Did Growing Up In The 1960's Leave a Permanent Mark on Attitudes and Values? Evidence from the GSS

GSS Social Change Report No. 48

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September, 2002

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ABSTRACT

This paper explores the "tree ring" hypothesis that reaching young adulthood during certain historical periods raises or lowers attitudes above and beyond the contribution of demographic variables and their long term trends. It examines the deviations from long term linear trends for 28 NORC General Social Survey attitude items in birth cohorts reaching age 16 in the 50's, 60's, and post 60's. Long term trends are estimated from regressions of attitudes on cohorts reaching age 16 from 1917 to 1950 (net of Year and five demographics) . Popular impressions are supported in that "rings" (residuals) are more liberal for Americans reaching age 16 in the 1960's. Conversely, however, those reaching 16 in the 1950's are more liberal then their immediate predecessors not more conservative. Both generalizations conceal quite different patterns among five content clusters: Authoritarianism, Family, Free Speech, Sex, and Race. I argue that with a modified regression setup and proper controls cohort functions can illuminate many historical processes.

WARNING: The graphs in this version are hand drawn first drafts.

Introduction: The Tree Ring Metaphor

The cohort theory of social/political attitude trends goes something like this:

(1) Social and political attitudes are "set" during adolescence. (Pre-schoolers have no opinion on whether to remove communist books from the library, attitude surveys of secondary school students show about the same reliabilities and consistencies as those in adult samples.) Call this the "critical period" hypothesis.

(2) The attitudes adolescents adopt reflect those prevailing in the immediate milieu (family background) and local sub-culture (region, size of place, prevailing religion, etc.).

(3) These background variables tend to change slowly but steadily (e.g. rising levels of parental education, increasing urbanization)

(4) Later experience (intra-cohort shift) may add or subtract values but initial relative cohort differences are maintained throughout the life cycle.

Propositions 1-4 constitute the "Demographic Theory of Change" (Davis 2001, Stinchcombe 1968, pp/ 57-79). They imply: with Age or Year controlled, attitudes will show essentially linear correlations with birth cohort and hence cohort replacement will produce slow, essentially linear and ultimately large trends in attitudes.

Theorists and popular commentators frequently add an intriguing addition:

(5) Temporary shocks (wars, economic peaks and troughs, ideological movements, technological surges, etc.) experienced during adolescence have a permanent impact on attitudes and opinions.

Proposition (5) amounts to an Age/Year/attitude interaction effect such that being of a certain age (adolescence) at a certain time (e.g. during the 1960's) adds or subtracts scores to

the longer run effects of Cohort. Call this the "random shock" hypothesis.

If all of this is true, a close examination of Cohort->Attitude plots should show an overall linear trend with occasional troughs or humps associated with shocks in the years when particular cohorts were adolescents. If so, one can use these patterns to reconstruct social history just as one

can examine rings in a felled tree to spot years with unusual weather or forest fires or whatever. Call Propositions 4 and 5 the "tree ring hypothesis".

The Evidence So Far

As laid out here the theory is far from simple, yet it is almost universally assumed to be true by theorists and social commentators. One can hardly skim a newspaper or magazine without seeing references to the assumed unique proclivities of the "baby boomers", the "Greatest Generation", the "Vietnam Generation", the conformist 1950's etc. etc. etc.

In academia, in addition to the classic ancestors (Mannheim 1952, Ryder,1965), three major social theorists have built substantial analyses around such ideas (Easterlin 1980, Inglehart 1990 p. 56, Putnam 2000, Chapter 14 .) On the empirical side, there are dozens of studies of cohort differences with offhand remarks that the effects appear to be "direct" or "linear", but I found very few that address the tree ring hypothesis directly and their conclusions are mixed..

On the negative side:

Kahn and Mason (1987), the most sophisticated of the lot, fail to find support for Easterlin's hypothesis about cohort size and political attitudes[1], using National Election Study data 1952-1980. That is, they fail to find the Age-Cohort Size-Attitude interaction implied by the hypothesis.

Davis (1996) re-analyzed Cohort by Year by "Postmaterialism" cross-tabs for eight countries in Abramson and Inglehart (1995), regressing Postmaterialism on cohort (in categories) within years. He claims the functions are strikingly linear (large R squares) and the residuals are not consistent across years, arguing that if the predicted random shocks were present particular cohorts should show consistent residuals (unusually high or low Postmaterialism).

Alwin (1998) inspects graphs of political variables for cohort by year (Michigan Election Series) and challenges the proposition that the baby boom generation will have a liberalizing effect on the electorate. The analysis does not deal directly with the question of whether the graphed cohort differences are in a neat linear order but the implications in the discussion are pro-linear..

On the more optimistic side:

Steeh and Schuman (1992) test the hypothesis that racism among white adults ages 18-24 increased during the 1980s using race items in the General Social Survey and National Election Surveys. Controlling for Region, Education, and Sex they find "little difference among cohorts coming of age in the...the 1960's,1970's, and 1980's" . Assuming that the prior long range cohort effect trend is liberal, these results suggest thinner rings among cohorts reaching

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[1] Kahn and Mason observe (p. 155) Easterlin actually advances two hypotheses, one about socialization, much like the above propositions, and one about cohort size and crowding. They focus on the latter but their results bear directly on the former..

maturity during the 70's and 80's. .

Wilson (1996), confirms the Steeh and Schuman conclusion when examining cohort differences in attitudes toward ethnic groups using the 1990 GSS, controlling for Education, Income, and Sex. He concludes (p. 269) "..cohorts of Americans born after the end of World war II (1946-60) prefer less social distance from ethnic minority groups than do prewar cohorts. But cohorts of Americans recently reaching adulthood, born between 1961 and 1972, show no further reduction."

Weil (1987) tests the notion that the tree ring hypothesis (not his words) requires extraordinarily strong shocks. He uses a large collection of West German surveys to track the "Nazi generation" (reaching age 21 in 1933-49). He studies attitudes toward democratic values which generally increased since 1945. Consistent with the theory the Nazi generation was initially less pro-democracy. Inconsistent with the theory the difference eroded over time.

