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Critiques and Counter-Critiques of the Postmaterialism Thesis: Thirty-four Years of Debate

Permalink

<https://escholarship.org/uc/item/3f72v9q4>

Author

Abramson, Paul R

Publication Date

2011-04-20

CSD Center for the Study of Democracy

An Organized Research Unit
University of California, Irvine
www.democ.uci.edu

Four decades ago Inglehart (1971) reported that younger Europeans held substantially different values than did their elders. Whereas older Europeans tended to value material security and domestic order, younger Europeans were more likely to value political liberties. Inglehart labeled these priorities as “acquisitive” and “post-bourgeois,” but he subsequently (1977) used the terms “Materialist” and “Postmaterialist.” Although he had surveys in Britain, France, West Germany, Italy, The Netherlands, and Belgium only for 1970, he speculated that age-group differences probably resulted from differences in the formative socialization of younger and older Europeans. He acknowledged that they might also result partly from the higher educational levels of the young.¹

Many scholars view Inglehart’s prediction as a major insight. On the back of his most cited book, *Culture Shift* (1990), Almond argues “Inglehart’s work is one of the few examples of successful prediction in political science.”² The authors of the five-volume *Beliefs in Government* study find overwhelming evidence of a shift toward Postmaterialism, away from religious values, and a shift toward a redefinition of the Left-Right continuum. Scarbrough, who analyzes Materialist/Postmaterialist orientations, concludes (1995, 156), “indisputably, across much of Western Europe, value orientations are shifting.” General editors, Kaase and Newton (1995, 61), sum up the findings: “We find substantial support for the model which traces social changes to value changes, and value changes into political attitudes and behaviour, especially through the process of generational replacement.” And Dalton (2008, 81) concludes that in recent decades researchers have advanced theories to explain how values are changing, but argues that Inglehart’s research has been the most influential.

Inglehart has studied changes in party systems (Inglehart and Klingemann 1976), democratization and modernization (Inglehart and Welzel 2005; Welzel and Inglehart 2005), gender equality (Inglehart and Norris 2003), religion (Norris and Inglehart 2004), and the effects of the media upon worldwide culture (Norris and Inglehart (2009). Yet, a large part of his work is about value change. Not all the citations to Inglehart’s work are to his work about values. Moreover, I admonish Inglehart that, according to *Ecclesiastes* (1:2), “Vanity of vanities, saith the Preacher, vanity of vanities; all is vanity.”³

That said, Inglehart is among the most cited political scientists of our time, and, as Wuffle (1986, 58) points out, “In academia, citation is the sincerest form of flattery.” In 1989, Klingemann, Grofman, and Campagna identified the 400 most cited political scientists at Ph.D. granting institutions in the United States.⁴ According to their count, there were 543 citations to Inglehart (who received his Ph.D. from the University of Chicago in 1967), and he was the third most cited member of the 1965-69 Ph.D. cohort. Only twenty-seven political scientists were cited more frequently, and twenty-four of them received their Ph.D. before 1965. In an update, Masuoka, Grofman, and Feld (2007) again use the *Social Science Citation Index*, which can now be accessed using the computerized Web of Science. Inglehart had 4,128 citations, ranking

second in the 1965-69 cohort to Robert Axelrod. The only other political scientists with more citations were Robert A. Dahl, Samuel P. Huntington, Norman H. Nie, Robert D. Putnam, and James Q. Wilson.

Lee Sigelman (2006) lists the twenty most cited articles in the *American Political Science Review*, and Inglehart (1971) ranked eighteenth. Miller, Tien, and Peebler (1996, 79-81) develop the most innovative measure of professional visibility. They count citations to political scientists between 1956 and 1993 and the number of articles they published in *American Political Science Review* between 1974 and 1994. They multiply the number of citations by the number of articles and divide by 1,000, yielding a Professional Visibility Index (PVI). Granted, they present results only for authors with five or more *APSR* articles, but that is not a fundamental limitation of their measure. With seven *APSR* articles and 2,639 citations, Inglehart had a PVI score of 18.47, ranking thirteenth,⁵ although he was not inducted into the “APSR Hall of Fame.”

But prominence has its price. Whereas there have been many studies citing Inglehart favorably, and many scholars use the World Values Survey (WVS) data, from the outset scholars criticized his value change thesis. I will discuss the critiques published in English and French,⁶ for the most part ignoring books reviews.⁷ I discuss them in the order in which they were published. When an author has raised a series of critiques I will start with his first critique and follow it through to his last.⁸ These critiques cover a wide variety of issues, some technical, some questioning whether value change has occurred, and many questioning how many dimensions Inglehart’s measures capture. Moreover, some of these critiques are extremely harsh and some so gentle as to not rise to the level of a critique. My gain goal is to show the remarkable interest in Inglehart’s value change thesis, and in his concept of Postmaterialism. These critiques began in 1973 and have continued into the Twenty-first Century.

Ike’s Critique

Two years after Inglehart’s initial *APSR* article on value change, Ike (1973) published a critique in the *Review*. (For the order of my discussion, see Appendix Table 1.) At the outset, he notes the potential significance of Inglehart’s findings and his theory of value change. Especially in view of Bell’s (1960) influential thesis that affluence was eroding the importance of ideology, Inglehart provides results that appear to fit the rise of student activism, most dramatically demonstrated by the Events of May three and a half years before Inglehart’s article appeared. As Ike (1973, 1194) writes, “Inglehart’s study is revealing, for it suggests, based upon survey research data, that affluence might lead in time to a restructuring of political loyalties in Europe.” As Ike notes, Inglehart tested his thesis in six West European societies, and therefore cannot determine whether Western culture influences the effects of industrialization and economic change. Japan is an industrialized society which, despite some Western influence, has markedly different traditions than Western Europe. Moreover, because the Institute of Mathematical Statistics had conducted surveys of the Japanese public in 1953, 1958, 1963, and 1968, Ike had time-series data to study value change, including change among birth cohorts.

Unfortunately, the items in these surveys are different from those Inglehart uses. Given that we know that even apparently small changes in question wording can affect results (see Schuman and Presser 1981), we should be cautious about making comparisons using totally different questions. All the same, Ike is ingenious in the way he uses questions bearing on national character.

The most interesting item measured whether respondents were willing to “leave everything “up to political leaders.” There were sharp age differences in 1953, with only 30 percent of the respondents between the ages of 20 and 24 (born between 1929 and 1933) agreeing with this statement, whereas 52 percent of those between the ages of 50 and 54 (1899-1903) 52 percent agree. Over time both birth cohorts became less likely to agree, but the change is greater among the elderly. In 1968, 26 percent of the respondents between the ages of 35 and 39 agree, whereas among those between the ages of 65 and 69, 39 percent agree. Ike argues that these results reveal neither intergenerational nor life-cycle change, but rather change among adults 1973, 1199). He speculates (1973, 1200) that “If Professor Inglehart had had available to him the kind of longitudinal data I have used, he might have come out with a somewhat more complicated and therefore less tidy picture of value change that had been going on in Europe.” This became clear as economic adversity in the 1970s prevented a trend toward Postmaterialism, despite the generational replacement that occurred during this decade Inglehart (1981).

Rokeach’s Critique

In his study of values Rokeach (1973,185-86) briefly discussed Inglehart’s thesis, noting that he “describes many interesting and apparently significant relationships between these two types of values,” “acquisitive” versus “post-bourgeois.”⁹ Linking Inglehart’s findings with his own value categories, Rokeach writes, “Inglehart’s post-bourgeois value orientation seems to be an equivalent to an ‘*equality* high, *freedom* high value orientation, and his acquisitive orientation seems to be equivalent to an *equality* low, *freedom* low value orientation.”

But, Rokeach (1973, 186) argues, “the objection may be raised, however, that the two-value model is not an ahistorical one. The *equality-freedom* orientation underlying the ideologies or political orientations selected for study here, it may be argued, can surely not be generalized to ideologies that prevailed a thousand years ago or to those that might prevail a thousand years hence.” Unfortunately, we cannot measure human attitudes a thousand years ago or even during the Nineteenth Century.¹⁰ As I have pointed out, a fundamental limitation of Inglehart’s research, as well as the work of other comparativists, is that they “were studying a single species on a single planet” (Abramson 1997, 679).

Marsh’s Critiques

Less than two years after Ike, Marsh (1975) published an article in the *Review* studying value change in Britain. Marsh (1975, 21) argues that Inglehart “presents a persuasive thesis to describe a ‘transformation’ in Western Europe.” But, Marsh asks whether the conditions to develop postbourgeois values were available in Britain, which had slow economic growth and high inflation during the 1970s. He also questions whether these values were a part of the individual’s attitudinal structure “or merely a fashionable and perhaps slightly cynical pose adopted by those . . . who can personally afford to be less concerned about material security” (1975, 22). To test the impact of these values, Marsh performs a secondary analysis of a survey of 593 respondents in 1971 and which included Inglehart’s four-choice values battery. Drawing upon hypotheses he derived from Maslow (1954), Marsh found that some relationships supported the hypotheses while others did not. But one of his strongest findings strongly

supported Inglehart's thesis. When asked to judge the quality of democracy in Britain is adequate, 36 percent of the Postbourgeois disagree, while 17 percent of the Intermediates, and only 13 percent of the Acquisitives disagree.

Marsh (1977) continued his analysis using a survey of 1,785 respondents conducted in late 1973 and early 1974. By then, Inglehart had developed a values measure based upon the four basic choices he employed in 1970, as well as two additional sets of four basic choices. Marsh was working with a survey containing all three sets, as well as questions designed to measure protest potential. Marsh finds that age is the strongest predictor of the potential to protest, but that each of the values scales has explanatory power in addition to age. Marsh (1977, 192) concludes, "The equation does imply strong support for our original proposition that postmaterialist values are a powerful force in the growth of unorthodox political behavior. It follows that strong support exists for Inglehart's basic thesis."

Dalton's Critique

Dalton's (1977) goal is to estimate more systematically when formative socialization occurs, and he uses 1973 survey data from France, Belgium, The Netherlands, Germany, Italy, Denmark, and Great Britain. He shows the relationship between age and values in all seven countries, noting that it is highest in Germany, while it is low in Britain and actually negative in Belgium. Using data on the Gross Domestic Product of these countries beginning in 1913, he models the impact of generation, education, life cycle, and income. He concludes that economic conditions at age ten are the most significant. In my view, Dalton fails to consider that many of these respondents lived through the World War I and that most experienced World War II. One basic difference among these countries is that Denmark was neutral during World War I, and in World War II suffered a less draconian occupation than the other West European countries occupied by the Germans. Granted that none of these countries suffered as badly as the countries Germany captured in the East, especially Poland and the parts of the Soviet Union (Mazower 2008), but they had dramatically different experiences, with the Germans brutally treating Italians in German-occupied Italy after Italy surrendered to the Allies (Evans 2009, 472-78). Only Britain avoided occupation. A better analysis would include the effects of war rather than GDP alone. Nonetheless, Dalton performs a clear analysis, and Duch and Taylor (1993, 758) confirms his finding that the most important socialization experiences occur at about ten years. On one point he is prescient. He correctly argues that the term "revolution" is too strong. And he argues that the reservoir of support for postmaterialist values would grow at a slower rate than that predicted by Inglehart (1977, 470). Trends toward Postmaterial that Inglehart (2008) among cohort studies in a weighted sample of Britain, France, West Germany, Italy, The Netherlands, Germany, Italy, and Belgium between 1970 and 2006 clearly show there are virtually no differences in the level of Materialism level of Postmaterialism among the four youngest birth cohorts (see Figure 1 below.)¹¹

Flanagan and Flanagan and Lee's Colleagues Critiques and Inglehart's Responses

Flanagan is the most persistent of Inglehart's critiques, publishing his first critique in 1979 and his most recent in 2003.¹² At the outset, Flanagan (1979, 253) finds Inglehart's analysis "creative

and intriguing.” However, throughout these twenty-four years Flanagan raises one basic criticism. Inglehart’s construct of Materialism/Postmaterialism does not capture the most important value changes occurring in modern society. Rather, Flanagan (259) argues, one should distinguish between “traditional” and “liberal” values. Using the Japanese National Character Study surveys (including a survey conducted in 1973), as well as data from the 1967 Japanese National Election Study, a study based upon 1,793 respondents, Flanagan (1979, 265) concludes that education has the greatest effect on attitude formation, “particularly in regard to the value dimensions that have been conceptualized here.”

