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# The Social Bases of Environmental Concern: A Review of Hypotheses, Explanations and Empirical Evidence

KENT D. VAN LIERE AND RILEY E. DUNLAP

**I**N THE past decade social scientists have shown a great deal of interest in public attitudes toward environmental problems and issues, as reflected by the large number of studies of public concern with environmental quality (for a recent bibliography of such studies see Dunlap and Van Liere, 1978). Although several researchers have attempted to document changing levels of "environmental concern" among the public (Buttel and Flinn, 1974; Grossman and Potter, 1977b), the central issue addressed by researchers increasingly has been to determine the social bases of concern for environmental quality. Whether for theoretical reasons (Hornback, 1974) or because of potential policy implications (Dillman and Christenson, 1972), de-

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**Abstract** This paper reports an evaluation of existing knowledge regarding the social bases of public concern with environmental quality. First, five popular hypotheses asserting relationships between environmental concern and eight demographic and social variables are reviewed, with particular attention paid to the theoretical explanations offered in support of each hypothesized relationship. Second, the results of 21 relevant studies are evaluated to determine the degree to which the empirical evidence supports the hypothesized relationships. Third, implications of the results of the review for future research are discussed.

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termining what types of people are most concerned about the environment has been a dominant theme.

Given the large number of studies (see Dunlap and Van Liere, 1978), one might expect that considerable progress has been made in identifying and explaining variation in public concern with environmental problems. Instead, one finds considerable dissensus with respect both to the evidence itself and its interpretation. The purpose of this paper is to take stock of existing knowledge and to determine more precisely what is known about the correlates of environmental concern.

Because of the reliance on sample survey techniques, the largest body of data on correlates of environmental concern exists for the social and demographic variables that are routinely included in such surveys—age, sex, income, education, occupational prestige, residence, political party, and political ideology. Thus, our review concentrates on the associations between these variables and various indicators of environmental concern.<sup>1</sup> We confine our attention to bivariate associations since most studies have not employed multivariate analyses.

The review is divided into two sections. First, we examine the common hypotheses and theoretical explanations relating environmental concern to social and demographic variables.<sup>2</sup> Second, we summarize the existing evidence to determine the degree to which it provides support for the hypothesized relationships.<sup>3</sup>

### Review of Hypotheses and Explanations

In reviewing the literature, we examine five general hypotheses—the age, social class, residence, political, and sex hypotheses—as well as the theoretical explanation(s) offered for each of them.

*The Age Hypothesis:* Younger people tend to be more concerned about environmental quality than older people. Though initially there were suggestions that age is positively correlated with environmental concern (Harry et al., 1969), most studies of the general public have

<sup>1</sup> We will not include a few standard demographic variables, such as race and religion, because very few studies have examined relationships between them and indicators of environmental concern.

<sup>2</sup> We are admittedly using “theoretical” in a rather loose sense, to refer to the explanation provided by an author as to why a hypothesized relationship should be found to exist. However, such conceptions of theories are common in the social sciences—see, e.g., Labovitz and Hagedorn, 1976:40–42.

<sup>3</sup> As will be seen below, the existing literature rarely allows one to determine which of two or more competing theoretical explanations for a given hypothesis is most plausible—even when the hypothesis itself is confirmed.

not supported this contention. Rather, the predominant finding has been that age is negatively correlated with environmental concern.

One explanation for the age hypothesis rests on what Malkis and Grasmick (1977) call age-group differences, or differences associated with the aging process which presumably can be outgrown. In particular, it has been argued that young people are less integrated into the American economic system or, more generally, the dominant social order (Malkis and Grasmick, 1977; Hornback, 1974). Since solutions to environmental problems often are viewed as threatening the existing social order, possibly requiring substantial changes in traditional values, habitual behaviors, and existing institutions (Hornback, 1974), it is logical to expect youth to support environmental reform and accept pro-environmental ideologies more readily than their elders.