Campbell (2002, p. 226) finds a substantial Age x Year x Religiosity x Party ID interaction in National Election surveys 1980-98. He concludes (pp. 229-230) "First, religious commitment has been replacing denomination as a dividing line between the parties. Second this trend is found primarily among younger voters - precisely what is predicted by socialization theory."

The Setup

Figure 1 shows the reasoning behind the forthcoming numbers..

(Figure 1. here)

The horizontal X axis is Cohort or Year of birth - with 16.0 added so the scale shows the year when the respondent became age 16. The age choice is based on common sense and the decision of the GSS designers to peg many family background variables to age 16. The Y axis is the mean on some attitude with metric set so higher values are more "liberal". More on this later. The solid line tilting up from left to right represents the current liberalism of various cohorts.

Figure 1A assumes the tree ring hypothesis to be correct. Americans reaching age 16 during the 60's (1961-1970) are even more liberal than the long term trend (dashed segment) would predict but at the end of the decade these liberal "shocks" cease and from 1970 on attitudes return to those predicted by the long term trend.

To estimate these values for a given attitude, Y:

(1) Regress Y on Cohort + 16 excluding respondents with values 1961 through 1970, the "60's generation". This gives the long term trend uncontaminated by the 60's shock .

(2) Use the regression equation from (1) to find the predicted values and residuals for all respondents, including those in the 60's generation.

(3) Plot the residuals in step 2 against Cohort+16. If the tree ring hypothesis is correct, 1960's residuals should be considerably more positive than the others.

An even simpler method might be to run the regression of Y on all Cohort years and examine the residuals for the 1960's segment. Figure 1A, however, shows why this may not be the best plan. In the nature of regression the 60's shock pulls the regression line up and the '60-'69 residuals, while positive, will be less positive than in Figure 1A and, because the residuals must sum to zero, spurious negative (conservative) effects will turn up in the earliest

years.

Received wisdom, of course, extends beyond the 1960's. It is generally assumed: :

(1) The 1950's were an especially conservative era - in reaction to the loosened social controls of World War II;

(2) The 1970's were a somewhat conservative era - in reaction to the wild goings on of the 60's.

Figure 1C shows how the setup may be extended by limiting the long term trend to 1950. The graph assumes the pre-1950's years (1947-50) were somewhat liberal. The hatched segments show what would happen if the 70's and 90's were especially conservative and the 60's especially liberal.

Data

To test these ideas I used the cumulative (1972-1998) NORC General Social Survey (GSS), the annual or biennial area probability, personal interview sample of US English speaking householders 18 years of age and older, with a median annual response rate of 76 percent. Starting from a total N of 40,908 I (1) weighted the cases by the total adults in the household to move from a sample of households to a sample of individuals (2) gave each individual a weight of .667, the conventional rough correction for design effects (3) deleted the early "modified probability" samples[2]. This gave an effective N of 22,685 (4) deleted respondents ages 18-25, whose education is still in process, and those 76 and older, who are increasingly unrepresentative of their cohorts because of selective mortality. All of this gives a

[2] For most purposes the two designs give very similar results. Here, however, we are treating small differences with regression procedures that are sensitive to extremes. Since the earliest years provide extremes for both Cohort and Year it seemed conservative to adjust.

working maximum effective N of 18,059. Analyses of race items additionally excluded African Americans giving a maximum effective N of 15,979 for the race attitude analyses.

The tree ring hypothesis is mute on which attitudes to study. The plethora of items in the GSS and the inevitable subjectivity when one characterizes an era permit an undesirable looseness when testing the hypotheses. All I can say is that I chose the items and their clusters[3] before I had seen any of the numbers. I chose 28 items which (1) seemed to tap salient issues during the decades in question (2) appeared in enough years to allow reasonable control for time and (3) had moderate enough marginals to avoid floor/ceiling effects.

Table 1 displays the items. More detail appears in Appendix 1.

(Table 1. here)

"Authority" is a loose cluster of items bearing on the presumable 1960's salience of opposition to authority and authoritarianism . Family items include fertility norms, ease of divorce and sex roles for husbands and wives. Free Speech items include five classic Stouffer items with diverse targets. The Sex items treat various forms of permissiveness, especially in reference to teenagers. Race items cover two "policy" areas, busing and government spending on blacks, a raw prejudice item, RACPUSH[4], and three items on explanations of race differentials. African Americans have been excluded from the race analyses for simplicity, although they would have little effect on the results.

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3. One exception: I originally placed PORNLAW in the Free Speech cluster. Inspection of the data showed its pattern to be quite different from the others in its cluster and quite similar to items in the Sex cluster. Americans, it would not seem, do not view Pornography as a First Amendment issue but as a nasty habit.

4. I will follow the convention that when referring to a specific GSS variable I will CAPITALIZE the mnemonic, e.g. YEAR. When referring to a general concept, e.g. Year, I will use lower case.

Items with more than two categories were dichotomized and analyzed as dummy variables using ordinary least squares regression.[5]

Since the 28 items cover a wide variety of topics the question of polarity (which end is positive) arises. To proceed objectively I ran the standard item POLVIEWS (self-rating on a scale from extremely liberal to extremely conservative) dichotomized as Liberal v. Other against the 28 items. (See Appendix 1 for item by item results). Since independent and dependent variables are dichotomies the raw OLS coefficients amount to percentage differences. In this metric the 28 d's range from 4.0 to 23.7 with a mean of 13.5 (See Appendix for details). When necessary I reversed polarities so all 28 items have a positive= liberal scoring.

Demographics and Long Range Trends

If the theory is correct (1) demographic (family background and milieu) variables should be related to attitudes net of year and cohort. (2) long range (1917-1950) cohort relationships with family and milieu variables should be nearly linear and (3) consequently, unless controlled, demographic variables will tend to overstate linearity in Cohort/Attitude relationships.

I regressed the 28 attitudes on five major demographics:

Education (EDUC) Respondent's highest grade of school completed.