In his second critique, Flanagan (1980) relied upon the 1967 and 1976 Japanese Election Studies, based upon *Ns* of 1,793 and 1,920, respectively. Flanagan tests the relationship of values to voting choice by measuring their location on a “traditional-libertarian value preference scale.” Flanagan also partly replicates Inglehart’s values scale in both 1967 and 1976, but with both Japanese election surveys there are substantial differences between Flanagan’s measure and Inglehart’s (1980, 183-85). All the same, Flanagan (1980, 196) finds that on his measure in both 1967 and 1976 “traditionalists” are much more likely to support the Liberal Democratic Party than “Libertarians” were. Bearing in mind that Flanagan’s measure of Postmaterialism differs from Inglehart’s, there was no difference in the voting behavior of Materialists and “Nonmaterialists.”

Flanagan (1982a) continues his critique, again using data from the Japanese National Character Study, now including a survey conducted in 1978, and the two election studies. He now argues that Inglehart’s scale combines two distinct subdimensions, one of which measures the respondent’s preference for libertarianism as opposed to authoritarianism, at least in Japan (1982a, 413-14). Moreover, Flanagan (1982a, 415) argues, Inglehart is conflating issue preferences with issue priorities. Moreover, when one examines generational change more closely, Flanagan (1982a, 429) concludes, “the kinds of intergenerational change in industrial societies are better described as authoritarian to libertarian rather than acquisitive to post-bourgeois.”

Inglehart (1982) responds to Flanagan (1979, 1980, and 1982). His basic argument is that Flanagan attempts to measure values as if they were a matter of issue salience. “Instead of having respondents rank-order a variety of basic goals, Flanagan proposes to measure value ‘*priorities*’ by one’s response to the question: ‘What is the most important problem facing the Japanese government?’, and value ‘*preferences*’ by a group of items that ask whether one is for or against more discipline, frugality, and so on.” Inglehart (1982, 449) argues that his original four-item value index shows the same relationship in Japan as in the West. But some of the newer items developed by Inglehart do not work in Japan. For example, the goal of “a less impersonal, more humane society,” when back-translated from Japanese reads “a society with more harmonious human relations” (Inglehart 1982, 461). Inglehart (1982, 473) also argues that Flanagan misinterprets Marsh’s conclusions. Flanagan reports that Marsh found only weak relationships between personal values and a public value priority scale. As Inglehart (1982, 473) correctly reports, Marsh (1977, 192) concludes, “that strong support exists for Inglehart’s basic thesis.” However, Inglehart ends by emphasizing that he and Flanagan agree on many basic points. But Inglehart (1982, 476) sees the “authoritarian/liberalism” component of the Materialist/Postmaterialist component as something distinctively Japanese.

In his response, Flanagan (1982b) focuses mainly on the instability of Inglehart’s basic measure. First, relying upon three nationwide surveys of about 2,500 respondents conducted in 1972, 1976, and 1980, he argues that there is too much aggregate-level change for Inglehart’s

measure to be tapping values. In 1972, 70 percent chose “fighting rising prices” as a top goal, but in 1973, during the Arab oil boycott, this rose to 78 percent. But the percentage fell to 57 percent in 1980. The percentage choosing “participation” was 45 percent in 1972, 32 percent in 1976, but soared to 70 percent in 1980 (1982b, 117). Over this eight-year period, the percentage of Materialists was 33 percent in 1972, 38 percent in 1976, but only 14 percent in 1980. The percentage of Postmaterialists, however, did not vary much, only 4 percent in 1972, 2 percent in 1976, and 11 percent in 1980 (1982b, 120). Moreover, reporting the results of a Dutch panel study conducted in 1974 and 1979 (van Deth 1981) Flanagan argues (1982b, 121-22) that individual-level overtime stability is too low to support the conclusion that Inglehart had developed a reliable measure. Flanagan (1982b, 123) argues that a value preference approach can overcome these problems of instability. Moreover, he argues that it is better to measure values in the private domain than those in the public domain, since the latter are more stable (1982, 124).

Although Inglehart and Flanagan (1987) are linked under the same title and share a common list of references, Inglehart’s contribution to this “exchange” (1289-1303; 1318-19) does not contain a single citation to Flanagan, nor to any of the critiques cited above. Rather, it discusses the general impact of economic growth on value change, emphasizing that continued growth has diminished marginal utility for societal development. Many of these ideas were further discussed in Inglehart (1990, 248-88). In his contribution to Inglehart and Flanagan (1987, 1303-19), Flanagan begins by arguing that “This controversy harks back to a debate I started with Ronald Inglehart in 1979” (1987, 1303), even though Inglehart was not debating Flanagan at all in this “exchange.” All the same, Flanagan argues (1987, 1303), Inglehart (1987) and Inglehart and Rabier (1986) represent a substantial shift in Inglehart’s position. Moreover, there is now a new data set, based upon 800 university-educated Japanese conducted in 1984. Flanagan continues to argue that Inglehart’s Materialism/Post-materialism scale does not measure a single values dimension, and that one dimension should be between libertarians and authoritarians. He maintains that factor analyses of this new data set show that twenty-one items should be classified into three dimensions: libertarian, materialist, and authoritarian.

Flanagan reenters this controversy in 2003 (Flanagan and Lee 2003). They rely upon the 2000 WVS, selecting twelve countries that had a GNP in 1990 of \$10,000 or above: Austria, Belgium, Britain, Canada, Denmark, France, Germany, Italy, The Netherlands, Spain, Sweden, and the United States. Flanagan and Lee build a measure based upon value change from authoritarianism to liberalism, and then proceed to examine the correlates of their measure. Their measure, they argue, encapsulates the entire progression of progress throughout human history, and in it (2003, 237) “we can see a continuous linear progression from medieval theism, through modernism to postmodernism.” Flanagan and Lee then present a series of factor analyses to demonstrate the validity of their value dimension. They then discuss the consequences of value change by showing the relationship of their measure to indicators of satisfaction, alienation, trust, and leftist ideology. Flanagan and Lee (2003, 250) agree with Inglehart about the marginal utility of the old politics issues. But, they argue (2003, 256-57), the change they have identified has greater implications for future political change with implications for quality-of-life issues, job autonomy, the role of the military, and the pace of political change.

Cotgove and Duff’s Critique

Cotgrove and Duff (1981) are interested in discovering the processes by which Postmaterialism is related to environmentalism in Britain. They compare four samples, 432 members of the Conservation Society and Friends of the Earth, 435 senior industrialists and engineers from two directories, 218 trade union officials from a trade union handbook, and 531 members of the general public drawn from the electoral registers for Bath, Swindon, and Oldham. The author do not tell us how these samples were conducted, when these surveys were carried out, or the mode of the interviews, information I find strangely absent from an article in the leading British sociology journal.

Cotgrove and Duff accept Inglehart's thesis that the young are more likely to have Postmaterialist values mainly because of generational differences. They construct their own measure of Postmaterialism, based on four of the Materialist goals in Inglehart's twelve-value battery, but they measure support for these values quite differently the way Inglehart does. Rather than asking respondents to name their first and second national goal, they ask respondents to rate each goal from high priority, moderate priority, intermediate/undecided, low priority, and very low priority. With the scoring on the Postmaterialist goals reflected to a high value, their Postmaterialism scores ranged from a low of 5 to a high of 40. As they note (1981, 101), Inglehart's scale is designed to measure support for essentially political goals, whereas they are measuring support for alternative social ideals. According to my calculations based upon a table in which they show levels of Postmaterialism among the four groups controlling for their location on a Left-Right continuum, the mean score for environmentalists was 27.14, the score for industrialists was 20.27, for trade unionists it was 24.71, and for the public it was 22.58. Inglehart's view of the relationship between Postmaterialism and environmentalism is too simplistic. "It is commitment to post-material values," they write (1981, 104), "that helps to explain both occupational choice and party alignment. Support for post-material values in turn can be attributed to the individual's social ideals. It is differences in utopia which accounts for the value polarization between environmentalists and industrialists."

Van Deth's Critiques and Inglehart's Response

Van Deth (1983) argues that both Inglehart's four-choice and twelve-choice value measures display more individual-level instability over time than is consistent with Inglehart's thesis that these values are learned at an early age. Using a two-wave sample of 569 Dutch respondents conducted in 1974 and 1979, he finds what he views as considerable change over this five-year period. A majority of respondents who were either Materialists or Postmaterialists are classified as having "mixed" values five years later. Van Deth concludes (1983, 76) "the unreliability of the responses seems mainly due to the fact that he measures political attitudes and non-attitudes toward a set of the major political issues in industrial, more or less meaningless for people not involved in politics." Inglehart (1983) responds to Van Deth in the same issue, arguing that he bases his research on incorrect theoretical assumptions. But by adding a 1985 wave to his panel Van Deth (1989) is able to greatly improves his estimates and concludes that the underlying Materialist/Postmaterialist value dimension is remarkably stable.

Gottlieb and Yuchtman-Yaar's Critique

Gottlieb and Yuchtman-Yaar (1983) raise an interesting critique using a survey of 132 Jews in the Tel-Aviv area conducted between October 1980 and March 1981. In many respects, they point out Israel is a relatively wealthy society committed to socialist principles, but it also faces constant terrorist treats. Moreover, although the authors do not discuss the threat from its Arab neighbors, between its statehood in 1948 and the time of their survey, Israel had fought five major wars, the War of Independence (1948-49), the Sinai Campaign (1956), the Six Day War (1967), the War of Attrition (1969-70), and the Yom Kippur War (1973) (Gilbert 1993; Herzog 2004). Under these circumstances, the vast majority of Israelis would select “making sure that this country has strong defense forces” as an important national goal. But Gottlieb and Yuchtman-Yaar base their analyses upon a substantially different set of questions from those used by Inglehart. However, they do ask respondents what they were looking for in a job. At a time when the annual inflation rate was running at 100 percent per annum, it is not surprising that “high income” is the first choice.¹³ They find that at a collective level Israelis have Materialist values. In addition, in choosing those characteristics that made for a good job, Israelis once again tend to be Materialists.

Gottlieb and Yuchtman-Yaar (1983, 328) conclude, “The uncertainties and anxieties associated with prolonged economic crisis may well have generated a longing for a stronger hand and a more tenacious direction of policy. In any event, the emphasis on economic recovery and law and order stand in contrast to the deaccentuation of more humanitarian values of equality and political freedom.”

Calista’s Critique

Although I list Calista (1984) among the critiques of Inglehart’s thesis, his analysis of Japanese data provides more support for Inglehart than for Flanagan. His study is based upon studies of about 600 university students in Tokyo, Nagoya, and Kyoto conducted in 1972 and about 400 students conducted in these cities in 1976. Their key instrument is the Rokeach Value Survey, which measured eighteen terminal values and eighteen instrumental values. A unique feature of Calista’s study is that in each year half of the respondents are asked to complete the surveys with their own values and half are asked to answer according to the way they thought American college students would answer.

The Rokeach Value Scale includes some values that approximate the national goals included in Inglehart’s measure, but they also include many that do not. Calista compares these “self” and “alter” goals (1984, 533-34) and also conducts a factor analysis of the “self” and “alter” goals (1984, 539-40). Calista (1984, 552) concludes, “It may be time to reverse postmaterialism’s western predispositions and to consider that the apparent Japanese exceptions may turn out to be its rules. This view may coincide with that of postmaterialism’s critics, who have tried to demonstrate that value transformation is not a sharp-edged sword cutting the past from the future. The Japanese findings confirm that view, but also suggest that postmaterialism cannot be rejected. Instead, value changes are being shaped by a past that makes postmaterialism a more (not less) adaptive process than previously recognized.”

Lafferty and Knutsen, Savage, Böltken and Jagodzinski Critiques and Inglehart’s Response

Lafferty and Knutsen (1985), Savage (1985), and Lafferty and Knutsen (1985) all publish critiques of Inglehart's value change thesis in the December 1985 *Comparative Political Studies*, and Inglehart (1985) responds to all three. Lafferty and Knutsen provide the most favorable assessment.¹⁴ As they write (1985, 411), "In the twelve years since Ronald Inglehart's "silent revolution" (1971) first excited the interest and imagination of survey researchers the world over, there has been an intensity of analysis and debate that characterizes only the most fruitful and controversial of insights. The literature is already so extensive as to constitute a subdiscipline of 'postmaterialist studies' (see, e.g., Inglehart, 1981), and there is no sign yet that the problem has lost its widespread fascination."

At the outset, they expected that the concept of Postmaterialism would not work well in Norway, a state with a strong socialist tradition in which the dominance of the Labor party was receding. To test the dimensionality of Postmaterialism in Norway they use a survey drawn from the national population register of adults between the ages of 18 and 65, interviewing over 1,000 respondents.¹⁵ They used twelve choice value items, but modified their administration and changed the "beautiful cities" goal to "protecting nature from pollution" (1985, 414). A factor analysis revealed two dimensions. They also build a measure for "Left Materialists" and "Right Materialists." They conclude (1985, 418) "postmaterialism in the social democratic state of Norway is a clearly subordinate value component along the left-right continuum." They also report, although Materialists tend to be rightists and Postmaterialists tend to be leftists, the relation between is low ($r = .29$).