Malkis and Grasmick also discuss cohort differences as an explanation for the negative age environmental concern relationship. In explaining cohort differences they draw on Mannheim's (1952) theory of generations, which suggests that important historical events occurring at the crucial adolescent and young adulthood phase of the life cycle can permanently affect a cohort throughout its existence. Malkis and Grasmick (1977:43–45) suggest that exposure of the current 18- to 30-year-olds to the "youth movement" of the sixties and seventies may help account for their greater concern about environmental problems. Specifically, they argue that the involvement of youth with environmental issues is a logical outgrowth of their high level of mobilization over the receding issues of civil rights and Vietnam. In addition, although Malkis and Grasmick do not mention it, Mannheim's theory would lead us to expect that continued exposure to alarming information on environmental deterioration (via the news media, environmental education courses, etc.) has left an indelible imprint on many young people during the past decade, forming an ecology-minded generation whose commitment to environmental reform should not disappear as they move into adulthood.

*The Social Class Hypothesis:* Environmental concern is positively associated with social class as indicated by education, income, and occupational prestige. One explanation for this hypothesis is that the upper and middle classes have solved their basic material needs and thus are free to focus on the more aesthetic aspects of human existence. This hypothesis rests on Maslow's (1970) hierarchy of needs theory, and assumes that concern for environmental quality is something of a luxury which can be indulged only after more basic material needs (adequate food, shelter, and economic security) are met (Dunlap et al., 1975).

Morrison et al. (1972) present a related argument, using the concept of relative deprivation. They argue that members of the lower class typically have experienced only poor physical conditions, and thus are less aware that they live, work, and play in polluted, overcrowded conditions. Conversely, the middle and upper classes are more likely to have experienced pleasant residential, work, and recreational environments, and consequently are more concerned about the deterioration of the physical environment. Thus, Morrison et al. (1972) suggest that it is "relative" deprivation, not "absolute" deprivation, which leads to environmental concern.

Finally, it is suggested that the middle and upper classes are the most politically and socially active segments of American society, and that their concern over environmental problems is only an extension of a generalized concern with social problems (Martinson and Wilkening, 1975; Althoff and Greig, 1977). As a result, it is not surprising that these advantaged classes are disproportionately concerned about environmental problems.

It has been argued that these positive forms of the social class hypothesis draw too heavily on studies of environmental organization memberships, and that these findings may not generalize to the mass public (Buttel and Flinn, 1978b; Grossman and Potter, 1977a). Buttel and Flinn (1978b) for example, argue that because the lower and working classes typically reside in highly polluted areas, work in poor physical environments, and have access to poor recreational facilities, they should be expected to express concern about poor environmental conditions. Thus, contrary to most writers, Buttel and Flinn hypothesize that the lower and working classes are as much or more concerned about environmental problems than the middle and upper classes.

*The Residence Hypothesis:* Urban residents are more likely to be environmentally concerned than rural residents. Tremblay and Dunlap (1978) discuss two possible explanations for this relationship: First, urban residents should be more concerned with environmental problems because they generally are exposed to higher levels of pollution and other types of environmental deterioration; this explanation assumes that place of residence is an indicator of objective physical conditions, and that exposure to poor environmental conditions leads to environmental concern. Second, rural residents are more likely than urbanites to have a utilitarian orientation toward the natural environment because of their involvement with "extractive" occupations such as farming, logging, and mining. Thus, heavy dependence on use of the natural environment by rural residents is assumed to result in less concern with environmental protection than

that shown by urban residents (also see Harry et al., 1969). This explanation rests partially on occupational differences between rural and urban residents, with residence as a proxy variable for extractive—nonextractive occupations. Tremblay and Dunlap also argue that even rural residents not engaged in nature-extractive occupations can be expected to hold utilitarian attitudes toward the environment because of a shared rural culture.

Murdock and Schriener (1977) suggest a third explanation: Because small towns need to maintain economic growth to survive, they are assumed to value growth over protection of environmental quality. Thus, the growth orientation of rural and small-town residents, not the utilitarian orientation of farmers and other rural residents, presumably accounts for the positive relationship between environmental concern and size of place of residence.