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[5] Contemporary orthodoxy requires logit or probit models for such data. The simplest defense is simply that such models impose a non-linear shape on the functions and non-linearity is exactly the question to be explored here. In addition, (1) the metrics in such models are literally incomprehensible to the vast majority or readers and are normally translated back to percentages. Thus, OLS "eliminates the middle man"(2) It is often forgotten that the issue is not in the bias of estimates but in the standard errors. Here, with very large samples, non-independent items and many parameters, the argument turns on the pattern of the results not on whether individual coefficients diverge from zero. Even then analysts working with similar data conclude that OLS gives "virtually the same estimates of significance (to the third decimal in virtually all instances" (Kanagy, Humphrey, and Firebaugh 1994, p. 809).

Pared (MAEDUC, PAEDUC) Mean of mother's and father's schooling

Non-Farm background (RES16) 1=Category other than "farm" on question about size of place at age 16[6], 0= otherwise.

Mother Worked (MAWORK, MAWRKGRW) 1 if mother worked for pay after marriage, 0 if not[7]

Fewer Siblings (SIBS) Total number of brothers and sisters.(0-3=1, 4+=0)

...and YEAR. The multiple regression coefficients range from .096 to .393 with a mean of .242. In the vast majority of the cases the coefficients were positive - increases in the demographic went with liberal answers - and each of the predictors played a substantial role in more than a handful of the runs.

Turning to the proposition that demographic change is usually linear, Table 2 displays the values of adjusted R squares for each of the five demographics (1) for pre 1950's cohorts (2) post 1950's cohorts and (3) over all. To calculate the coefficients I ran the dummy variable demographics means against Cohort+16 divided into 20 equal frequency groups.[8]

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[6] The convention would be to use father's occupation=farm. However, "improvements" in the Census coding of occupations make it virtually impossible to compare occupational titles and groups across time during the GSS years.

[7] The GSS used two slightly different wordings of this question: MAWORK from 1972 to 1993 and MAWRKGRW 1994 and after. Experimentation suggested that the two versions could be spliced if MAWRKGRW was recoded to a variable with the values YES=.1.15, No=0.

[8] Running them against the raw data would give very low R squares because it would conflate two matters, variability of individual cases around the predictions and variability of the sub-period predictions around perfect linearity. To tap the latter I used the twenty categories as the predictor.

(Table 2. here)

The top line of Table 2 says among cohorts who reached age 16 before the 50's the trends in all five demographics were almost perfectly straight. The second line, however, says for cohorts reaching age 16 after 1950 the trends in PARED, NON-FARM, and MAWORK continued in straight lines, the Education trend was less so, and SIBS showed no linear trend at all R square = -.046).

Figure 2 shows what's going on.

(Figure 2 here, details in Appendix 2)

The vertical axis is the percentage "plus", the horizontal axis is cohort +16. The top line for Non-Farm origins illustrates an essentially linear pattern R square=.986). The percentage of non-farm reared Americans rose at a constant rate from 65.8 percent among those reaching age 16 between 1917 and 1931 to 93.9 among those reaching age 16 in 1982-90. The middle line is the plot for small families, i.e. growing up with 0-3 siblings. As Table 2 suggested this relationship is essentially linear until 1961-62, After that it sags until 1976 when an apparent upward swing begins. This, of course, is the "baby boom" seen from the inside, a classic example of a tree ring effect.

The bottom display illustrates how the analysis plan sketched above works on a plausible example, SIBS. I (1) selected cohorts reaching age 16 before 1961 (2) ran the regression of SIBS on Cohort+16 (3) saved the residuals for <u>all</u> cohorts and (4) plotted the residuals against cohort + 16. We see essentially flat residuals prior to 1961-62[9] followed by a big dip and slight recovery, a more objective version of the eyeball impression and a vindication of the tree ring

[9] Here I assumed the shock began with the 1961-62 cohort. All other analyses treat long run as 1917-1950.

metaphor.

From all of this: it will be necessary to control for demographic variables as well as time when testing the tree ring hypothesis. To do so I regressed each dependent attitude dummy (the "raw" variable") on the five demographics and YEAR, saving the residuals as a new variable and adjusting them to the original mean ("net" variable). Later references to "net" and "raw" should help keep the two versions separate. Figure 3, a stem and leaf diagram, shows the raw and net values for the long run (Pre 1961) trends.

(Figure 3 here)

The regression coefficients for YEAR and a dummy (0-1) variable are, inevitably, small numbers, for example, the net coefficient for FEHOME is .004231. To increase palatability I multiplied each by one thousand translating them into slopes of "percentage points per decade". Thus the slope for FEHOME becomes 4.2, which says the percentage giving liberal choices on the item showed a linear increase of about four points per decade (of Cohort scores) prior to 1950. Accordingly, in Figure 3 the top number, 8, in the row labeled 14 means a linear increase of 14.8 points per decade. The raw coefficients (left column) average around five points per decade and are overwhelmingly positive (liberal). The net coefficients, however, are smaller, about one and one half points per decade, and not so uniformly positive. Figure 4 shows the net slopes by content cluster.

(Figure 4 here)

For Family and Free Speech the long run trends are overwhelmingly positive, Sex is mixed, Authority and Race are negative. If we are willing to assume the residual from these demographics represents a tree ring (period) effect Figure 4 implies:

(1) Prior to the end of World War II there was very little progress in racial tolerance or anti-authoritarianism in the 20th century.

(2) First amendment tolerance and "modern" family attitudes evolved steadily throughout the first half of the 20th Century.

Are these claims plausible? Just two shreds of evidence come to mind. (1) Race item marginals during World War II were so appallingly racist (Schuman, et. al. 1997, Table 3.1a p. 104, Schwartz 1967, passim) it is hard to see them as steadily more negative for the previous half a century and (2) Stouffer (1955, pp. 89-108) found a healthy relation with Age (aka Cohort) net of Education for his free speech items, consistent with long range trends.