Lafferty and Knutsen all measures of psychological needs, social needs, and self-actualization needs. They also develop a measure of democratic values, in which respondents are asked to rank their preferences among six values: legal security, equality, tolerance, involvement in decision-making, freedom, and solidarity (1985, 422).

They conduct a factor analysis and argue that given the experimental nature of some of their new measures, the results yield loadings for the Materialism/Postmaterialism items very similar to Inglehart's, although "protect nature" has a slight Postmaterialist polarity." Not a single factor loading over .10 is out of line with the postmaterialist thesis" (1985, 435). "Materialists value fighting crime, a good home, dutifulness, and legal security; postmaterialists value a less impersonal society, friends, considerateness, and decision-making involvement. Ronald Inglehart himself could have composed this list, but he didn't. A more miserable example of hypothesis-falsification would be difficult to come by" (425-26).

Savage (1985) argues that Postmaterialists are politically divided, undermining Inglehart's argument that the trend toward Postmaterialism will have political consequences. He analyzes the same 1973 nine-nation European sample that Inglehart (1977) uses and replicates Inglehart's four-item measure. Although he begins with a sample of 13,484 Europeans, he discards those classified with "Mixed" values, cutting his N to 5,314. Using a Left-Right self-placement scale, he divides the sample into four groups: ML (Leftist Materialists), MR (Rightist Materialists), PML (Leftist Postmaterialists), and PMR (Rightist Postmaterialists). He shows the distribution for each of the nine countries (France, Belgium, The Netherlands, West Germany, Italy, Luxembourg, Denmark, Ireland, and Great Britain). He also divides these results into two cohorts: a pre-1945 cohort and a post-1945 cohort. He then turns to a combined nine-nation sample and examines the characteristics of these four groups, dividing the results into the two basic cohorts.

Savage (1985, 448) concludes, “Inglehart’s postmaterialists are not a unified group marching to the beat of a single drummer. There are important factions within the postmaterialists that have their origin in the preindustrial and industrial divisions existing in Europe that are reflected in ideological disagreements. This division creates the distinct possibility of conflict between the left and right postmaterialists in the post-1945 cohort.

Böltken and Jagodzinski (1985) present a negative assessment of Inglehart’s thesis, arguing that a property conducted cohort analysis disconfirms his theory.¹⁶ They argue that there are two formulations of Inglehart’s value change thesis: a “core” version that allows for no period effects, and a “soft” model in which Inglehart has “immunized” (1985, 458) against falsification.

Böltken and Jagodzinski conduct a cohort analysis based upon all the usable European Community Surveys conducted between 1970 and 1980, although, unlike Inglehart, they do not weight countries according to their size. They use Inglehart’s four-choice measure, but show the results analyze results for six-month intervals, whereas Inglehart combines biennial surveys. Moreover, rather than using an index, they examine the results for “Materialists” and “Postmaterialists” separately. In addition to a visual inspection of trend lines, they also model the results using NOMNET which, they argue (1985, 469), “permits a more rigorous analysis than optical inspection does.” In addition to analyzing the combined European sample, they also present a more detailed analysis of West Germany (1985, 473-81).

They conclude that none of their results is compatible with either Inglehart’s “core” model or his “soft” model. “If a theory is not compatible with the data,” they (1985, 481) conclude, “there are always several possibilities to be considered: either the data base, the auxiliary theory, or the main theory, or some combination of these three, may be wrong.” Inglehart’s theory may not be worth saving (1985, 482). “Instead of starting with fascination at some allegedly deep-rooted value orientation created by formative affluence and ending inevitably in a silent revolution, it seems more promising to ending inevitably in a silent revolution, it seems more promising to investigate the communications processes in formal and informal networks if we want to understand why some new evaluations and ideas have gained widespread acceptance in Western European publics in the past two decades.”

Inglehart (1985) responds to all three critiques, but he is very positive toward Lafferty and Knutsen (1985). They (1985, 486) “have carried out one of the most exhaustive empirical investigations ever made of the validity of the materialist/postmaterialist concept.” They follow March (1977), who also helped to clarify the concept, but (1985, 486) “have gone well beyond Marsh’s work, carrying out a considerably more exhaustive investigation of the relationship between materialist/postmaterialist priorities; and the individual’s personal values, character values, and democratic values. They find a pervasive and coherent pattern of linkages: they conclude that the Materialist/Postmaterialist value syndrome represents a highly constrained ideological dimension.” “The confirmation of the theory is in a sense all the more significant because it comes from researchers who were clearly not prejudiced in favor of the theory (1985, 487; see also, Inglehart and Abramson 1999, 665-66.)

Inglehart agrees with Savage that there is not a strong relationship between Postmaterialism and a Leftist self-placement. But whereas Savage sees this finding as contradicting his theory, Inglehart argues that this is what he expects. He argues that, given their social backgrounds, Postmaterialists are predisposed to support parties of the right (1985, 488). However, he (1985, 489) argues that old party alignments are eroding. This is reflected in the decline of class voting (see also, Inglehart 1997, 255).

But whereas Inglehart spends a total of nine pages discussing Lafferty and Knutsen and Savage, he spends thirty-six pages discussing Böltken and Jagodzinski (1985). Inglehart presents his own cohort analysis, adding four years to the time period (covering 1970 through 1984), uses the PDI as the dependent variable, combines surveys when there are two Euro-Barometer surveys for a single year, and weights countries according to their size. He argues that NOMNET is inappropriate because it introduces “arbitrary assumptions about how much of the observed variation reflects short-term period effects, and how much is a long-term trend that presumably reflects life cycle effects” (1985, 526). Most importantly, he argues that the “core” model does not represent a position he has ever taken (1985, 496).

Inglehart concluded (1985, 495) “In all six nations for which data are available from 1970 through 1984, strong cohort effects are present, with the older generations holding markedly and consistently more materialist values than the younger birth cohorts. Böltken and Jagodzinski’s interpretation seems completely untenable in the face of the broad array of evidence now available.” Their Germany results derive from the time frame they chose and from a sampling anomaly in the West German Euro-barometer data.

Sciarini and Finger’s Critique

Sciarini and Finger’s (1991) goal is to study the dimensionality of issue space among the Swiss political leaders and the Swiss public. Their surveys are based upon party 1,575 party leaders conducted in 1991 and a sample of 384 party sympathizers conducted in 1990. In addition to other measures, their survey included Inglehart’s four-item measure of Materialism/Postmaterialism. Among the elites Postmaterialists were more likely to support environmentalism (1991, 551). However, they argue that research supports other researchers who find that Inglehart minimizes the importance of Materialism of the right (1991, 552). Their major finding is that while the traditional Left-Right dimension is still meaningful for the elites it is no longer meaningful for the mass public.

Trump’s Critique and Abramson and Inglehart’s Response

Trump (1991) argues that studying teenagers should test Inglehart’s thesis. If values are learned at an early age, he argues, there should be differences among youth. He surveys high school seniors in several high schools in Indiana and Minnesota ($N = 426$) and Gymnasien (academic high schools) in West Germany ($N = 315$) in 1984. His survey includes three of Inglehart’s Materialist goals and three of his Postmaterialist goals, and he also measures Maslow’s needs hierarchy.

German students were much more likely to be Postmaterialists than American students, which he (1991, 376) sees as consistent with Inglehart’s theory since Gymnasien students are an elite group. In Germany, students with higher-order needs are more likely to be Postmaterialists than are students with lower-order needs. In the United States, however, there is no such relationship (1991, 377). “Clearly,” he writes (1991, 377), “the finding from the German sample provides support for Inglehart’s ideas concerning the origins of values in the need hierarchy.” But he finds that American students in prosperous regions are more likely to be Materialists than

those in depressed regions. In Germany, there is no significant relationship. In his view, the overall evidence from his findings is inconclusive (1991, 382).

Because Duch and Taylor (1993) cite Trump's study, we briefly discuss it as well (Abramson and Inglehart 1994). We view Trump's analysis (1994, 806) "an interesting case of truncating variance on the crucial variable." He is studying German Gymnasium students, most of whom would go on to universities. But his measure of security consists of unemployment rates in the respondents' hometowns. We write, "since his sample consists of high school seniors and Gymnasium students, it is unclear how many of them were from families affected by unemployment, which at that time measured 7% for both countries."

Shively's Critique and Abramson and Inglehart's Response

In his "feature review" of Inglehart (1990), Shively (1991, 235) acknowledges, "This book must be read by anyone interested in advanced industrial societies." But Shively (1991, 236-37) disagrees with Inglehart's discussion of rational choice theory and, more importantly, argues (1991, 237), "The cohort analyses by which he seeks to establish that value change is generational is fundamentally flawed." Inglehart, Shively (1991, 237) notes, acknowledges that one cannot definitively differentiate among generational, life-cycle, and period effects, since when studying a person's age, date of birth, and year of the survey each of them is a perfect function of the other two. According to Shively, Inglehart argues that a belief in such an aging effect" for differences among cohorts (Inglehart 1990, 73) "must depend upon faith alone." Apparently, Shively (1991, 237) writes, Inglehart fails to realize that "assertion of generational effects is similarly a matter of pure faith."

Inglehart and I (Abramson and Inglehart 1995) disagree with Shively. We acknowledge (1995, 55) that Shively "is perfectly correct when he argues that the failure of cohorts to become more Materialist as they age could result from short-term period effects that prevented Materialism from emerging." But, we continue (1995, 55), "Although the life-cycle interpretation cannot be rejected definitively, the life-cycle and generational explanations for age-group differences are not equally plausible. In order to sustain a life-cycle explanation, one would need to specify exactly *what* short-term forces prevented Materialism from emerging."¹⁷

Clarke's and his Colleagues' Critiques and Inglehart, Abramson, and Ellis' Responses

Clarke and his colleagues advance an explanation for short-term forces that contributes to a misleading trend toward Postmaterialism and, unlike Flanagan, Clarke spent a mere decade critiquing Inglehart.¹⁸ His basic argument, which pervades all his critiques, is that Inglehart's measure of Materialism/Postmaterialism does not take unemployment into account. One of the four goals in Inglehart's four-choice measure is "fighting rising prices." But Clarke and Dutt (1991) argue that the respondent faces a dilemma if he or she is concerned about unemployment. As unemployment is not one of the options in the values battery, they argue, respondents are likely to choose the "giving the people more say in important government decisions." This is likely, they argue (1991, 910) because during the 1980s conservative parties governed many West European societies.

I have always thought that this argument was, as the Marquis of Salisbury said about Disraeli's amendment on Disestablishment (March 30, 1868), "too clever by half." But Clarke and Dutt do not rely upon clever arguments alone, but upon their analysis of data from the European Community Studies and the Euro-Barometer studies conducted between 1976 and 1986. Using pooled cross-sectional time series data they study change in Belgium, Denmark, France, Ireland, Italy, The Netherlands, and West Germany, and provide a more detailed study of Britain. They also conduct a confirmatory factor analysis of data from The Netherlands, West Germany, and the United States. "We have shown," they (1991, 918) conclude, "that the four-item battery regularly included in Euro-Barometer surveys to measure public value priorities does not show a significant trend in the direction of postmaterialist values in a number of Western European nations. Moreover, the measure is very sensitive to short-term economic conditions that alter the public political issue agenda. The nature of this sensitivity is such that sharp increases in unemployment in the early 1980s make it appear, based on the four-item measure, that there was a substantial shift toward postmaterialism. Pooled cross-sectional time series analyses for eight of these countries over the 1976-86 period indicate that the failure to include an unemployment statement in the measure does much to accounts for apparent postmaterialist trend."

Inglehart and I (Inglehart and Abramson 1994, Abramson and Inglehart 1995) were quick to reply. We clearly showed that the long-term trend toward Postmaterialism was driven by generational replacement. We showed that there was a trend toward Postmaterialism in all eight countries except Belgium. Moreover, there was substantial evidence the trend results from replacement. We presented a figure showing changes in overall scores on the PDI between 1970 and 1992 for a weighted sample for West Germany, France, Britain, Italy, The Netherlands, and Belgium (1994, 340). Except for the oldest cohort (which can not be tracked over this two decade period), the remaining seven cohorts all display a modest movement toward Postmaterialism. But we also superimpose the overall trend line for these societies. The overall trend toward Postmaterialism is greater than the increase for any of the cohorts. This is because during this period the cohort composition of the European population changes as the result of generational replacement. Older cohorts with heavily Materialist values are dying out of the population, and being replaced by cohorts who grew up during periods of greater security. Employing least-squares regression analysis, we (345) demonstrated that during the two decades between 1970 and 1992 inflation depressed Postmaterialism while unemployment had no effect. Moreover, we (1994, 343) show that in 1970 Inglehart asked respondents about "job security" as an overall goal, and in 1973 he asked respondents their occupational goals, one of which included "a safe job." In neither case were these goals related to Postmaterialist values. In Abramson and Inglehart (1995) we extend our response by using techniques developed by Abramson (1983, 56-65) to estimate the effects of generational replacement.