*The Political Hypothesis:* Democrats and liberals are more concerned about environmental quality than are their Republican and conservative counterparts. The rapid rise of widespread public support for environmental reform in the late sixties and early seventies led to arguments that environmental concern transcended political cleavages (Ogden 1971). Recent studies, however, have questioned the consensus quality of environmental politics, arguing that support for environmental reform varies among political groupings (Buttel and Flinn, 1976; 1978a; Dunlap, 1975; Springer and Constantini, 1974).

Dunlap (1975:432) notes three reasons for expecting a split along traditional ideological and partisan lines: (1) environmental reforms generally are opposed by business and industry because of the costs involved, (2) environmental reforms entail an extension of government activities and regulations, and (3) environmental reforms often require innovative action. Noting traditional Republican-conservative favoritism toward business, opposition to big government, and suspicion of drastic change, Dunlap hypothesizes that there will be significant differences in environmental concern between Democrats and Republicans as well as between liberals and conservatives, in the direction noted above.

Buttel and Flinn (1976), in examining these relationships further, argue that political ideology is the key variable because the two-party system in this country tends to dilute partisan differences. They therefore suggest that political liberals tend to be more supportive of environmental protection than conservatives, as did Dunlap (1975), but that Democrats are no more likely to be environmentally concerned than Republicans.

*The Sex Hypothesis:* Relatively few researchers have paid attention to sex in studies of environmental concern. McEvoy (1972) argues

that because males are more likely to be politically active, more involved with community issues, and have higher levels of education than females, they will be more concerned over environmental problems. Conversely, Passino and Lounsbury (1976) argue that males are more likely than females to be concerned about jobs and economic growth, and thus are less concerned than females with protecting environmental quality. Consequently, there is no agreement on the direction of the relationship between sex and environmental concern.

### Review of the Evidence

We now turn to a review of the data that bear on the hypotheses discussed above. A number of criteria were employed in selecting studies to be included in Table 1. First, we limited our attention to

**Table 1. A Summary of the Bivariate Relationships between Indicators of Environmental Concern and Age, Education, Income, Occupational Prestige, Residence, Sex, Political Party, and Political Ideology Reported in Existing Studies**

<i>Study</i>	<i>Age</i>	<i>Educ.</i>	<i>Inc.</i>	<i>Occ.</i>	<i>Res.<sup>a</sup></i>	<i>Sex<sup>b</sup></i>	<i>Party<sup>c</sup></i>	<i>Ideol.<sup>d</sup></i>
Studies Reporting Pearson's <i>r</i>								
Arbuthnot & Lingg, 1975								
Recycling index	-.05	.29	—	—	—	-.11	—	—
Env. future orientation	-.18	.45	—	—	—	-.07	—	—
Buttel & Flinn, 1976								
Awareness of env. probs.	-.33	.20	—	—	.38	—	.06	.10
Support for env. reforms	-.30	.23	—	—	.14	—	.08	.23
Buttel & Johnson, 1977								
Ameliorative dimension	—	.08	—	—	—	—	.14	.35 .34
Redirective dimension	—	.26	—	—	—	—	-.01	.25 -.03
Grossman & Potter, 1977b								
Env. concern (1973)	-.24	.17	.09	.05	-.09	.01	.10	NA <sup>e</sup>
Env. concern (1974)	-.26	.17	.06	.07	.17	-.01	.08	.15
Env. concern (1975)	-.21	.09	.04	.02	.11	.09	.09	.15
Env. concern (1976)	-.23	.16	.14	.04	.12	.02	.03	.12
Koenig, 1975								
Env. concern index	NR <sup>f</sup>	NR <sup>f</sup>	NR <sup>f</sup>	NR <sup>f</sup>	—	—	.15	—
Martinson & Wilkening, 1975								
Awareness of env. probs.	-.41	.33	—	—	—	—	—	—
Malkis & Grasmick, 1977								
Env. ideol.-production	-.32	.16	-.21	.13	—	—	—	—
Env. ideol.-consumption	-.26	.07	-.17	.03	—	—	—	—
Springer & Constantini, 1974								
Env. concern	-.17	.12	.05	—	.08	—	NR <sup>f</sup>	.01 <sup>g</sup>
Tognacci et al., 1972								
Import. of pure env.	-.09	.06	—	—	—	—	.1 <sup>h</sup>	.1 <sup>h</sup>
Attainment of pure env.	-.27	.17	—	—	—	—	.01 <sup>h</sup>	.05 <sup>h</sup>
Conservation scale	-.34	.37	—	—	—	—	.001 <sup>h</sup>	.001 <sup>h</sup>
Pollution scale	-.41	.35	—	—	—	—	.001 <sup>h</sup>	.001 <sup>h</sup>
Power plant scale	-.33	.28	—	—	—	—	.001 <sup>h</sup>	.001 <sup>h</sup>
Overpopulation scale	-.38	.30	—	—	—	—	.001 <sup>h</sup>	.001 <sup>h</sup>
Pop. control scale	-.44	.24	—	—	—	—	.01 <sup>h</sup>	.001 <sup>h</sup>