Results

Figure 5 displays means for raw attitude trends by cohort+16 and clusters. The vertical scale is the percent liberal, the horizontal scale is the four periods when respondents reached age 16 and the lines refer to the five content clusters and the total of 28 attitudes. The relative heights of the lines being an artificial product of item wording. I subtracted the 1947-50 values so all six series start at zero. .

(Figure 5 here)

From 1947-50 to 51-60 all five clusters trend up. Popular impressions to the contrary Americans who reached late adolescence in the 50's were generally more liberal, not less liberal then their immediate predecessors. Twenty six of 28 items showed a positive shift and the two

negatives shifts were less than one point.

As expected the 60's cohorts are more even liberal than their predecessors. Every single item showed a positive difference for 1961-70 versus 19 51-60.

From the 60's to the 70's and beyond the slopes are mixed, neither uniformly up nor uniformly down.. Ten items shifted in the liberal direction, eighteen in the conservative direction.

Our demographic theory warns us these results are descriptive not analytical. Americans who grew up in the 60's are more liberal than their predecessors but they "benefitted" from liberalizing trends in demographics and on average they were measured later than their predecessors. To capture ring size we must examine trends net of demographics and year both before and after allowing for long term linear trends. Figure 6 displays the result .

(Figure 6 here)

Again the vertical scale is the percent giving the more liberal answer and the horizontal scale marks the four times periods when birth cohorts reached age 16. The graph, displaying means for the 28 items, is as close as we will get to verifying received wisdom. The long term trend (dashed line) predicted that the second half of the 20th century would show slow but steady increases in liberalism due to unmeasured period effects[10]. The solid line shows the actual means for net scores. These period effects were relatively liberal (upward slopes) in the 50's and 60's and trivially conservative afterwards. The area between the observed and predicted (shaded as in Figure 1) is the size of the tree rings. Hence the "good news": the average ring - the height for the net values vis a vis their predictions - for the 60's, 3.9 , is larger than the rings for the 50's

10. This is a bit of an overstatement since these residuals logically could include additional demographic effects. However, there seem to be few additional candidates among the demographics covered in the GSS (Davis 2001).

and post-60's, 1.5 and 1.4 . If our assumptions are correct and our controls proper Figure 6 says - on average the random shocks of the 60's were more liberal than the shocks immediately before and after. In plainer English Figure 6 implies that growing up in the sixties left an unusually liberal imprint of about four points per item. The graph, however, does not support the notion of strong conservative shocks in the 50's or post 60's. Both show a bit more liberalism than one would expect from long range trends although less than for the 60's.

. The broad generalization so far would be this : the entire period from the end of World War experienced liberal forces stronger than the forces prior to 1950 and this was especially so during the 1960's.

Means, as always, conceal as much as they reveal and the patterns for the various clusters and items depart seriously from this vindication of received wisdom.

Table 3 gives the details item by item.

(Table 3. Here)

To my eye the five clusters have the following broad patterns:

RACE: liberal shocks scattered across all three periods

AUTHORITY: pervasive liberal shocks in all three periods

SEX: long term trends continued and "newly salient themes " showed liberal shocks in all three periods.

FAMILY: a long term liberal trend accelerated in the 50's and 60's but halted after that.

FREE SPEECH: conservative shocks in all three periods.

To clarify the patterns positive values of **2.00** or more are in bold face, negative values of <u>-2.00</u> or more are underlined.

Race: For the six items we see half or more bold rings in the 50's 60's and 70's and no underlined rings. Although cohorts reaching age 16 prior to 1950 showed no liberal trends, the entire post-1950 period seems to show the impact of liberal forces.[11]

Authority: predominately positive shocks in all three periods. In fact, save for two items all three rings in all three periods show liberal shocks. The two exceptions, THINKSLF and OBEY are puzzling, the former showing all negative shocks and the latter little change. My only alibi: the two are "ipsative" items where respondents are asked to rank five values. If one goes up, others must go down. The complete data show a fairly strong tendency for newer cohorts to endorse HELPOTH ("to help others when they need help") which may blur trends for the two analyzed here.

Sex: The sex norm items divide into two groups. Three items (PREMARSX, TEENSEX, XMARSEX) showed long run liberal trends which continued in the 50's and 60's and perhaps after that, but no liberal shocks. While post 1947 cohorts did become increasing liberal on various forms of non-marital (presumably heterosexual) sex, there seems to be no special shock associated with the 60's. The other three items (PORNLAW, HOMOSEX, PILLOK) show the reverse - no long range trend but liberal shocks in all three periods. In sum long term forces producing liberalization in sex norms continued and new forces produced liberal shocks for previously stable items.

Family: The family items (gender equality, easier divorce, smaller families) show liberal

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11. RACDIF3 (lack of education) actually shows no trends at all. This is consistent with the well known puzzle that "pure, old fashioned" racial bigotry has declined spectacularly in the United States while items about racial policy and similar topics that should (in the mind of the analyst at least) move in the same direction have not. For a recent summary see Federico and Sidanius (2000, pp. 145-146). The results here shed little light on the problem, especially since BUSING and NATRACE, both "policy" items, show clear liberal trends.

shocks in the 50's and 60's over and above long term liberal trends. But after the 60's this liberal trend stopped or reversed..

Free Speech: One of the most famous findings in attitude trend research is the striking increase in liberalism for the classic Stouffer Free Speech items since World War II (Nunn et. al. 1978, Davis 1975). While the raw data are consistent with such liberalization (Figure 5) the net data suggest mixed pro and anti forces in the 50's and 60's and strikingly anti-liberal shocks in the 70's and later.

Grouping the same numbers by decade:

The 50's: were not the arch-conservative period pop sociology would suggest. Save for Free Speech each cluster showed half or more positive **(bold)** shocks.

The 60's: As advertised, Americans reaching age 16 in the 60's show mostly liberal shocks (18 out of 23) save for Free Speech.

The 70's and after: It is tempting to characterize the most recent period as one of conservative reaction or a "plateauing" of liberalism. . Certainly this seems to be true for Free Speech and Family but for the other three clusters (Sex, Authority. Race) half or more items have **bold** rings.