As we show (1995, 158-59), between 1970 and 1992, forty percent of the adult European population was replaced. During this period there was an overall shift toward Postmaterialism of 19 points on the PDI. Using algebraic standardization techniques, we conclude that if no new cohorts had entered the population, and if older cohorts had not died out, the overall shift toward Postmaterialism would be only two points. In other words, only about one-tenth of the shift toward Postmaterialism would have occurred if there had been no replacement. Nine-tenths of the shift results from replacement.

As in Inglehart and Abramson (1994), we also present results from forty nations showing that in any society in which there has been substantial economic growth there is a tendency of

the young to have more Postmaterialist values than their elders, and that this relationship tends to be greater in societies with the largest level of growth. The evidence is presented more thoroughly in Inglehart (1997, 131-59), although this evidence is not directly related to the controversy with Clarke and his colleagues.

Clarke, Dutt, and Rapkin (1997a) replied to our response by arguing that there were gaps in our time series between 1970 and 1976, and that the wording of the preamble to the values choices differs in the surveys conducted before 1976 differ from those used from 1976 onward. Thus, they question any time series analyses that merge the 1970 through 1992 period (1997a, 22). But they are mainly concerned with the problem of unemployment. They conduct a time series analysis based only on the years between 1976 and 2002 and conclude that respondents shun the “fighting rises prices” option when there are high levels of unemployment. They construct an economic priority model by subtracting the inflation rate from the unemployment rate and an economic security index, which they note is commonly known as a “misery index” by adding unemployment and inflation rates, ignoring that this is an invalid index used by Jimmy Carter in 1976 to attack Jerry Ford.¹⁹ They test both models through pooled regression techniques, and conclude that whereas the economic priority measure predicts levels of Postmaterialism the economic security index does not (1997a, 30-31). Referring to Sniderman, Brody, and Tetlock (1991) and Sniderman and Piazza (1993), they stress the promise of quasi-experimental designs. Interviews are “conversations in context” and one must be aware of the context in which they are held. In the case of Inglehart’s measure, when unemployment is high respondents are pushed to choose “giving the people more say,” because the option of fighting unemployment is unavailable.

As Abramson, Ellis, and Inglehart (1997) point out, differences between the Clarke, Dutt, and Rapkin results and Inglehart’s do not result from the slightly different time series employed or from the different introduction to the goals that were asked in 1970 and 1973.²⁰ Using the same truncated (1976 through 1992) time frame employed by Clarke and his colleagues they perform estimates for each country using three pooled estimators (1997, 46). They conclude that there is “a significant inverse relationship between inflation and postmaterialism and a significant negative relationship between unemployment and postmaterialism.” Abramson, Ellis, and Inglehart also introduce a time trend as a proxy for generational replacement. As they show, a trend for time, which Clarke and his colleagues omit, is necessary to properly specify the model (1997, 52) since that trend is a proxy for generational replacement. Moreover, while they agree with Clarke and his colleagues, and with Sniderman, that researchers should consider the questions they do not ask, as well as those they do, they remind readers that a survey is only loosely analogous to a conversation.

Clarke, Dutt, and Rapkin (1997b) argue that more innovative measurement is necessary. Political psychologists do interesting methodological and theoretical work, whereas comparativists pay little attention to this work in political psychology. Major surveys, in particular, face inertia in attempting to innovate. Moreover, they maintain that structural equation models (SEM) could be helpful to test alternative theories about change, but (1997b, 63) “The Euro-Barometer values battery with its meager four-choice item and forced-choice format is an unfortunately excellent example of a set of measures that do not lend themselves easily to SEM analysis.”

Clarke and his colleagues (Clarke et al. 1999) continued their critique by conducting a mail survey yielding 1,200 respondents in Canada in 1995, and in-person interviews of 2,021 West Germans in 1996 and 2,067 in 1997, and 1,117 East Germans in 1996 and 758 East

Germans in 1997. In Germany, two surveys were administered in 1997. In both countries respondents were asked different versions of the values battery, one of which included “fighting rising prices,” whereas the other included “creating more jobs” In the 1997 German survey respondents were asked both batteries just a few minutes apart.

In Canada, Postmaterialism was higher when measured with the “inflation” question, presumably because Canadians who were not concerned with this goal could not score as a Materialist. However, the argument that high levels of unemployment produce a demand for giving the “people more say” is dropped from the argument. Clarke and his colleagues also perform a multinomial logit analysis to argue that values are affected by economic conditions. Likewise, a multinomial logit analysis was conducted for both parts of Germany with the 2007 sample. “These results,” they write (1999, 645) “reinforce the conclusion that the measured percentages of materialists and postmaterialists, and the net balance of these groups, are powerfully affected by the interaction among the structure and content of the Euro-Barometer values battery, respondents’ issue priorities, and the broader economic context that obtains when these batteries are administered.”

But as we argue (Inglehart and Abramson 1999, 673) argue, “A basic principle in social science research is that time-series evidence is required in order to demonstrate or refute hypotheses about change.” But Clarke and his colleagues attempt to make inferences about change in surveys conducted in 1996 in Canada and 1996 and 1997 in Germany. They find that when they change the values measure they obtain different results, and “present this as proof that the original battery is flawed and invalid” (1999, 673). But as we (1999, 674) report, when Inglehart originally developed his measures he included a question about job security. Based upon the relationships in his first values survey, he concluded that giving a high priority to reducing unemployment was not a good measure of values. As we write (1999, 674) “On balance, the unemployment item tends to tap materialist concerns, as one would expect, but it is also something of a catchall that draws support from different groups for different reasons. Therefore, it was an ambivalent measure of values, which is why it was not included when we developed the twelve-item battery.”

As we also point out, the Clarke et al. experiment has another built-in experiment they chose not to discuss. Because it includes a sample of the Länder of the original Federal Republic of Germany as well as of the newly formed Länder of the former German Democratic Republic we can compare values in each. Granted, these countries have had substantially different experiences since the downfall of Hitler, from the trauma of the Russian invasion of the East (Evans 2009, 707-13; Hastings 2004, 447-76) and the authoritarian rule of a police state (Port 2007). But they have another difference as well. As of April 1997, unemployment in the West was 8.4 percent, while the official unemployment rate in East Germany was 19 percent, and for several years has it been about twice as high in East as in West Germany.

If unemployment contributes to Postmaterialist values we would expect Postmaterialism to be higher in East Germany than in the West. As Clarke et al. presented their results for both regions, they can be rearranged to test this hypothesis. Their data show that, averaged across all three of their surveys show that in the West, 29 percent were Materialists, 55 percent had mixed values, and 16 percent were Postmaterialists; in East Germany, 34 percent were Materialists, 57 percent were classified as mixed, and only 9 percent were classified as Postmaterialists.

Clarke’s (2000) remaining critique focuses on weaknesses in an article by D. Davis (2000) that criticizes Inglehart’s thesis. However, Clark again raises his “conversations in context” argument. Now, Clarke argues (2000, 484), “that materialists frustrated by the absence

of an unemployment item in the regular version of the battery should have gravitated to the “maintain order” goal because “it is the only other materialist option.” He analyses the 1997 Canadian National Election Survey, a survey of nearly 4,000 respondents. He argues that the probability of being classified as a Postmaterialist varies greatly according to the question wording.

Clarke now concludes that the Inglehart values measure is so flawed that it should be abandoned. But, he concludes, this is unlikely because scientific enterprises have a great deal of inertia. Regardless of the evidence, he writes (2000, 492), “proponents of the ‘silent revolution’ very likely will continue to proclaim the virtues of the E-B [Euro-Barometer] values battery and the wide range of explanatory power of materialist to postmaterialist values shift, regardless of what the evidence shows.” “In this regard,” he concludes (2000, 492) “the values shift research program, as currently constituted, risks assuming the characteristics of a religious movement, with acolytes in all corners of the globe working under the auspices of the World Values project to gather data in support of an inviolable theory.”

Hellevik’s Critiques and Inglehart’s Response

Hellevik (1993, 211) begins by arguing that “The latest book of Ronald Inglehart, *Culture shift in advanced industrial society* (2000) sums up the impressive results of his two decade endeavor to describe the gradual cultural change from materialist to postmaterialist values.” He acknowledges (1993, 211) “the empirical database of Inglehart is outstanding as regards the number of cases and the impressive span in time and space they cover.” But, Hellevik (1993, 211) states the main part of Inglehart’s analysis “relies on a very narrow set of indicators . . . derived from his theoretical reasoning about the nature of cultural change in industrial societies. What happens when one uses a more open, more inductive approach and a much broader set of indicators?”

To answer this question, Hellevik relies upon the Norwegian Monitor, a series of surveys “carried out biannually [sic] since 1985 with representative samples of nearly 3,000 respondents interviewed in each wave (1993, 215). The two last ones, from the autumn of 1989 and 1991, also included Inglehart’s four-item values index.”²¹

The Norwegian Monitor study includes 160 questions, mostly using an agree/disagree format. Based upon these items, Hellevik (1993, 217) classifies respondents as falling into one of four subcultures: (I) root-Norwegian, which is preindustrial; (II) authoritarian or industrial; (III) tertiary, which can also be called postindustrial; and (IV) culture that reflects the “hippie” culture of the 1980s, which can be called “postproductive.” I was unable to figure out the distribution of Norwegians into these four subcultures.

Hellevik’s (1993, 221) shows how Norwegians with differing levels of Postmaterialism are located on his four-fold matrix. He concludes (1993, 221), “they fall along the main diagonal from stability- and outeroriented to change- and inner-oriented.” Hellevik also analyzes Flanagan’s authoritarian-libertarian measure, which fits the four subcultural types better. In my opinion, however, it is very difficult to understand what these four subcultures represent, let alone how they are measured.

In his next critique, Hellevik (1994) compares the relative utility of measuring values by ratings and by rankings, concluding that rating values is superior. Inglehart responds in the same issue, as well as in Inglehart (1977).

Duch and Taylor's Critiques and Abramson and Inglehart's Response

Duch and Taylor (1993) argue that education is the main factor affecting levels of Postmaterialism, and that early socialization experiences have little impact. They employ the Euro-Barometer surveys conducted in France, Belgium, The Netherlands, Germany, Italy, Denmark, Germany, Italy, and Great Britain between 1973 and 1984. They also include GNP per capita and urbanization. Their dependent variable is Inglehart's four-item values index.

Duch and Taylor conduct a regression analysis for the merged European sample, as well as for each country separately. Based upon a multivariate analysis they conclude there is no support for Inglehart's thesis that economic conditions during the respondents' youth affect their values. Secondly, they conclude, that inflation rates when the survey is conducted greatly affect values. Lastly (2003, 764), they conclude "education . . . is an overwhelmingly important factor for how respondents rank these four items." They also conclude that as people age they are less likely to favor postmaterialist items. As Figure 1 (below) shows this is not true, but by introducing enough controls just about anything can happen.

Their final argument is that Postmaterialism is too high in the former Soviet Union and Eastern and Central Europe "in spite of the serious economic penury they have endured" (2003, 753).

Inglehart and I (Abramson and Inglehart 1994) are not persuaded. We point out that Duch and Taylor have excluded respondents born before World War II, and for the Soviet Union exclude Soviet citizens born before 1950. Although they argue this exclusion is necessary because they lack reliable economic data for earlier periods, Inglehart and I feel stigmatized as we were both born before World War II.²² More importantly, this decision drastically truncated variance and excluded the very cohorts that had suffered the greatest deprivation. We maintain that levels of education were best viewed as a proxy for economic security during the respondent's youth. Education, we argue does not necessarily contribute to either Postmaterialism or to democratic values. We present the percentage of Materialists and Postmaterialists for all eight countries for merged samples with data from 1980 through 1989 showing the results by cohort and level of education. We find a consistent tendency for Europeans with higher levels of education to be less likely to be Materialists and more likely to be Postmaterialists than those with lower levels of education. In fact, those relationships are even found among the cohorts that were educated in Germany during the Third Reich (the 1916-25 cohort) and educated in Italy under Fascism (the 1906-15 and the 1916-25 cohort). Obviously, these relationships do not occur because the German educational system under Hitler or the Italian educational system under Mussolini promoted democratic values. "It seems far more likely," we argue (1994, 804), "that these relationships are found at least partly because Germans and Italians who attained higher educational levels came from more secure social backgrounds." Moreover, we use the 1990-91 WVS to show that, with the exception of East Germany, all have lower levels of Postmaterialism than the richer advanced industrial democracies (1994, 809).