Table 1. (Continued)

<i>Study</i>	<i>Age</i>	<i>Educ.</i>	<i>Inc.</i>	<i>Occ.</i>	<i>Res.<sup>a</sup></i>	<i>Sex<sup>b</sup></i>	<i>Party<sup>c</sup></i>	<i>Ideol.<sup>d</sup></i>
Van Liere & Dunlap, 1978								
Population scale	-.04	.11	.02	-.04	.10	-.02	-.04	.12
Pollution scale	-.25	.18	-.03	.12	.04	.15	.03	.19
Resource cons. scale	-.06	.15	-.04	.00	.11	.08	.08	.20
NEP scale	-.08	.11	-.07	-.02	.06	.07	.00	.21
Env. funding scale	-.09	.17	-.06	.09	.10	.14	.00	.16
Env. regulations scale	-.13	.10	-.12	-.02	.06	.08	.07	.23
Personal beh. scale	.12	.01	-.16	.07	.02	.21	.04	.04
Public beh. scale	.04	.16	.07	.12	-.04	.07	-.06	.03
Weigel, 1977								
Env. behavior index	-.24	.42	—	.32	—	—	—	.34
Studies Reporting <i>gamma</i>								
Buttel & Flinn, 1974								
Env. as a prob. (1968)	—	.51	.22	—	-.12	—	—	—
Env. as a prob. (1969)	—	.28	.32	—	-.08	—	—	—
Env. as a prob. (1970)	—	.22	.09	—	.03	—	.02	—
Constantini & Hanf, 1972								
Env. concern scale	NR <sup>f</sup>	.20	-.13	—	—	—	—	.22 .36
Dillman & Christenson, 1972								
Pollution value index	±.21	.20	.12	.17	.05	—	.001 <sup>g</sup>	.13
Harris, 1970a								
Air poll. in state	-.08	.11	—	—	.19	—	—	—
Air poll. in community	-.19	.26	—	—	.57	—	—	—
Water poll. in state	NA <sup>e</sup>	.05	—	—	.07	—	—	—
Water poll. in community	NA <sup>e</sup>	.22	—	—	.41	—	—	—
Harris, 1970b								
Air poll. in state	-.15	.20	—	—	.15	—	—	—
Air poll. in community	-.20	.19	—	—	.35	—	—	—
Water poll. in state	-.12	.15	—	—	-.06	—	—	—
Water poll. in community	-.23	.25	—	—	.06	—	—	—
Hornback, 1974								
Env. most impt. prob. (1970)	-.19	—	—	—	.04	.04	-.06	NA <sup>e</sup>
Env. most impt. prob. (1972)	-.14	—	—	—	NA <sup>e</sup>	.03	-.12	.11
McEvoy, 1972								
Env. concern	-.06	.30	.22	—	.06	-.16	—	—
Murch, 1974								
Env. concern	—	.15	—	.01	—	.07	—	—
Murdock & Schriener, 1977								
Support env. protection	-.26	.24	.04	.15	—	—	—	—
Nat'l Wildlife Fed., 1972								
Env. concern	-.08	.27	.15	—	.12	-.08	—	—

<sup>a</sup> A positive coefficient means that urban residents are more "environmentally concerned" than rural residents.

