could have been achieved, this paper was found lacking in that regard.

While the theoretical portion of the paper had some considerable merit I must admit that I have some reservations about the methodology used to subject the theory to empirical test. After careful review of the measurement devices I have some doubts that the theory was tested with the data used. The theory on the surface appears to fall apart with very low correlations in the findings. The first impulse is to question the theory but careful analysis of the means of operationalizing the constructs selected for analysis will reveal that some of the indexes which were constructed may not be measuring what the authors say they are measuring. The items are measuring something but not necessarily what the authors say they are measuring. I am suggesting that the incongruencies between the theory and the findings may not be so much the collapse of the theory as it is the failure to measure the phenomena under study. The dependent variable termed "economic growth" is composed of three items which are not very highly correlated with each other eventhough they are related to economic expansion. A composite index from these three variables would only have a relative slight tendency to measure some underlying construct. The awareness of the environment index is operationalized by a composite of several components which must be answered

in a similar manner to demonstrate awareness of the environment. I find it difficult to justify saying that if a person does not perceive water pollution to be a serious problem in their area that they are not aware of the problem. Unless all of Wisconsin is covered with smog, the water fouled, the noise level high, the land overpopulated, covered with litter and the recreational facilities crowded then the index as conceived is not necessarily measuring the phenomenon of awareness of the environment. All of these factors could vary from area to area within the state and people report only those that are problems for their area. No documentation is provided that the people are reacting to the same situation which would be necessary to use such an index. I personally feel that the questions are able to demonstrate what the environmental problems are for various portions of the state from which the data are collected but probably little more. In essence, the conditions for all the people included in the study would have to be the same for the index to have meaning. If an area had only water pollution but nothing else, the respondents would rank low on awareness eventhough they are perceptive to the water pollution problem. As the question is worded, it is more a question of fact and not that people are or are not aware of environmental issues.

The variable termed "environmental reform" is not necessarily measuring environmental reform but rather the attitude of people toward government involvement and the use of legal norms to control pollution. I fail to see how these components inter-relate to form a reform construct. I personally feel that the index as formulated does not isolate those people who are committed to environmental reform but only indicates those who favor "big brother" watching over them or are secure when there are rigid norms applied

to all situations. I am suggesting that the respondents could be for environmental reform but respond that they did not want formal normative structure or governmental involvement.

I feel that the remaining variables to one degree or another fall prey to the same criticisms. I must also admit that in some instances I am not certain what is being measured but feel that the names applied to the measuring devices are not necessarily appropriate. In some instances the items appear to be only marginally related to the constructs they are supposed to be measuring. The variable entitled "social change orientation" for example, is constructed with the factors of government involvement, harmony in living, and perception of our social system's way of life. Do these components actually measure a commitment to change?

A final concern that I have about the construction of the measurement devices is associated with interval level data or a close approximation of same. While I am willing to accept the arbitrary weights as ordered metric measures which permit parametric statistics, I am not comfortable with the variables termed "education" and "income." Why were the category ranges permitted to vary in terms of size? Perhaps there is a good explanation but I did not find it. The mass media exposure variable is not defended and appears to be an arbitrary index. Why were the weighting factors chosen and can the weighting factors be defended?

The reliability coefficients of the movement devices were not very high but little caution is given to the reader in that regard. I was surprised to discover that the authors did not use factor analysis since both have employed this technique in scale construction in recent work. If the economic growth correlations are indicative of the intercorrelations among the items

in the other scales, it does not surprise me that factor analysis was not used since the amount of explained variance would have been minuscule. The authors mention that factor analysis was used for the awareness and for the environmental reform scales but data are not presented relative to the factor loadings, h^2 values, amount of variance explained, or eigen values to evaluate the merits of the scales.

I think the total data set should be submitted to factor analysis to determine if the scales load together as they were constructed for this paper. I suspect that several items from other scales would have loaded on the "environmental reform" items. Several scales have items relative to government involvement but are treated as separate independent measures. Even a correlation matrix of the findings would have helped since it would not surprise me that several of the variables would be correlated with each other as a function of measuring the same phenomenon.

I observed that in the discussion of the findings the authors did not mention the limitations of the measurement devices but rather discussed at length the correlations among variables eventhough the magnitude of the r's was small in nearly all instances. With an N of 548 practically any correlation will be significant and in such instances the magnitude of the zero-order r must be considered. The authors used very low r's to argue the acceptance of a hypothesis which is true in terms of a significance test but in reality low correlations may have little meaning. The regression findings basically repudiate the theoretical model presented since relatively little variance was explained in the phenomenon under study. I would not be quick to repudiate the theory, however, since the operationalization of the variables could well be the problem of the study.

General Summary

I am left with the feeling that one of primary functions of this session has been to point out the problems of operationalization of variables used in environmental studies. The major difficulty that I see with most of the papers is the creation of valid and reliable measurement devices. I am confident in the ability of these people to construct theory but in all cases for the exception of the DeLuca paper and to some extent in the Buttel-Flinn paper little theory was offered. I think that better theorizing will facilitate better instrument construction.

The findings were rather consistent, in my opinion, and were not very encouraging from an environmental perspective. Even with the methodological limitations of the studies the message was loud and clear. If something has to be sacrificed it will be environment. This is probably a logical decision on the part of most people. We will sit here and shake our heads but I suspect that if all of us had to make a choice between a lesser life style or loss of status or relaxing our commitment to the maintenance of the environment, I suspect the National Resources Research Group and concerned people in the SSSP as well as the many non-professional people in the environmental movement (both overt and covert) would decline in a hurry.

The situation reminds me of a remark made by an old and dear friend of mind in reaction to an outspoken ideological remark that I made about the civil rights movement. He said, some things in life are a luxury of the time which prove to be only of passing concern as situations change. While I am more optimistic of the future than what appears to be coming from the data presented here today, it is always possible that the environmental movement is a luxury the "technological society" we have embraced can ill afford to sustain, especially in times of limited expansion and recession.