Duch and Taylor repeated their analyses adding the older cohorts and maintain doing so does little to affect their results (1994, 817-18). But their basic criticism is that we fail to present multivariate analyses that confirm Inglehart's thesis (1994, 823). On the other hand, multivariate analyses that can take the results displayed in Figure 1 of this paper and conclude that cohorts become more Materialist as they age are suspect.

In Abramson and Inglehart (1995) we repeat much of the evidence presented in our article, but we add new evidence as well. We note that few surveys provide social background data about respondents when they were growing up, and acknowledge that such reports are suspect. But both the five-nation survey (The Netherlands, Britain, United States, Germany, and Austria) carried out by the European Community Action Survey in 1971 and the *Political Action* survey carried out under the supervision of Barnes and Kaase and their colleagues in 1974 (Barnes, Kaase et al. 1979) ask respondents about their fathers' occupation and income "when you were growing up." They were also asked standard questions about their own occupation and income. As we report (1995, 85) in both surveys, father's SES was somewhat more strongly correlated with values than the respondents own SES.

Bean and Papadakis' Critique and Inglehart's Responses

Bean and Papadakis (1994, 264) begin by maintaining, "The enduring interest in the work of Ronald Inglehart is founded on his claims about the emergence of new socio-political cleavages in industrial societies." "Though Inglehart was initially concerned about the protest movements of the 1960s (the student and civil rights movements), numerous studies have shown that many of the supporters of these movements played leading roles in the social movements of the early 1970s. The earlier movements had also anticipated some of the preoccupations of the green movements in the 1970s and 1980s. The analysis by Inglehart of the impact of these earlier movements has thus proved of lasting value" (1994, 267).

Despite the importance of Inglehart's work, Bean and Papadakis question whether his measure of Postmaterialism captures a single dimension. Inglehart demonstrates the dimensionality of his measure through factor analysis, whereas they maintain that such analyses are inappropriate for data in which respondents rank choices. They proceed by testing the dimensionality of his measure by having respondents rank values, as Inglehart does, and by having them rate values. Their main survey uses mail-back questionnaires from a random sample of Australians conducted in 1988, yielding 1,814 cases. This survey is supplemented with data from a 1984-85 Australian National Social Science Survey, which provides 3,012 cases.

Using the mail-back questionnaire and having respondents rank values their factor analyses yield the same pattern as Inglehart's. But when ratings are used in the larger national sample this structure disappears and Materialist and Postmaterialist goals are related to each other. Moreover, the correlates of Postmaterialism with other values and social characteristics change. For example, when ratings are used age is no longer related to Postmaterialism, a finding which, they argue, calls into question Inglehart's value change thesis.

Inglehart (1994) responds to Bean and Papadakis in the same issue, although I will discuss his response in Inglehart (1997). Inglehart explains that the Bean and Papadakis results are not surprising since most people value both Materialist and Postmaterialist goals. But Inglehart argues (see also Abramson and Inglehart 1995, 119-21) that ratings are inappropriate. "Rating," he argues (1997, "elicit information quickly—but they are not well suited to measuring priorities." Respondents can simply race through a list of values, approving of most of them. But with a ranking format, respondents (1997, 120) "must painstakingly decide which, among a series of desirable goals, is most important, which ranks second, and which are the least important."

“The study of Bean and Papadakis,” Inglehart writes (1997, 121), “adds a well-executed methodological study to the picture, and it provides convincing evidence that the format in which the questions are asked is crucial.” Inglehart (1994) and Helleveick (1994) both criticize Bean and Papadakis for having a severe response set problem. They replied that they had tried to correct for the response set problem using the standard methods. When they do, Inglehart reports, they found that their results resembled the structure one derives using rankings. They interpret this to mean that corrections for response set had failed. “There is no reason to believe it had,” Inglehart (1997, 122) concludes, “a more straightforward interpretation is that response set is, indeed, responsible for the pattern they get using ratings—and that when it is corrected, one obtains the Materialist/Postmaterialist dimension that these items were designed to tap.”

Braithwaite, Makkai, and Pittelkow’s Critique

As Braithwaite, Makkai, and Pittelkow (1996, 1536) write, “Inglehart . . . has had considerable impact on research into political culture and change through his value concepts of materialism and postmaterialism.” They write (1996, 1537) that “Inglehart conceptualizes materialism-postmaterialism as a single continuum with those choosing all materialist values at one end, those choosing all postmaterialist values at the other, and those choosing a mix of materialist and postmaterialist values in between.” As they note, there have been many challenges to this conceptualization. As they also argue, some view his measure as a value and others as an attitude.

To test for the meaning of Inglehart’s four-item measure Braithwaite and her colleagues conduct a survey of 169 undergraduate psychology students at the Australian National University in 1988-89.²³ They filled out a questionnaire measuring values, social and political attitudes, personality characteristics, and behaviors. As they report, students filled out the questionnaires on their own time, participation was voluntary, and the responses were confidential. The authors perform correlational analyses, which, they report, justifies constructing five indices.

Materialists, Postmaterialists, and Materialists are compared, measuring relationships with national strength and order, differences between international harmony and national strength and order, and left-right attitudes. They report the mean scores and also perform a One-way ANOVA (1996, 1544-45). They report, “Postmaterialists showed greater concern about international harmony and equality, less concern about national strength and order, and more liberal social attitudes.” They argue (1996, 1545) “the finding that attitudes of the left were more likely to be found among postmaterialists was contrary to Inglehart’s (1990) prediction.” When the values index was correlated with attitude components individually, all of the relationships are significant and in the expected direction, except for an item approving special benefits for aborigines.

On balance, they conclude, many of the relationships support Inglehart’s conceptualization. Most importantly, they (1999, 1548) conclude, “These findings would suggest that measurement with the Inglehart (1971) battery is taking place at the value level rather than the attitude level of analysis.” Their major critique (1996, 1551) is that Inglehart’s practice of forcing respondents to choose among values may be dated.

J. Davis’ Critique and Inglehart and Abramson’s Response

J. Davis (1996, 322) begins his review essay of Abramson and Inglehart (1995) by writing, “Since I am on record as favoring continuity in social research I should love this book because the authors—who discovered the key to the universe in 1971—have subsequently argued its merits with an unswerving enthusiasm that makes the current Pope [John Paul II] seem as flexible as the current American president [Bill Clinton] or Senate minority leader [Tom Daschle].”²⁴ “This book does not attempt to modify the theory, which has been stated and restated in the authors’ many books and articles. To the contrary, this volume (despite the misleading University Press advertisement, which appeared in, e.g., the Summer 1995 issue of *Public Opinion Quarterly* is mostly an implacable defense of the theory against any and all criticisms” (1996, 322).²⁵

J. Davis summarizes the basic thesis (1996, 322), but argues that unless cohort differences drop to zero, there are no negative effects impeding Postmaterialism, and as long as births and deaths continue, “cohort differences virtually guarantee cohort effects.” Barring cataclysmic natural events or an Apocalypse, births and deaths will continue.

As may be surmised by this introduction, Davis does not think that our book adds much to human knowledge. In his view, problems abound, and he presents two tables based upon reanalyses of tables in our book, one based upon codebooks from the International Social Security Programme, and two based on his own reanalyses of General Social Survey (GSS) data between 1990 and 1994.

J. Davis begins by giving each of the twelve value goals names, which can be understood easily by those familiar with Inglehart’s work. The Materialist goals are: GROWTH, STABLE, PRICES, CRIME, DEFENSE, and ORDER; the Postmaterialist goals are MORESAY, BEAUTIFY, HUMANE, IDEAS, GOVSAY, AND SPEECH. As he notes, the vast majority of studies rely upon PRICES, ORDER, GOVSAY, and SPEECH. J. Davis argues that two important goals should have been added, UNEMPLOYMENT and PEACE (1996, 323). These items, he acknowledges (1996, 323), “have considerable face validity.” But J. Davis carefully examines the factor analyses presented in Abramson and Inglehart (1995, 104-10). With forty societies and twelve goals, there are 480 factor loadings. “At first glance,” he writes (1996, 323), “the 480 factor loadings show astonishing stability across nations.” “Aside from BEAUTIFY, which just does not work, 442 of the remaining 440 (40 times 11) signs are as predicted” (1996, 323). But when one examines the magnitude of the loadings, J. Davis (1996, 324) argues, the results are much less impressive.

J. Davis argues that Inglehart made a major mistake by not including unemployment among his goals. In the 1985 and 1990 International Social Security Programme surveys, respondents were asked, “If the government had to choose between keeping down inflation or keeping down unemployment, to which do you think it should give highest priority?” He builds an index by taking the percent choosing INFLATION and subtracting the percent choosing UNEMPLOYMENT. J. Davis (1996, 325) examines results in 1985 and 1990 in Australia, Britain, Germany, Italy, Italy, and in the United States. In six out of ten cases respondents were more likely to choose keeping unemployment down. He concludes (1996, 325), “I consider betting the ranch on PRICES to have been a bad mistake.”

J. Davis argues that we make two arguments for using level of education as a proxy for early security, and hence arguing that education *per se* does not contribute to Postmaterialism. He argues (1996, 327) that we present two sets of evidence, “one ridiculous and one interpreted deceptively.” The ridiculous argument is that the Nazis won German student elections in 1929,

demonstrating that higher education does not necessarily lead to Postmaterialism. “A possibly more persuasive argument,” J. Davis (1996, 327) is to show levels of Postmaterialism in cohorts controlling for education. As he notes, we do this for countries using pooled Euro-Barometer results for surveys between 1980 and 1989 (Abramson and Inglehart 1995, 78-80.) He notes that we focus on two Italian cohorts (1906-15) and (1916-25) and one German cohort (1916-25) as subject to fascist influence. J. Davis questions our interpretation

J. Davis argues that to measure formative security one needs direct evidence based upon the respondents’ reports about conditions when they were growing up. He points out that the GSS had appropriate data for 1993 and 1994 since it included Inglehart’s four-item measure, measures of level of education, and the qualities that the respondent would prefer in a job, which allowed respondents to choose between job security and a feeling of accomplishment. J. Davis reports that Americans who are college graduates are much more likely to be Postmaterialists than those who had not graduated from high school. Moreover, this relationship remains when controls are introduced for the respondent’s father’s income and father’s occupation.

We (Abramson and Inglehart 1996) acknowledge that J. Davis makes some important arguments, and we do not attempt to answer all of them. Instead, we focus on two central criticisms. First we explain why the factor loadings in our tables are low. Respondents are choosing among three sets of four goals. If they choose a Materialist goal as their first choice, on their second choice they must choose among two Postmaterialist goals and one Materialist goal; if they choose a Postmaterialist goal as their first option, for their second choice they must choose among two Materialist goals and one Postmaterialist goal. This leads to a problem of ipsativity, and tends to reduce the loadings on the first principal component. In order to measure values correctly, respondents must rank them, but doing so artificially reduces factor loadings (Abramson and Inglehart 1996, 451).

As for the question of formative security, we note that J. Davis’ reanalysis of GSS data provides no attempt to validate his measure of formative security. Fortunately, we were able to use the Political Action surveys conducted in the 1970s (see Barnes and Kaase et al. 1979). These surveys included Inglehart’s twelve-item values index, detailed parental background, and the respondent’s education. Our dependent variable is the respondent’s score on the twelve-item values index, and we employ regression analysis through the origin since we are employing categorical data for which there is no true mean. Our two independent variables are the respondent’s formative security (measured by three background variables) and the respondent’s level of education. “Applying Davis’s ground rules,” we (1996, 453) write, “our primary test of the formative security theory will be upheld if ‘when formative-year prosperity is controlled, the correlation between the respondent’s schooling and the [values] index is reduced.’” The model is tested with data from West Germany, The Netherlands, Austria, the United States, Italy, and Finland (see 1996, 454).

Our thesis about the impact of formative socialization is supported in all six societies. In our multivariate analyses, the zero-order relationship between formal education and postmaterialism is reduced substantially in all six societies when we control for formative security. As we argue (1996, 453), our findings not only meet J. Davis’ test but they go well beyond it. In all six societies, our measure of formative security (based upon recall data) actually explains more variation in values than the respondent’s own educational level.