<sup>b</sup> A positive coefficient means that women are more "environmentally concerned" than men.

<sup>c</sup> A positive coefficient means that Democrats are more "environmentally concerned" than Republicans.

<sup>d</sup> A positive coefficient means that liberals are more "environmentally concerned" than conservatives. Where two coefficients are reported, the first refers to "Anti-Laissez Faire Liberalism" and the second refers to "Welfare State Liberalism."

<sup>e</sup> NA means that data were not available for that year.

<sup>f</sup> NR means that the actual coefficient was not given, but the author reported "no relationship."

<sup>g</sup> Chi-square analysis was used and the chi-square statistic was reported as significant at the given level.

<sup>h</sup> A difference-of-means test was used and the difference of means was reported as significant at the given level.

studies attempting to measure respondents' level of *concern* with environmental problems, environmental quality, etc. Such concern is tapped in a variety of ways in the studies in Table 1, including perceiving environmental problems as serious, supporting efforts by government to protect environmental quality, engaging in behaviors aimed at improving environmental quality, etc. Though interesting in their own right, studies that measure such variables as trust in government to solve environmental problems (Althoff and Greig, 1977) or perception of the causes of environmental degradation (Bowman, 1977) are not included, because these variables do not provide an unambiguous indicator of respondents' degree of concern with environmental quality. However, the studies listed in Table 1 provide a wide range of indicators of environmental concern.<sup>4</sup>

Second, because we are interested in the distribution of environmental concern among the general public, we included studies which use sample surveys of heterogeneous populations—typically probability samples of the general public within a community, a state, or the entire nation.<sup>5</sup> We did not include studies of relatively homogeneous populations such as college students, since these samples provide insufficient variation on such variables as age and education—making it meaningless to attempt to correlate these variables with environmental concern.

Third, we focused on studies which report bivariate measures of association.<sup>6</sup> The most commonly reported measures of association between demographic characteristics and environmental concern are gamma and Pearson's  $r$ , and studies employing these measures comprise the bulk of entries in Table 1. To examine the broadest range of studies possible, we included a number of studies which do not report measures of association, but report the necessary frequency distribu-

<sup>4</sup> We did not include studies which examine energy attitudes, because in many studies such attitudes do not appear to reflect a clear pro- to anti-environmental dimension (focusing instead on causes of the energy crisis, and so forth). However, in their review of the few studies which examined attitudes and/or behavior in support of energy conservation, Olsen and Goodnight (1977:11–16) report empirical generalizations which are similar to those which emerge from our Table 1 (except that income is found to be a good predictor of energy conservation, but not of environmental concern).

<sup>5</sup> Since the vast majority of existing studies were conducted in the United States, we confine our search for empirical generalizations to U.S. data. After more foreign studies become available it will be appropriate to search for cross-national generalizations, but there are not enough non-U.S. studies to warrant this at present.

<sup>6</sup> We do not report significance levels for the measures of association in Table 1 because: (1) not all studies report significance test, and (2) studies which report significance tests vary considerably in sample size. Since significance levels are affected by sample size, to avoid misleading comparisons they are not reported.

tions to allow us to compute gammas (Harris, 1970a, 1970b). Finally, we included studies which report  $r$ 's or gammas for some variables, but report chi-square or difference-of-means tests for other variables. To aid in comparing studies, we separated those which mainly report  $r$ 's from those reporting gammas, and added footnotes to identify instances of the use of chi-square or difference-of-means tests.<sup>7</sup> With the above criteria in mind, we turn our attention to Table 1.

*Evidence for the Age Hypothesis:* The age hypothesis posits a negative association between age and environmental concern. There is considerable support for it in Table 1 as most of the coefficients in the first column are negative. Further, the results show that the size of the coefficients for age are relatively strong when compared to other coefficients in the table. For the most part, the coefficients range from  $-.2$  to  $-.4$ , which suggests a moderate negative relationship between age and environmental concern. Also, the two longitudinal studies which report data for age suggest that it has been a consistent correlate of environmental concern over the past several years (Grossman and Potter, 1977b; Hornback, 1974).