Conclusions

If the title question, "Did growing up in the 60's leave a permanent mark?", requires a yeas or no , the answer is "yes". Cohorts reaching age 16 in the 1960's averaged 3.9 percentage points more liberal on the 28 items than one would expect on the basis of long term trends.

If the underlying question is "Do the data support the received wisdom" (conservative shocks in the 50's and 70's, liberal shocks in the 60's) the answer is "barely". While Figure six

showed liberal shocks to be greater in the 60's than before and after, they also showed that all three periods experience mostly liberal pressures. Even the average for the 60's conceals some spectacularly counter-intuitive results, e.g. negative shocks for free speech and no shock for premarital sex! The method does not require reference to the received wisdom. Any data with a dependent variable, Age/Cohort and Time will do. Indeed, one might claim the disconnect shows the advantage of sober scholarship over popular sociology. But such claims are not really satisfying. The analyst (and the reader) will be curious about "why", for example, civil liberties took a beating. Hunches come to mind (the looming specter of wars hot and cold throughout the period) but hunches are not proof. Serious scrutiny would require going beyond the attitude data to include specific economic fluctuations and formal content analyses as in the work of Paul Burstein.

On the technical side, the set up seems to give plausible results without heroic assumptions or esoteric calculations. Nevertheless, the method is not without ambiguities such as (1) choice of the critical age, (2) definitions of periods, and (3) selection of demographic controls. nevertheless, it may provide some aid in implementing the unfulfilled promise of Lazarsfeld's 1950 classic "The Obligations of the 1950 Pollster to the 1984 Historian".

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Appendices

Appendix 1: Item definitions and characteristics by cluster.

Authority

	COMMUN	CONARMY	GRASS	NATARMS	THNKSELF	OBEY	SPANKING
Years							
Last	1994	2000	2000	2000	2000	2000	2000
1st	1976	1975	1975	1975	1986	1986	1986
N=	8,027	13,378	11,760	10,603	7,785	7,785	7,214
Recode							
1=	2,3,4	3	1	3	1	4-5	3,4
0=	1	1,2	2	1,2	4-5	1-2-3	1,2
Mean	42.8	12.2	22.0	30.6	53.3	51.2	23.6
d Polviews	18.3	9.7	16.7	16.3	7.8	11.6	10.7
R	.197	.096	.201	.166	.278	.269	.165
Raw Slope							
1917-50	2.32	-0.53	1.77	0.46	4.07	4.29	-0.36
Net Slope							
1917-50	-0.88	-0.84	-0.75	-2.52	2.75	2.42	-3.04

Family

	CHLDIDL	DIVLAW	FEFAM	FEHELP
Years				
Last	2000	2000	2000	1998
First	1975	1975	1977	1977
N=	11,248	11,695	8,948	7,974
Recode				
1=	0-1-2	1,3	3,4	3,4
0=	3-7	2	1,2	1,2
Mean	61.9	46.5	57.6	70.8
d Polviews	4.4	13.8	14.5	9.7
R	.176	.114	.327	.383
Slope				
1917-50	5.99	3.36	11.86	14.75
Net Slope				
1917-50	3.18	2.12	5.34	6.10

Free Speech

	LIBATH	LIBCOM	LIBHOMO	LIBRAC	LIBMIL
Years					
Last	2000	2000	2000	2000	2000
1st	1976	1976	1976	1976	1976
N=	11,587	11,495	11,523	11,532	11,538
Recode					
1=	2	2	2	2	2
0=	1	1	1	1	1
Mean	67.2	63.9	64.9	62.7	65.8
d Polviews	10.1	10.6	10.8	7.9	9.5
R	.129	.387	.250	.099	.210
Raw Slope					
1917-50	9.23	8.82	11.79	7.08	8.64
Net Slope					
1917-50	-0.76	-2.36	0.07	-0.11	-0.67

Race (African Americans Excluded)

	NATRACE	RACPUSH	RACDIF1	RACDIF3	RAC DIF4	BUSING
Year						
Last	2000	2000	2000	2000	2000	1996
First	1975	1975	1977	1977	1977	1975
N=	9,059	6,898	7,654	7,752	7,543	8,645
Recode						
1=	1	3,4	1	1	2	2
0=	2,3	1,2	2	2	1	1
Mean	25.6	42.7	35.7	48.6	41.8	20.7
d Polviews	15.1	17.4	18.5	14.8	15.3	13.1b
Raw Slope						
1917-50	1.22	6.76	-1.51	-1.08	3.01	-0.35
Net Slope						
1917-50	-0.76	-2.36	-0.11	-0.67	0.07	-2.50

Sex

	HOMOSEX	PILLOK	PORNLAW	PREMARSX	TEENSEX	XMARSEX
Years						
Last	2000	2000	2000	2000	2000	2000
First	1976	1986	1976	1975	1986	1976
N=	11,274	7,098	12,084	11,568	7,189	11,710
Recode						
1=	2-3-4	1,2	2,3	2-3-4	2-3-4	2-3-4
0=	1	3,4	1	1	1	1
Mean	28.9	57.8	58.5	71.6	28.1	23.6
d Polviews	23.7	20.2	14.8	16.0	19.9	14.4
R	.319	.136	.162	.234	.185	.196
Raw Slope						
1917-50	4.61	-0.31	5.24	7.24	3.50	3.23
Net Slope						
1917-50	-0.41	-0.41	5.24	-2.75	2.82	2.72