Pellelier and Guérin’s Critique

Pelleliet and Guérin (1996, 71) begin by noting the rise of Postmaterialist values in democratic societies and ask whether that shift has affected party leaders and followers of the two main parties in Québec, the Liberal Party and the Parti Québécois. Their results are based upon a mail survey that was part of the 1993 Canadian Election study, as well as a survey they administered. There were sharp value differences among party leaders. Using Inglehart's four-choice measure, they found that among Parti Québécois leaders ($N = 338$), 6 percent were Materialists, 42 percent had Mixed values, and 52 percent were Postmaterialists, a PDI of 46. Among Liberal Party leaders ($N = 241$), 20 percent were Materialists, 63 percent had Mixed values, and only 17 percent were Postmaterialists, a PDI of -4 (85). Overall levels of Postmaterialism were lower among voters for each party, and party differences were smaller. Among the 150 Parti québécois voters, the PDI was 19; among Liberal voters it was -4 (86).

But while Postmaterialism was an important value dimension it had not replaced the old politics economic cleavages. The political conflicts, they argue, are still based upon the distribution of wealth. They demonstrate the prevalence of economic issues through multivariate analyses (1996, 99-106). However, they do not see their findings as a criticism of Inglehart. Inglehart never argues that new issues driven by value differences would *replace* traditional bases of conflict.

Jackman and Miller and Swank's Critiques and Response by Granato, Inglehart, and Leblanc

Jackman and Miller (1996a) are concerned with the growing interest in political culture, which they believe is leading political scientists to deemphasize the importance of institutional factors in both democratization and economic growth. The interest in political culture was spurred by Almond and Verba's (1963) five-nation study, and recently led to two major books, one by Putnam and his colleagues on cultural factors contributing to or inhibiting democratic institutions in Italy's twenty regions (1993) and to Inglehart's (1990) study of value change in advanced industrial societies. In 1998 Inglehart published an article in the *APSR* entitled, "The Renaissance of Political Culture," and Jackman and Miller added a question mark to Inglehart's title.

Their goal was to challenge both Putnam and Inglehart, but I will ignore their discussion of Putnam. Their critique of Inglehart does not focus on Postmaterialism alone, although they include a measure of Materialism in their analyses. They analyze results from the mid-1980s presented in Inglehart (1990, Chapter 1) for about twenty societies, most of them advanced industrialized democracies. They present a correlation matrix showing relationships among satisfaction, trust, support for revolutionary activity, conservatism, materialism, political discussion by women, and the percentage of Protestants. They argue that these measures are not strongly related to each other, challenging "the assertion that these indicators are all components of a single enduring and distinctive *cluster* of cultural traits" (1996a, 646).

They conclude that their findings (1996a, 665) "offer scant support for the arguments advanced by Inglehart." The measures, as noted, do not form a coherent cluster. "Secondly," they write (1996a, 652), "we find that Inglehart's measures of culture are sensitive to short-term fluctuations in economic growth rates and the level of unemployment. This sensitivity varies by indicator, moreover: levels of life satisfaction and postmaterialism are systematically affected by

economic growth rates, but are relatively insensitive levels of unemployment.” They conclude (1996a, 653), they found no evidence that cultural factors affect either political democracy or economic growth. They argue, based upon their reanalysis of Putnam’s data, as well as data presented by Inglehart, “further attempts to refine and test the case for culture along the lines we have addressed seems unlikely to be productive. We believe it may be more fruitful to recast the puzzle in more institutional terms, and in the process to endogenize political culture” (654).

Swank (1996) discusses Jackman and Miller and Granato, Inglehart, and Leblang (1996). He has little to say about Putnam, and attempting to steer a course between Scylla and Charybdis, argues that, although the analysis of institutions is important, cultural explanations should not be abandoned. His main contribution to the controversies about Postmaterialism is his explanation for high levels of Postmaterialism being associated with relatively low rates of economic growth. This finding, he argues (662), “is broadly consistent with what one might expect on the basis of both theory and the nature of models such as these.” First, he writes (1996, 662-63), “the dispersion of postmaterialist orientations may generate some negative growth effects. High percentages of citizens with postmaterialist attitudes may give rise to mass policy preferences and postmaterialist groups and parties that bolster support for ‘social regulation’ (i.e., regulation for environmental quality, consumer product safety, and so on.” On the other hand, there are ways in which Postmaterialism contributes to growth. “Postmaterialism and the rise of postmaterialist groups and parties is associated with, and reinforced by, rising levels of education . . . or, more broadly, rising levels of human capital within a national economy” (1996, 663).

Swank also reanalyzes data from twenty-five nations using the 1990-91 WVS, supplemented by several measures he has constructed. He classifies Japan, South Korea, and China as Confucian statist societies, and Austria, Denmark, Finland, Norway, and Sweden as social corporatist. His main goal is to explain economic growth and his analysis, a “final communitarian policies” model shows that all the relationships are in the predicted direction and statistically significant.

Granato, Inglehart, and Leblang (1996) reply mainly to Jackman and Miller, although they do question Swank’s grouping of Japan, South Korea, and China as Confucian statist, as well as his classification of five European societies as corporatist, noting that they miscode Austria and fail to include West Germany and The Netherlands (1996, 692). Turning to Jackman and Miller, they argue that they throw in a large number of variables into their equation, thereby obscuring relationships. They specifically argue that Jackman and Miller’s criticism of Inglehart’s measure of Postmaterialism is misguided (1996, 684). On balance, they conclude (1996, 694), “Their empirical analysis might be described as Refutation by Dilution . . . They virtually bury the theoretically relevant variables under a much larger number of diluting variables that are introduced with only the flimsiest justification.” As they conclude (1996, 694-95), “It would be absurd to argue that cultural variables provide the entire explanation of why democratic institutions survive, or why some societies have much higher growth rates than others. But they do, together, with *explicit, sensible* economic and institutional factors, constitute an important part of the story.”

Jackman and Miller (1996b) reply to Inglehart and his colleagues, in an article cleverly paraphrasing the title of Marx’s (1847) reply to Proudhon (1847). They acknowledge that the Granato, Inglehart, and Leblang model is “a major improvement” (1996b, 697) over Inglehart’s earlier models. “In contrast to Inglehart (1990), for example, who examines seven different comparisons of culture, GIL restrict their attention to just two: postmaterialism and achievement

motivation” (1996b, 697). “Given the exclusion of former norms from GIL’s analysis, along with their reported nonresults for postmaterialism, we take it that they regard achievement motivation as the only ‘cultural’ value affecting economic growth” (1996b, 697). All the same, they argue, there are major methodological problems with the GIL analysis, the most important of which is that they view culture in 1990 as a predictor of economic growth between 1960 and 1989 (1996b, 700). They go on to critique Putnam, and to question Swank’s classification using “corporatism” and “Confucianism.”

Jackman and Miller (1996b, 712) conclude, “In light of our evaluation of Inglehart (1990) and Putnam (1993) we argue that ‘further attempts to refine and test the case for political culture along the lines we have addressed seem unlikely to be productive.’” “As we have shown here,” they conclude (1996b, 712) “neither GLS’s nor Swank’s analysis offers any material to the contrary.”

Jackman and Miller (2004) repeat the same arguments that they raise in Jackman and Miller (1996; 1996b). Their main addition is an extensive critique of Putnam (2000). Their overall conclusion is that the study of values adds little to understanding either democracy or economic growth. “We conclude that further attempts to refine and test the case for cultural variations generate the kinds of economic and political outcomes addressed here are likely to be unproductive. Cultural values are more profitably seen as a function of the political and economic circumstances that different people face. In this reckoning, mass political behavior is generated less by different cultures and much more by different institutional environments” (2004, 133).

Sacchi’s Critique

Sacchi (1998, 151) begins by arguing that “Sociological research on changing value orientations has been strongly influenced by Inglehart.” Sacchi is concerned about the dimensionality of Inglehart’s measure of Postmaterialism. He argues that Inglehart’s tests using factor analyses are misguided since factor analysis should not be used with data based upon rankings. He uses the *Political Action* panel as well as an artificial data set. He conducts a factor analysis using procedures proposed by Jackson and Alwin (1980). This procedure excludes one of the selected items from the analysis and a phantom variable is introduced.

The first factor he extracts corresponds (1998, 157) to “the well-known postmaterialist value dimension.” But Sacchi elaborates upon this analysis and concludes that Inglehart’s measure actually breaks down (1998, 159). Sacchi turns to a Monte Carlo simulation. He generates an artificial data set with known dimensions to demonstrate the validity of his procedures.

Sacchi argues that his analysis supports his concerns about with the dimensionality problem. “Results indicate,” he writes (1998, 171), “that the Inglehart items tap two or even three independent value or conflict dimensions. The structure of these dimensions is similar for all countries under investigation; furthermore, it remains unchanged over an observation of approximately six years.”

Warwick’s Critique

Warwick (1999) could logically be discussed after the debate between J. Davis (1996) and Abramson and Inglehart (1996) because it addresses some of the same issues. It also bears heavily upon the controversy between Duch and Taylor (1993; 1994) and Abramson and Inglehart (1994). Warwick concludes that education directly contributes to Postmaterialism, and also asks whether Inglehart's measure should be viewed as a measure of support for democracy.

Warwick analyzes the WVS conducted in the early 1990s and also data from the Political Action Survey. He outlines controversies about the role of education. Most importantly, is it a proxy for early security, as Inglehart and his colleagues argue, or does it have an independent impact on Postmaterialism, as Duch and Taylor and J. Davis claim? Warwick questions Abramson and Inglehart's (1996) analyses of the Political Action Survey and their finding that introducing a measure for early security greatly reduces the relationship between education and scores on Inglehart's value index. He argues that using OLS was inappropriate (he uses logistic regression), but that, in any event, Abramson and Inglehart's findings (1996, 453) result entirely from forcing the regression through the origin (592; 604-05). He explores the effects of levels of education at length, and acknowledges that it is not clear *how* education affects values.

Warwick also asks whether Inglehart's measure is capturing Postmaterialism, or whether it might better be labeled as support for democracy. Several items that scored as Postmaterialist goals do seem to measure support for democratic values, namely "free speech" and "giving the people more say." He builds two measures, one of which excludes the goals that more clearly tap support for democracy. Although the two measures are not strongly related, when modeled with logistic regression equations they have similar correlates.

Warwick acknowledges that, "The conclusion that the twin processes of expanding education and expanding democracy are transforming values globally needs to be treated with some degree of caution" (1998, 604). In the first place, we measure level of education by simply by the number of years the respondent attended school and also use a rudimentary measure for the length each country has been a democracy. Moreover, when controls are introduced, the remaining age effect is strong. He concludes (1998, 604), "Poor measurement may again be the culprit but, until the age effect is completely accounted for, it cannot be claimed that we fully understand the nature and likely durability of the culture shift. What this analysis has shown is that it is not what it seemed to be; determining what it is may require new hypotheses and will certainly require new and better evidence.

D. Davis and his Colleague's Critiques and Response by Inglehart and Abramson

In 1999 and 2000, D. Davis advance three critiques of Inglehart's thesis. I begin by discussing D. Davis and Davenport (1999). They rely upon several data sources, including American National Election Study (ANES) surveys conducted in 1972, 1976, 1980, 1984, 1988, and 1992, the 1993 and 1994 GSS, and the U.S. component of the 1991 WVS. In addition, they use a telephone survey of 1,009 Michigan adults conducted in 1997 by the Institute for Public Policy and Social Research at Michigan State University.

D. Davis and Davenport have four basic findings. First, they argue that if one knows the first goal a respondent chooses, one cannot predict the second. Therefore, they conclude responses are random (1999, 652). Secondly, they use the four-item values index as a binary variable and using OLS argue that the measure is not systematically related to value choices in the way they predict (1999, 655-60). Using their Computer Assisted Telephone Interviews they

show that the first choice among the four basic goals varies according to the order in which the goals are asked (1999, 660).²⁶ Finally, they compare results in seventeen societies in the WVS, showing that among respondents who choose a Postmaterialist goal as their first choice, the probability of choosing a second Postmaterialist goal varies greatly among societies, being highest in The Netherlands and Germany and lowest in Nigeria and South Africa (199, 660-61).²⁷

Given space limitations, we (Inglehart and Abramson 1999) could not reply to all of these arguments.²⁸ Regarding the question of random responses, we point out that D. Davis and Davenport assume that all of the goals were equally popular. As for their analysis of the relationship of values to issues, we show that in many cases D. Davis and Davenport choose relationships with no regard to theory. In several instances they postulate relationships between Postmaterialist values and attitudes that are in no way predicted by Inglehart's writings and in a few cases are the opposite of what he predicts. Moreover, their analyses truncate variance on Inglehart's values index, suppressing relationships. Instead, we analyze the U.S. component of the 1990-91 U.S. WVS and show the relationship between both the four-item index of Postmaterialism and the twelve-item measure, controlling for age, education, social class, income, gender, and Left Self-Placement. All of the relationships are reflected so that a positive relationship demonstrates that the relationship Inglehart's theory predicts was found. In the case of the six items for which we thought there was no theoretical relationship, we guess the relationship that D. Davis and Davenport expect. In a few cases, we fail to find the relationships predicted by Inglehart with the four-item measure, but in the vast majority of cases we find a statistically significant relationship, even with all six controls. Moreover, we find stronger relationships with the twelve-item measure. As we argue (1999, 672), "The reason the twelve-item index is more powerful than the original is that together the three sets of goals tap an underlying dimension and increase measurement validity. Again, this is the basic purpose of multi-item indicators and the significant improvement in accuracy of prediction provides powerful evidence of validity."