While the bulk of the evidence clearly supports the age hypothesis, a few findings fail to do so. Both Koenig (1975) and Constantini and Hanf (1972) report no relationship; McEvoy (1972) reports only a negligible (i.e., less than .1) negative relationship; while Arbuthnot and Lingg (1975), Tognacci et al. (1972), Van Liere and Dunlap (1978), and Harris (1970a) all report similarly slight relationships between age and at least one of their measures of environmental concern. On the whole, however, the preponderance of evidence must be viewed as supportive of the age hypothesis.

*Evidence for the Social Class Hypothesis:* The associations between educational level and environmental concern (column 2, Table 1) support the hypothesis that education is positively associated with environmental concern; they are all positive and most are moderately strong (generally ranging from .15 to .40). Further, in the longitudinal studies the coefficients are fairly consistent over time (Buttel and Flinn, 1974; Grossman and Potter, 1977b). As was the case with age, however, some studies report only a negligible association for at least one measure of environmental concern (Buttel and Johnson, 1977; Grossman and Potter, 1977b; Malkis and Grasmick, 1977; Tognacci et al., 1972; Van Liere and Dunlap, 1978; Harris, 1970a), while Koenig (1975) reports no relationship.

<sup>7</sup> Unfortunately, we could not include studies reporting percentage differences but insufficient data to allow us to compute gammas (Althoff and Greig, 1977; Mitchell, 1979), or studies employing multivariate analyses but not reporting bivariate measures of association (Sharma et al., 1975).

The associations between income and environmental concern (column 3) are quite ambiguous and fail to support the hypothesized positive association. A few studies report a moderately positive association, supporting the hypothesis that higher income groups are more environmentally concerned than lower income groups (Buttel and Flinn, 1974; McEvoy, 1972). However, a number of studies report a negligible association (Grossman and Potter, 1977b; Koenig, 1975; Springer and Constantini, 1974; Murdock and Schriener, 1977), and others report a negative relationship (Malkis and Grasmick, 1977; Van Liere and Dunlap, 1978; Constantini and Hanf, 1972). Further, the longitudinal studies suggest that the relationship between income and environmental concern may be changing over time (Buttel and Flinn, 1974; Grossman and Potter, 1977b).

Finally, while a majority of the associations between occupational prestige and environmental concern (Table 1, column 4) are positive, most are so slight that it is difficult to conclude that the hypothesized relationship is supported. The results of Grossman and Potter (1977b), Koenig (1975), Murch (1974), and for one of Malkis and Grasmick's (1977) measures suggest little association between occupational prestige and environmental concern. On the other hand, Weigel (1977), Dillman and Christenson (1972), and Murdock and Schriener (1977) report moderate associations between prestige and environmental concern. Van Liere and Dunlap (1978) report the relationship to be positive for some measures of environmental concern and negative for others.

In general, evidence relating to the broad social class hypothesis—i.e., considering the three dimensions of education, income, and occupational prestige—provides very weak support for the assertion that social class is positively associated with environmental concern. What support there is rests primarily on the moderately strong relationship between environmental concern and education. The evidence for occupational prestige provides very weak support at best, while the overall evidence for income is highly ambiguous. Thus, our review points to the need for more careful conceptualization and analyses of the effects of education, income, and occupational prestige on environmental concern. By no means should they be used as equivalent indicators of social class when examining the social bases of environmental concern.

*Evidence for the Residence Hypothesis:* The associations in column 5 generally support the hypothesis that urban residence is positively related to environmental concern. However, there are a number of contradictions to this pattern, as Grossman and Potter (1977b), Van Liere and Dunlap (1978), Buttel and Flinn (1974), and Harris (1970b)

all report at least one negative relationship. More important, the coefficients vary considerably in magnitude, both within and across studies, suggesting that the relationship between residence and environmental concern may depend on the indicator of environmental concern being examined. For example, Buttel and Flinn (1976) report a fairly strong relationship between awareness of environmental problems and residence, but a much weaker relationship between support for environmental reform and residence. More generally, Tremblay and Dunlap (1978), using the Harris (1970a) data, suggest that residence is most strongly associated with environmental concern when *local* environmental conditions are the focus of attention.