Appendix 2: Cohort+16 and Demographics

	Cohort + 16		Demographics					
Years	Mean Yr.	N	SIBS	EDUC	PARED	NON-FARM	MAWORK	residual*
1982-90	'84.7	906	67.1	60.6	77.4	93.9	88.7	-10.0
1978-81	79.4	974	60.4	57.0	69.9	91.6	83.6	-13.0
1975-77	75.9	995	56.5	56.7	67.1	89.7	77.2	-14.7
1973-74	73.5	829	57.2	53.2	64.3	91.2	79.4	-12.3
1971-72	71.5	883	53.6	55.2	59.5	89.5	77.7	-14.5
1969-70	69.5	890	56.7	52.7	60.0	89.6	77.0	-10.0
1967-68	67.5	950	57.6	56.3	54.0	88.8	74.3	-7.8
1965-66	65.5	921	55.9	54.9	53.6	86.9	72.2	-8.1
1963-64	63.5	1006	61.1	57.4	49.8	88.2	69.0	-1.5
1961-62	61.5	801	61.6	52.1	45.8	85.9	67.7	0.2
1959-60	59.5	788	57.6	46.6	42.6	84.1	65.3	-2.4
1957-58	57.5	738	59.4	45.6	42.0	81.0	61.7	0.7
1954-56	55.0	962	57.0	41.0	37.0	80.4	64.8	0.1
1951-53	51.9	894	54.3	35.7	31.3	76.8	58.4	-0.6
:								
1947-50	48.6	1069	51.3	34.1	26.9	76.6	51.7	-1.2
1944-46	45.0	804	53.2	33.5	24.9	75.2	48.5	3.6
1941-43	42.0	842	49.7	29.0	24.8	73.3	43.8	1.6
1937-40	38.6	996	46.1	28.7	23.2	72.1	38.6	0.3
1932-36	34.1	902	42.5	24.7	21.7	68.4	34.0	-0.2
1917-31	26.8	907	36.6	17.8	18.2	65.8	23.0	-1.2
Total N		18,059	18,059	18,017	16,238	18,028	16,351	

SIBS=Percent 0-3, EDUC=Percent 13+, PARED=12+, NONFARM=Yes, MAWORK=Yes
* See text for explanation

Appendix 3: Mean Liberalism by Cluster, Cohort, and Measure

	Raw				Net				Predicted			
Cohort= Cluster	47-50	51-60	61-70	72-90	47-50	51-60	61-70	72-90	47-50	51-60	61-70	72-90
Family	51.5	58.4	67.3	68.0	55.3	59.2	64.4	62.0	53.7	56.8	60.9	65.7
Speech	59.2	64.9	73.2	72.0	65.2	65.6	68.3	63.4	65.6	68.0	71.3	75.1
Sex	36.8	42.4	49.9	52.4	39.4	43.0	47.5	48.3	39.2	40.2	41.5	43.0
Authority	22.9	27.1	33.1	32.8	24.9	27.4	30.9	29.8	25.6	25.1	24.3	23.4
Race	34.6	37.5	42.4	46.8	32.9	34.6	37.0	38.3	32.9	32.1	31.1	29.9
All	39.5	44.5	51.4	52.7	41.9	44.3	47.8	46.8	41.8	42.7	43.8	45.1

Raw = mean of dummy variable, plus=More Liberal

Net = raw adjusted for Year, Parental Education, Non-Farm origins, Mother's employment, Sibs, and Education.

Predicted = Value of Net predicted from long term cohort trends prior to 1950.

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Figures and Tables

Table 1.
Dependent Items by Content Cluster

Cluster	Mnemonic	Content	Positive Response
"Authority"			
	COMMUN	Attitude to communism	Less unfavorable
	CONARMY	Confidence in "military"	Less
	GRASS	Legalize marijuana	Yes
	NATARMS	Level of military spending	Too much
	OBEY	Priority of Obedience as child value	Low
	SPANKING	Approve of spanking children	Disagree
	THNKSLF	Priority of "think for him/her self"	High
Family			
	CHLDIDL	Ideal number of children	0-2
	DIVLAW	Should divorce be easier, harder	Not harder
	FEFAM	Better if the man is the achiever	Disagree
	FEHELP	More important to help husband's career	Disagree
Free Speech			
	LIBATH	Remove anti-religious book from library?	No
	LIBCOM	Remove communist's book from library?	No
	LIBHOMO	Remove homosexual's book from library?	No
	LIBMIL	Remove militarist's book from library?	No
	LIBRAC	Remove racist's book from library?	No
Race (African Americans excluded)			
	BUSING	Approve busing for racial integration	Yes
	NATRACE	Level of spending on Blacks	Too little
	RACDIF1	Race differences due to discrimination	Yes
	RACDIF3	Race differences due to education	Yes
	RACDIF4	Race differences due to will power	No
	RACPUSH	Blacks shouldn't push where not wanted	Disagree
Sex			
	HOMOSEX	Is homosexuality always wrong?	No
	PILLOK	Birth control available for 14-16 year olds	Approve
	PORNLAW	Legalize pornography?	Yes
	PREMARSX	Is premarital sex always wrong?	No
	TEENSEX	Is premarital sex for 14-16's always wrong?	No
	XMARSEX	Is extramarital sex always wrong	No

A<A

Figure 1.

COHORT AND ATTITUDES (SCHEMATIC DIAGRAM)