D. Davis, Dowley, and Silver (1999) continue the critique of Inglehart's thesis, this time relying upon the 1990-91 WVS. They examine the results from forty-two societies. They point out that Inglehart builds his twelve-value measure of Postmaterialism by asking respondents to make choices among three sets of four national goals, although they recognize that one of those goals, "beautiful cities," turns out to have neither a Materialist nor a Postmaterialist polarity. While not questioning the validity of the separate four-item measures, they argue that they cannot be meaningfully combined to measure an overall value dimension. If they were related, indices created with each of the four-item sets would be correlated with each other.

As there are three issue pairs for each country, there are 126 possible pairings, although due to problems with the Romanian data they summarize the results for 124 pairings. It is not clear whether their basic results (1999, 943) include the "beautiful cities" item, but they claim that their results are not affected by whether or not it is included. It would have been useful to see the entire matrix, although I recognize they faced space constraints. Of the 124 pairings they report (using a tau-b), three are negative, nine are between .000 and .049, and only 54 are between .200 and .349. They conclude that if the individual indices are valid people do not organize their values along a Materialist/Postmaterialist dimension or that if there is such a dimension the current WVS items do not measure it. "If the latter interpretation is true," they write (1999, 960), then "those who wish to pursue the postmaterialism thesis may be wise to devote attention to developing new or alternative questions and indicators."

Although Inglehart never responded to the D. Davis, Dowley, and Silver critique, they clearly ignored factor analyses that demonstrate that eleven of the twelve items to measure the same dimension. In Abramson and Inglehart (1995, 104-110), we present a factor analysis for each of the forty societies we study. As we point out (Abramson and Inglehart 1996; Inglehart and Abramson 1999), given that we were using iterative data obtaining predicted relationships becomes more difficult. Despite this, once we exclude the “beautiful cities” item, there were few anomalies except in China and some of the former state socialist societies.

Finally, D. Davis (1990) analyzes the 1992 ANES survey and the 1994 GSS. He is therefore restricted to the basic four-item values index. He computes OLS coefficients for the relationships between political tolerance, racial attitudes, environmental attitudes, and participatory norms. He does not find many of the relationships he expects, but concludes that Postmaterialists are more likely to have participatory norms. Postmaterialists are more likely to have democratic norms, they are more liberal, and they have higher feelings of political efficacy (2000, 472). Clarke (2000, 479) raises serious methodological problems with D. Davis’s analysis, noting that he provides no way to assess the strength of the relationships he reports.

Kotzé and Lombard’s Critique

Kotzé and Lombard (2003) point out the WVS questionnaires were developed to study Western societies, and that it (2003, 183) “has proven invaluable for research in this field of mass public values.” But they ask whether these surveys are valuable for studying developing societies, and as a test they study values using the South African component of the 1990, 1995, and 2001 WVS. They summarize this crucial period in South Africa’s political and economic development. They point out that these surveys included the twelve-item values measure, and that using this measure there is little change in overall levels of Postmaterialism between 1990 and 2001 (2003, 189).

They make a significant contribution by studying six “pre-materialist” goals, which are included in the 1995 and 2001 South African surveys. They are, “Providing shelter for all people;” “Providing clean water for all people;” “Making sure that everyone is adequately clothed;” “Making sure that everyone can go to school;” “Providing land for all people;” and “Providing everyone with enough food to eat.” There were sharp racial differences in 1995, when about 33 percent of blacks were pre-materialists, but only nine percent of the whites. In 1991, these differences were much smaller: about 26 percent of blacks were pre-materialists, while about 19 percent of whites were (2003, 197).

Not too surprisingly only a very small percentage of South Africans had Postmaterialist values. However, they argue that further analysis of subgroups (their study compared only whites, blacks, Indians, and coloureds) is necessary to understand subcultural change (2003, 200).

Rossteutscher’s Critique

As Rossteutscher (2004, 788) reminds us, Inglehart set out to explain the political shifts that shook Western democracies in the late 1960s and 1970s. (2004, 771), “In fact,” he writes “2004, 771), “Inglehart never claimed that the materialism-postmaterialism dimension covers the entire

universe of values. Triggered by an interest in contemporary political developments, he searched for the *one* value dimension that could explain the shifts he was observing.”

But by the 1990s the importance of these “new politics” issues was waning. Rossteutscher tests for the importance of new value dimensions by analyzing the political attitudes of 1,475 respondents conducted in the former West Germany in 1992. The survey included the four-item Materialist/Postmaterialist values battery, along with measures designed to test attitudes toward modernity, social autonomy versus solidity, and traditionalism. Although values do explain behaviors (2004, 787) “the Inglehart index consistently explained the least.” Rossteutscher (2004, 788) concludes, “Contemporary political scientists and survey researchers should be aware that the empirical utility of the measurement of postmaterialism is restricted to few ‘new’ politics phenomena. It is naïve to expect the Inglehart index to capture the range of modern values that guide our political choices and form our basic attitudes towards politics.”

Andrain and Smith’s Critique

Andrain and Smith (2006) use the 1995-97 WVS to study the impact of values on attitudes toward democracy, trust, and social justice in fifteen societies. Listed according to the public’s level of trust in governmental institutions, they are Norway, Sweden, Finland, Bulgaria, United States, Switzerland, Japan, West Germany, Chile, Brazil, Spain, Mexico, Russia, East Germany, and Argentina (2006, 10). They develop several attitudinal measures, including individualism, support for economic equality, gender equality, fatalism, hierarchy, national pride, theological orthodoxy, and Postmaterialism. Unfortunately, they do not adequately explain how they created their measures, but based on the mean scores presented for Materialism in each country (2006, 106-07) it is clear that they are employing the twelve-item measure and scoring respondents from 0 through 5 based upon the number of Postmaterialist values they select.

For the most part, respondents who are Postmaterialists differ from Materialists in predictable ways, although they often find that relationships are small. Most importantly, they conclude (2006, 152), “Postmaterialism leads to strong commitment to democracy, but to weaker institutional confidence.” Moreover, they report that the Chronbach’s alpha among the Postmaterialism items is only .50, which, they write (2006,156) “implies some incoherence among the items comprising the scale.” They suggest alternative techniques to measure values, such as in-depth interviews, focus groups, and experimental designs, although they acknowledge that problems of external validity make it unlikely that scholars will use such techniques.

Lee’s Critique

As Flanagan’s collaborator, Lee (2007) continued his critique. She employed the 1995-97 and the 1999-2001 waves of the WVS to study four East Asian countries at dramatically different levels of development: Japan, Taiwan, the Philippines, and Indonesia. She also makes comparisons with two highly developed democracies in East Asia, Australia and New Zealand. Lee’s main focus is on the explanatory power of the authoritarian-liberalism scale that she and Flanagan developed. Although she refers to Inglehart’s work, she does not directly compare the explanatory power of the A-L measure with Inglehart’s measures of Postmaterialism.

Lee is interested mainly in how A-L scores affect voting behavior. Her general thesis is that voters with authoritarian values will be more likely to support the established parties, and those with libertarian values more likely to support opposition parties. She tests for these relationships in Japan, Taiwan, the Philippines, and Indonesia. But the predicted relationships are found only in Japan. In Japan, distrust in government, leftist ideology, protest potential, and libertarian values contribute to supporting the Democratic Party of Japan (2007, 263). But in Taiwan (2007, 265), the Philippines (2007, 267), and Indonesia (2007, 269) there is no significant relationship between A-L values and party preferences.

The Impact of Generational Replacement

As Inglehart predicted four decades ago (1971), generational replacement became a major force driving the trend toward Postmaterialism. Figure 1 shows PDI scores among a weighted combined sample of the combined samples of Britain, France, West Germany, Italy, The Netherlands, and Belgium. I present the results according to birth cohorts. The thick trend line superimposes the overall level of Postmaterialism for the entire population during each survey year.²⁹

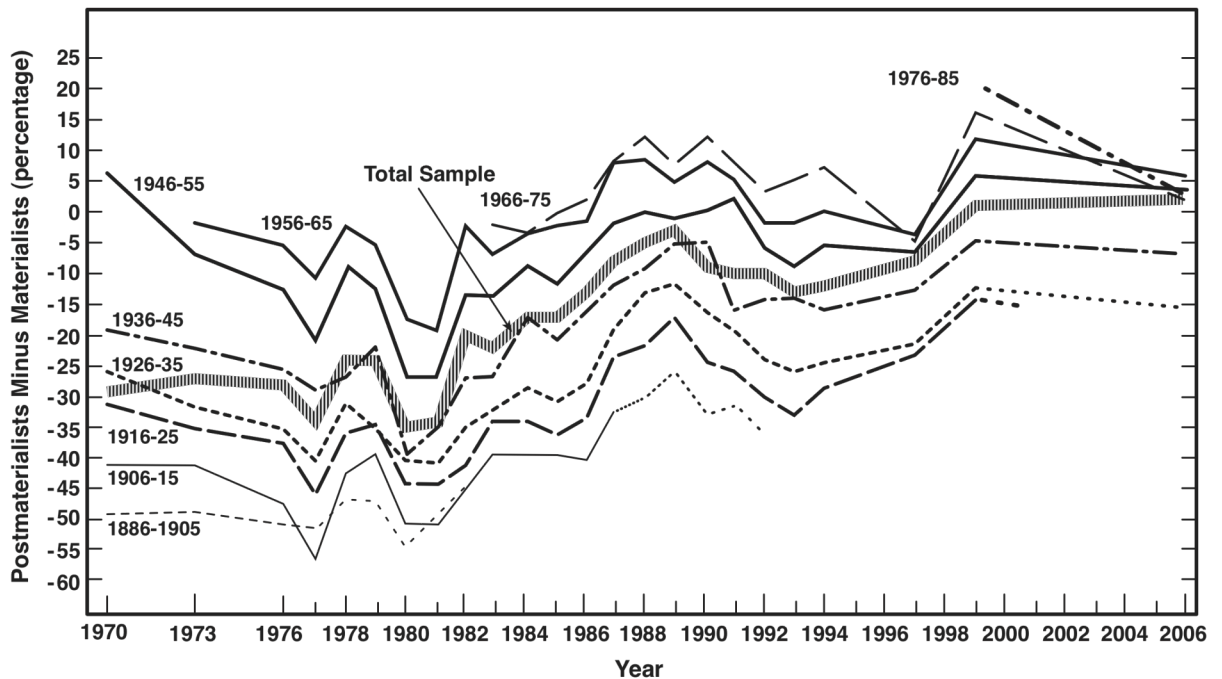


Figure 1. Percentage of Postmaterialists Minus the Percentage of Materialists in Six West European Societies, 1970-71 to 2006, by Years of Birth

The results from 1970-71 through 1997 are based on surveys sponsored by the European Community. Results from 1999 and 2006 are based on the World Values Survey. Based upon weighted samples from Britain, France, West Germany, Italy, The Netherlands, and Belgium.

The figure reveals five basic findings. First, it demonstrates that replacement occurs. Three cohorts in the first samples cannot be tracked over the entire thirty-six years because there were not enough members surveyed to be sampled. Granted, there are some centenarians in these societies, but they are unlikely to fall into the sampling frame. By 2006 even the cohort born between 1916-1925 was between the ages of 81 and 90 years old. Many were institutionalized, and because of differential death rates the cohort would be heavily female. During these three and a half decades, three full cohorts (as well as the partial cohort born between 1986 and 1991) entered the sample. In fact, 45 percent of these younger Europeans had not been born when these surveys began.³⁰

Among the respondents sampled in 2006, only 40 percent were old enough to have been surveyed in 1970. And among the cohorts that did survive, the cohort composition was substantially different. As Figure 1 shows, the largest cohort differences are between Europeans born between 1936 and 1945 and those born between 1946 and 1955; that is, between cohorts that suffered through World War II and the postwar deprivation and those who came of age when Western Europe began to prosper. In 1970 among cohorts born before 1956 (and thus old enough to have been sampled in 1970), 86 percent were born before 1946. But by 2006, only 57 percent of the cohorts born before 1956 were born before 1946.