*Evidence for the Sex Hypothesis:* Although there are conflicting hypotheses and limited data relating sex to environmental concern, we included sex in our review to examine the degree to which a sex-environmental concern relationship might exist, even though ignored by most researchers. As expected, the evidence regarding sex and environmental concern is quite meager, and the results listed in column 6 are inconclusive. Van Liere and Dunlap (1978) report modest (greater than .1) positive associations, indicating that females are more environmentally concerned than males, for a few of their measures of environmental concern, while Arbuthnot and Lingg (1975) and McEvoy (1972) report modest negative associations. The remaining associations are less than .1, and the overall pattern suggests that sex is not substantially associated with environmental concern. This conclusion should be viewed as tentative, however, as it is based on limited evidence.

*Evidence for the Political Hypothesis:* Looking first at partisan identification (column 7), we see that there is some support for the hypothesis that Democrats are more environmentally concerned than Republicans. A few studies report moderate associations between Democratic party affiliation and environmental concern (Buttel and Johnson, 1977; Grossman and Potter, 1977b; Koenig, 1975), and both Tognacci et al. (1972) and Dillman and Christenson (1972) report Democrats to be significantly more pro-environmental than Republicans. However, the coefficients are not very large, and imply a weak association at best. In general, the evidence appears to support Buttel and Flinn's (1976) assertion that party is not a crucial variable in explaining variation in environmental concern among the general public.<sup>8</sup>

<sup>8</sup> However, considerable evidence suggests that among political elites (e.g., legislators) and the college-educated public, Democrats are significantly more environmentally concerned than are Republicans (Buttel and Flinn, 1978a; Dunlap and Allen, 1976).

In contrast, there is substantial support for the hypothesis that liberals are more environmentally concerned than conservatives (column 8). Typically the measure of ideology used is simply self-identification on a liberal-conservative continuum, but a few studies have measured ideology (including different dimensions) via attitude scales (usually “welfare-state liberalism” and “anti-laissez-faire liberalism”—Buttel and Johnson, 1977; Weigel, 1977; Constantini and Hanf, 1972). Regardless of the measure used, the coefficients are virtually always in the expected direction (Buttel and Johnson, 1977, report the only exceptions) and are often of moderate magnitude.

*Summary:* The review of evidence on the social correlates of environmental concern suggests that only three of the hypothesized relationships should be considered empirical generalizations. Age, education, and political ideology are consistently (albeit moderately) associated with environmental concern, and thus we have confidence in concluding that younger, well-educated, and politically liberal persons tend to be more concerned about environmental quality than their older, less educated, and politically conservative counterparts.

The evidence is less conclusive for residence, political party identification, and occupational prestige, since they are correlated more weakly and/or less consistently with environmental concern. In the first two cases, however, it has been suggested that qualified versions of the relationships can be regarded as empirical generalizations. Thus, Tremblay and Dunlap (1978) review evidence which consistently supports a positive association between urban residence and concern with environmental problems at the *local* level, while evidence summarized by Buttel and Flinn (1978a) and Dunlap and Allen (1976) suggests that among political elites and the college-educated segment of the public, Democrats are significantly more environmentally concerned than are Republicans.

In the case of occupation the qualifications have been more substantial, as a variety of nonvertical cleavages have been suggested as more important than prestige per se: business occupations (Buttel and Johnson, 1977; Costantini and Hanf, 1972), technologically dependent occupations (Malkis and Grasmick, 1977) and nature-exploitative occupations (Harry, 1971) have all been hypothesized to be negatively associated with environmental concern. Such relationships have received only limited attention in the empirical literature, however, and the evidence is inconclusive. In view of the weak support for the occupational prestige–environmental concern relationship, we believe these other dimensions of occupational differentiation deserve further empirical investigation as possible correlates of environmental concern.