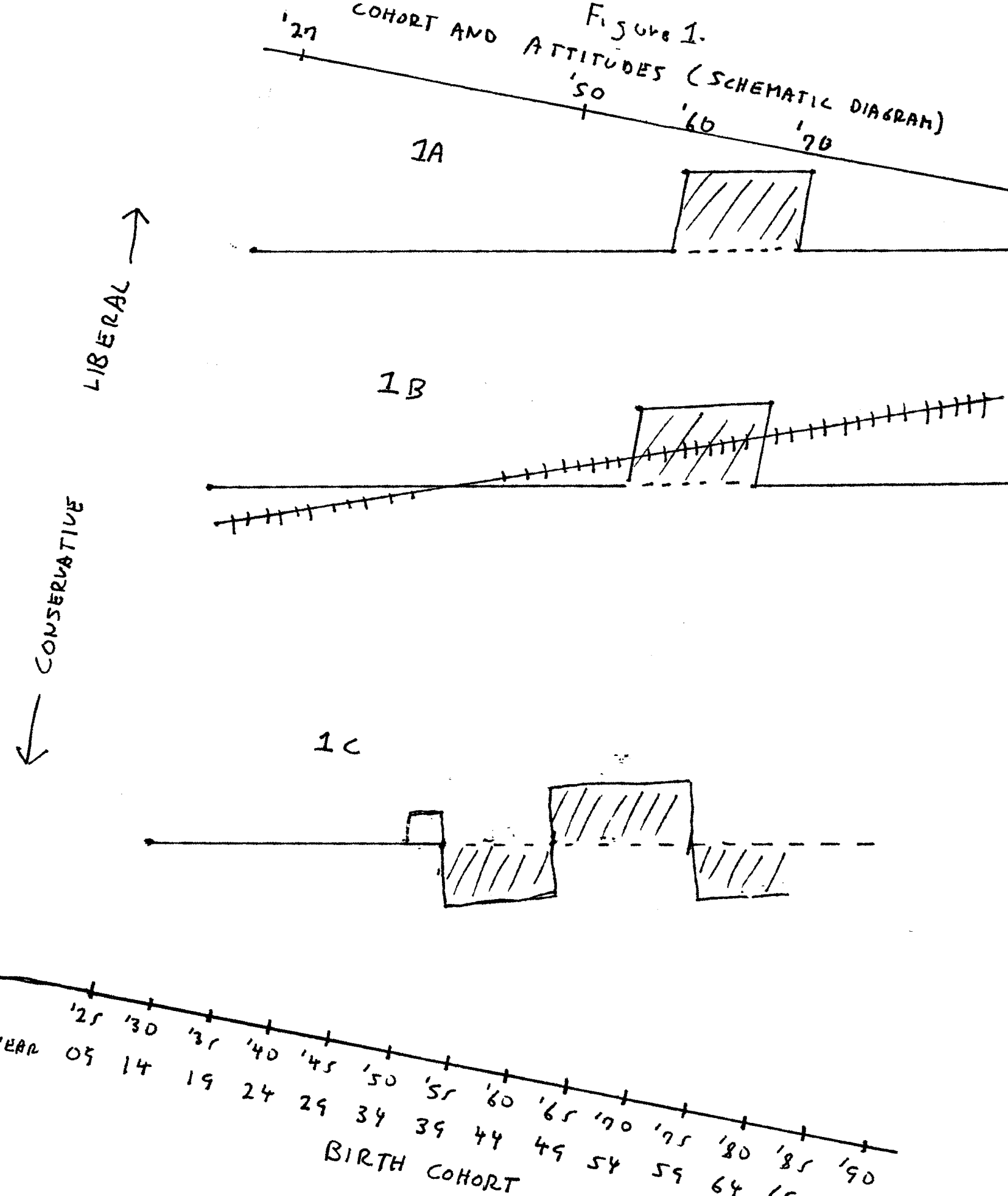
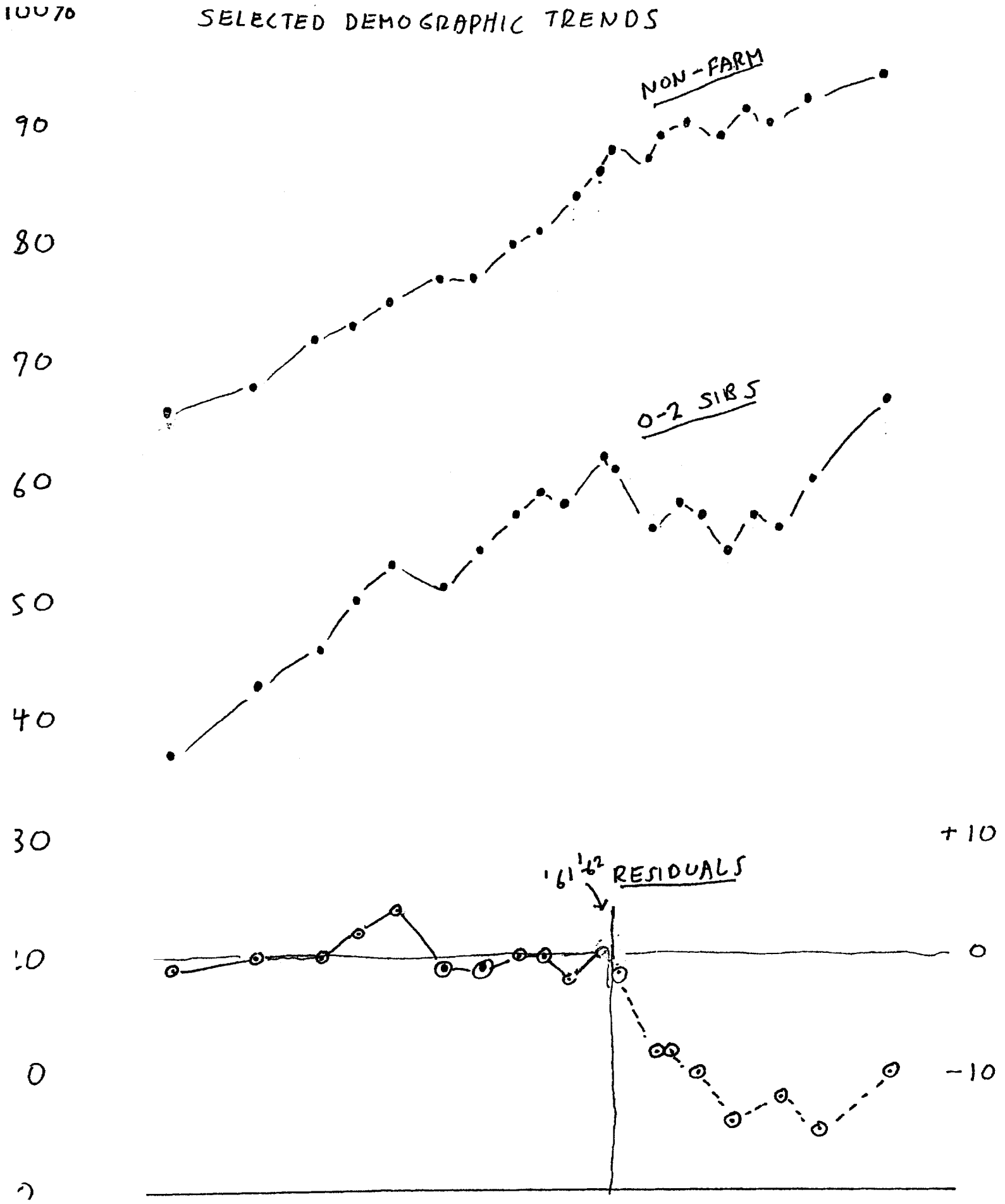


FIGURE 2.