Second, Figure 1 demonstrates that there are consistent cohort differences across time among the cohorts born before 1956. Among these cohorts, the younger cohorts have higher levels of Postmaterialism than their elders, and there is rarely a break in monotonicity. However, among the post-1965 cohorts age-group differences are relatively small. The 1956-1965 cohort is significantly more Postmaterialist than the 1946-1955 cohort, a finding consistent with Inglehart's thesis since the 1956-1965 cohort grew up in far more secure conditions. Third, there are few differences among the four youngest cohorts. Despite moderate economic growth, rising levels of economic inequality have led to little or no increases in real income for most of the population. Economic security has been reduced by cutbacks in the welfare state and high levels of unemployment, particularly among the young. Indeed, in 2006, the two youngest cohorts seem to be slightly less Postmaterialist than the two cohorts born between 1956 and 1965.

Fourth, the figure demonstrates no support for a life-cycle explanation for age-group differences. If a life-cycle interpretation for the Postmaterialism of the younger cohorts were valid, we would expect, other things being equal, those cohorts to become more Materialist as they age. Clearly, they do not. Moreover, the older cohorts gravitate toward Postmaterialism. One can always say that these cohorts would have become more Materialist with age, but that period effects prevented such a move. Neither Inglehart nor I know of any plausible argument supporting such an interpretation. Yet the trend toward Postmaterialism does not result from generational replacement alone, for there are clearly short-term fluctuations caused by changing inflation rates (Inglehart and Abramson 1994, Abramson and Inglehart 1995, 25-39). Because there are so many cohorts that do not survive over these thirty-six years, it is difficult to develop precise estimates of the overall impact of replacement.

Last, the Figure strongly suggests that the overall shift toward Postmaterialism is at least partly driven by replacement. In 1970-71, 40 percent of this combined European sample were Materialists, while only 11 percent were Postmaterialists, yielding a PDI of -29. In 2006, 19 percent were Materialists, while 21 percent were Postmaterialists, yielding a PDI of 2. Overall, there was a 31-point shift toward Postmaterialism. Although most cohorts have higher PDI scores in 2006 than they did in 1970, none of these gains is close to this magnitude. Comparing

the over trend line with the trend line for the cohorts makes this clear. The overall rise in the PDI occurs at least partly because over this third of a century because the older, more Materialist cohorts were gradually dying and were being replaced by younger more Postmaterialist cohorts. By 2006, these cohorts made up 60 percent of Europe's adult population.

Inglehart's critics can argue that if the measure is meaningless so too is the trend. But I am inclined to agree with Almond's (1990) assessment, quoted above: "Inglehart's work is one of the few examples of successful prediction in political science."

Appendix TABLE 1. Critiques and Counter-Critiques of the Postmaterialism Thesis

Initial Statements of Value Change Thesis:

Inglehart (1971)

Inglehart (1977)

Ike's Critique:

Ike (1973)

Rokeach's Critique:

Rokeach (1973)

Marsh's Critiques:

Marsh (1975)

Marsh (1977)

Dalton's Critique:

Dalton (1977)

Flanagan and Flanagan and Lee's Critiques and Inglehart's Responses:

Flanagan (1979)

Flanagan (1980)

Flanagan (1982a)

Inglehart (1982a)

Flanagan (1982b)

Inglehart and Flanagan (1987) [Inglehart's contribution]

Inglehart and Flanagan (1987) [Flanagan's contribution]

Flanagan and Lee (2003)

Cotgrove and Duff's Critique:

Cotgrove and Duff (1981)

Van Deth's Critiques and Inglehart's Response:

Van Deth (1983)

Inglehart (1983)

Van Deth (1989)

Gottlieb and Yuchtman-Yaar's Critique:

Gottlieb and Yuchtman-Yaar (1983)

Calista's Critique:

Calista (1984)

Lafftery and Knutsen, Savage, and Böltken and Jagodzinski's Critiques and Inglehart's Response:

Lafferty and Knutsen (1985)
Savage (1985)
Böltkén and Jagodzinski (1985)
Inglehart (1985)

Sciarini and Finger's Critique:
Sciarini and Finger (1991)

Trump's Critique and Abramson and Inglehart's Response:
Trump (1991)
Abramson and Inglehart (1994)

Shively's Critique, and Abramson and Inglehart's Response:
Shively (1991)
Abramson and Inglehart (1995)

Clarke and His Colleagues Critiques and Responses by Inglehart, Abramson, and Ellis
Clarke and Dutt (1991)
Inglehart and Abramson (1994)
Abramson and Inglehart (1995)
Clarke, Dutt, and Rapkin (1997a)
Abramson, Ellis, and Inglehart (1997)
Clarke, Dutt, and Rapkin (1997b)
Clarke et al. (1999)
Inglehart and Abramson (1999)
Clarke (2000)

Hellevik's Critique:
Hellevik (1993)
Hellevik (1994)
Inglehart (1994)
Inglehart (1997)

Duch and Taylor Critiques and Abramson and Inglehart Responses:
Duch and Taylor (1993)
Abramson and Inglehart (1994)
Duch and Taylor (1994)
Abramson and Inglehart (1995)

Bean and Papadakis' Critique and Inglehart's Response:
Bean and Papadakis (1994)
Inglehart (1994)
Inglehart (1977)

Braithwaite, Makkai, and Pittelkow's Critique:
Braithwaite, Makkai, and Pittelkow (1996)

J. Davis's Critique, and Abramson and Inglehart's Response:

J. Davis (1996)

Abramson and Inglehart (1996)

Pelletier and Guérin's Critique:

Pelletier and Guérin (1996)

Jackman and Miller and Swank's Critiques and Granato, Inglehart, and Leblang's Response:

Jackman and Miller (1996a)

Swank (1996)

Granato, Inglehart, and Leblang (1996)

Jackman and Miller (1996b)

Jackman and Miller (2004)

Sacchis' Critique:

Sacchi (1998)

Warwick's Critique:

Warwick (1998)

D. Davis and His Colleagues and Inglehart and Abramson's Response:

D. Davis and Davenport (1999)

Inglehart and Abramson (1999)

D. Davis, Dowley, and Silver (1999)

D. Davis (2000)

Kotzé and Lombard's Critique:

Kotzé and Lombard (2003)

Rossteutscher's Critique:

Rossteutscher (2004)

Andrain and Smith Critique:

Andrain and Smith (2006)

Lee's Critique:

Lee (2007)

Source: Compiled by author.

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Endnotes

¹ The items and measures used to construct Inglehart’s measures have been widely reported, although the procedures used to construct the twelve-item measure have varied over time. For the clearest statement of how these measures are constructed, including the SPSS syntax statements used to create them, see Inglehart (1997, 389).

² According to Google Scholar, as of February 22, 2011, there were 4,469 citations to Inglehart (1990).

³ King James Version. Two lines later, *Ecclesiastes* tells us, “One generation passeth away, and another generation cometh: but the earth abideth forever.” (1:4). Unfortunately, *Ecclesiastes* does not speculate about value differences between the older and younger generation. Alter (2010, 346) points out, the *KJV* translation of (1:2) misreads the Hebrew. His own translation is, “Merest breath, said Qohelet, merest breath. All is mere breath.” Alter’s translation of 1:4 is very similar to the *KJV*, however: “A generation goes and a generation comes, but the earth endures forever.”

⁴ Restricting the analyses to the United States is a substantial limitation, and there could also be highly cited political scientists who do not teach in Ph.D. granting departments. This limitation may have been imposed because the original goal of the research was to rate Ph.D. granting U.S. political science departments (Klingemann 1986). Although not all 400 are listed, one can determine the most frequently cited because the results are divided into five-year cohorts. In the 1980s this research would be tedious since records were not computerized and one would need to rely on the *Social Science Citation Index*.

⁵ This measure heavily weights publication in the *Review*. A highly productive scholar with no publications in the *APSR* would have a PVI score of 0.

⁶ Rossteutscher (2004) cites thirteen published works in German that discuss Inglehart’s value change thesis.

⁷ With the exception of Shively’s (1991) feature review of Inglehart (1990) of and J. Davis’s (1996) review essay of Abramson and Inglehart (1995), I do not discuss book reviews.

⁸ Both scholars with a series of critiques are men.

⁹ In the *Handbook of Political Psychology* published in 1973, both Knutson (1973, 54) and Lane (1973, 112) write briefly, but very favorably, about Inglehart’s value change thesis.

¹⁰ When I presented some of my work with Inglehart at Bar-Ilan University in Israel in the fall of 1994, I was asked whether the Chartists were Postmaterialists. Perhaps so, but the Chartists were a tiny minority of the English population. In arguing that early Christians were “solid citizens of the empire,” Stark (1996, 45), writes, “Had Paul sent out not simply letters but also

questionnaires, such proof might be forthcoming.” Had he sent out questionnaires measuring values, we might know their level of Postmaterialism. Given their lack of concern with influencing the government (*Matthew* 22:15-22; *Mark* 12:13-17; *Luke* 20:20-26; *Romans* 13:1-7), it seems unlikely that the early Christians were Postmaterialists, and it seems likely that Inglehart’s value change thesis would be irrelevant during the First Century Roman Empire. See Marx (1869) for discussion of comparing noncomparable time periods.

¹¹ For similar figures, but without the overall level of Postmaterialism superimposed, see Dalton (2008, 89) and Inglehart (2008, 135).

¹² During these twenty-four years he also co-edited an important book with Dalton and Beck, wrote a book on Japanese elections, and edited a book on local-level politics in Japan.

¹³ For the importance of inflation during this period, see Sachar (2010, 881-82).

¹⁴ Ten years earlier Lafferty (1975) published a critique quite critical of Inglehart’s value change thesis.

¹⁵ Given the way the data are presented it is difficult to determine the total number of respondents.

¹⁶ Jagodzinski (1983) had published an earlier cohort analysis of values in Japan in which he is highly critical of Inglehart’s thesis.

¹⁷ See Glenn (2005) for a summary of developments in cohort analysis.

¹⁸ During this decade Clarke also coauthored five books on Canada and one comparing Canada, Great Britain, and the United States.

¹⁹ The illogic of the index is readily apparent. Would the public be more “miserable” if unemployment were at 5 percent and inflation at 5 percent (a “misery index” of 10) than if unemployment were 20 percent and inflation at –10 percent (also a “misery index” of 10). Despite his undergraduate training in economics at Eureka College, Ronald Reagan used this index in 1980 to point out that the misery index was higher in 1980 than in 1976.

²⁰ As Ostrom (1990) points out ideally time series analyses should employ equally spaced intervals: Minor violations of this requirement to not yield biased estimates as long as there is no substantial variability in the variables being employed.

²¹ That these two surveys were conducted two years apart leads me to think these surveys were conducted semiannually.

²² Granted we did not fight in the War, but we were both willing to defeat our nation’s enemies.

²³ I am grateful to Valerie Braithwaite for the information about the location and dates of the survey (Personal communication, February 18, 2011).

²⁴ I never wrote about Postmaterialism until 1986. Inglehart, not I, discovered the key to the universe. However, he has never told me the key, so I remain ignorant.

²⁵ The add reads, “In this pioneering work, Paul R. Abramson and Ronald Inglehart show that the gradual shift from Materialist values (such as the desire for economic and physical security) to Postmaterialist values (such as freedom, self-expression, and the quality of life) is a global phenomenon.” See *Public Opinion Quarterly* 59 (Summer 1995): Back matter. Unless J. Davis believes that our book is not “pioneering” we fail to see how he finds this advertisement misleading.

²⁶ Although Inglehart and Abramson (1999) do not comment on these telephone polls, it seems obvious that response to goals read over a telephone will be more dependent upon question order

than responses to questions on a printed cue card. For a general discussion of error introduced by respondents, see Weisberg (2005, Chapter 6).

²⁷ Of course, this is precisely what Inglehart's theory suggests since in wealthy countries there are higher levels of Postmaterialism.

²⁸ We were replying to both D. Davis and Davenport (1999) and to Clarke et al. (1999).

²⁹ Dalton (2008, 89) presents a similar figure, without the superimposed trend line, and reports it based upon 400,000 respondents. For the size of each sample between 1970 through 1992, as well as the percentages that allow readers to estimate the size of each cohort, see Abramson and Inglehart (1995, 158-59)

³⁰ For the problem of making inferences about non-surviving cohorts, see Firebaugh (1989).