Finally, the evidence regarding income and sex suggests that they are not systematically correlated with environmental concern, although relatively few studies have examined the sex-environmental concern relationship and we therefore regard the evidence on it as tentative.

### Concluding Remarks

The foregoing review indicates that researchers have had limited success in explaining the social bases of environmental concern. This conclusion is suggested by the fact that the coefficients in Table 1 are generally quite low (even in the cases of age, education, and political ideology they reach only modest magnitudes). It is bolstered by the results of the few multivariate analyses which have examined the explanatory power of several sociodemographic variables in combination. Although they usually include nearly all the variables listed in Table 1, such studies typically explain only 10 to 15 percent of the variance in environmental concern (e.g., Buttell and Flinn, 1978a; 1978b; Grossman and Potter, 1977a; 1977b; Malkis and Grasmick, 1977; Sharma et al., 1975).<sup>9</sup>

The limited utility of demographic variables in explaining variation in environmental concern points to the widespread distribution of such concern in our society. Although somewhat stronger among the young, well-educated, and liberal segments of society, environmental concern is by no means restricted to persons with such characteristics (e.g., Dillman and Christenson, 1972; McEvoy, 1972; Mitchell, 1979), as indicated by the modest associations reported for these variables in Table 1.

In view of this, we offer two suggestions for future research which we believe might improve researchers' ability to explain the social bases of concern about environmental quality, and also make their research more relevant to environmental policy making. First, given the widespread distribution of generalized environmental concern, we believe it would be profitable to focus attention on specific environmental issues and policies. On the one hand, researchers should reconsider the practice of lumping such diverse issues as air and water pollution, population control, and wildlife protection together into global measures of environmental concern (as do many studies

<sup>9</sup> In addition to examining the *cumulative* effects of several variables on environmental concern, multivariate analyses can also shed light on their *relative* effects. Additional analyses sorting out the relative effects of such variables as age, education, and residence would be helpful in establishing more solidly the empirical generalizations suggested by the bivariate results.

reviewed in this paper). It is unclear whether persons concerned about one of these issues will be equally concerned about the others and at least some of the variation in the associations in Table 1 may stem from variation in the dimensions of environmental concern being tapped by the diverse measures (for suggestive evidence in this regard see Buttel and Johnson, 1977; Van Liere and Dunlap, 1978). On the other hand, researchers should pay more attention to the trade-offs involved in improving and protecting environmental quality. Most environmental policies entail a variety of costs, including higher prices or taxes and restrictions on individual or corporate behaviors, and researchers could examine public support for the policies in view of these costs (see, for example, Mitchell, 1979).

Second, the trade-offs between environmental quality and other widely valued ends such as low taxes, economic growth, free enterprise, and private property rights suggest the fruitfulness of examining differential commitments to the latter as determinants of support for environmental protection. The importance of these cognitive (as opposed to demographic) variables is suggested by a recent study which found support for private property rights, laissez-faire government, and economic growth to be strongly correlated with environmental concern, and to explain far more variation in the latter than do the demographic variables reviewed in this paper (Dunlap and Van Liere, 1980).<sup>10</sup>

In sum, we are arguing that in order to achieve a better understanding of the social bases of environmental concern researchers should conceptualize such concern more precisely than has generally been done in the past, and also pay at least as much attention to the cognitive as to the demographic determinants of support for environmental protection.<sup>11</sup>

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<sup>10</sup> It is also suggested by the fact that our review showed political ideology, primarily a cognitive characteristic, to be consistently associated with environmental concern. Although partisan identification also involves cognitive processes, it is somewhat more likely to be "inherited" from parents than is the case with ideology (e.g., Niemi et al., 1978).

<sup>11</sup> We should stress that cognitive variables ought to be examined *in addition to*, rather than *in lieu of*, demographic variables, for it is likely that support for economic growth, laissez-faire government, private property rights, etc. will be related to age, education, income, residence, etc. Thus, the most powerful analyses of the social bases of environmental concern will likely be those which consider both its demographic and cognitive determinants.

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