See Appendix 2 for specific values

Table 2.
R squares (adjusted) for Cohort+16 and Five Demographics

Cohort+16	SIBS	EDUC	PARED	NON-FARM	MAWORK
1917-50	.911	.959	.976	.986	.990
1951-90	-.046	.694	.986	.872	.964
All	.548	.921	.953	.967	.977

Figure 3.
Raw and Net Coefficients (Percentage Points Per Decade)

Integer	Decimal Raw	Net
15		
14	8	
13		
12		
11	8 9	
10		
9	2	
8	6 8	
7	1 2	
6.	0 8	1
5	2	1 1 3
4	1 3 6	0
3	0 2 4 5	0 2 4
2	3	1 4 6 7 8 8
1	2 8	7
0	5	1
-0	4 4 4 5	1 4 7 8 8 8 9
-1	1 5	
-2		4 5 5 8
-3		0
-4		
Mean	4.5	1.2
Median	3.8	1.9

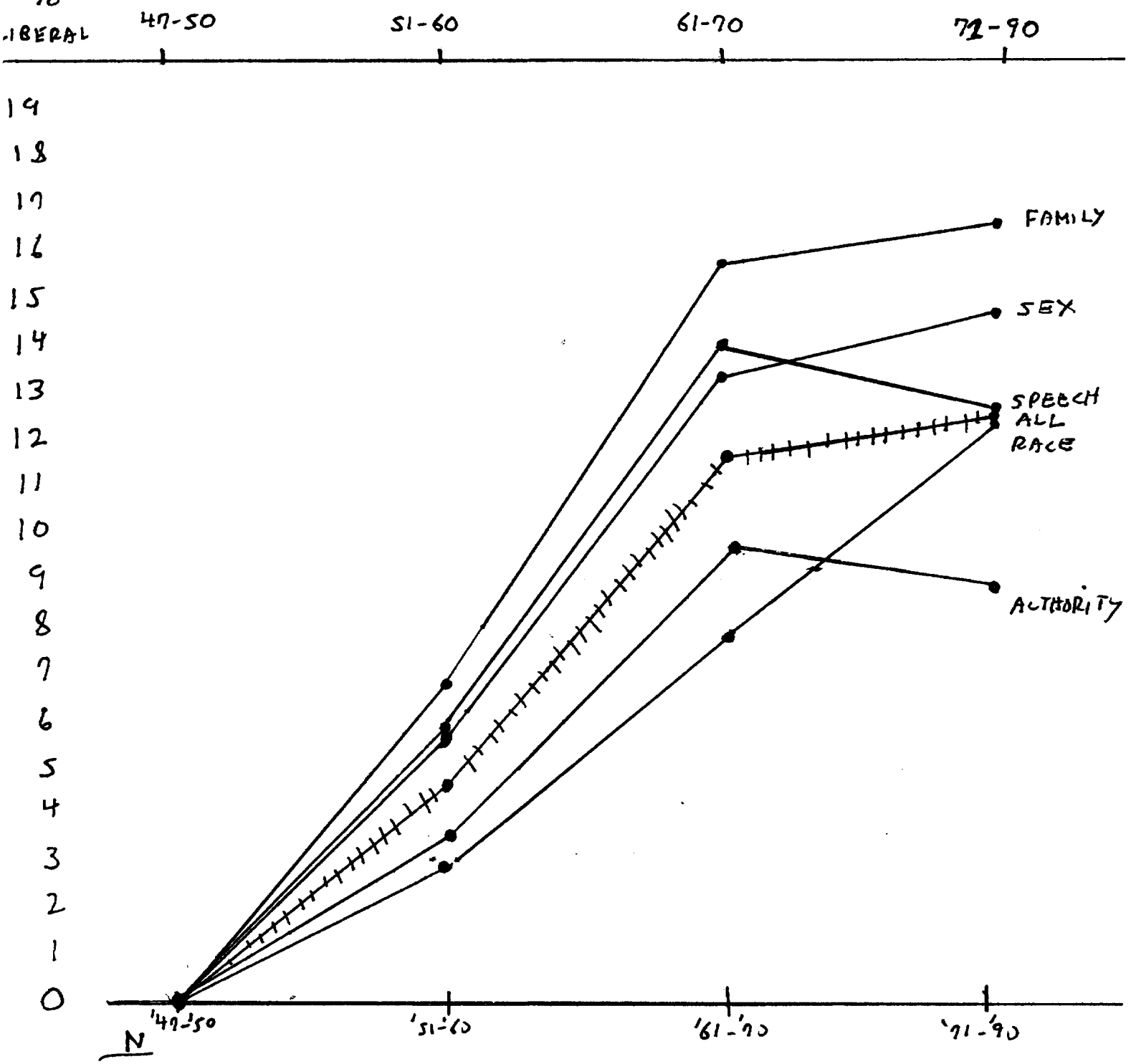
For example, the 8 at the head of the Raw column says liberal responses for one dummy variable attitude increased at the rate of 14.8 percentage points per decade, 1972-2000. In The Net column the items have been adjusted for YEAR and five demographics.

Figure 4.
Pre 1961 Net Slopes by Content Cluster

Integer	RACE	AUTHORITY	SEX	SPEECH	FAMILY
7					
6					1
5				1, 1	3
4					
3				0, 4	2
2		4,8	7, 8	6	1
1			7		
0	1				
-0	1, 7, 8	8, 8, 9	4		
-1					
-2	4, 5	5	8		
-3		0			
-4			0		
-5					
Mean	-1.0	-0.4	1.3	3.9	4.2
Median	-0.7	-0.8	2.2	3.4	4.3

Figure 5

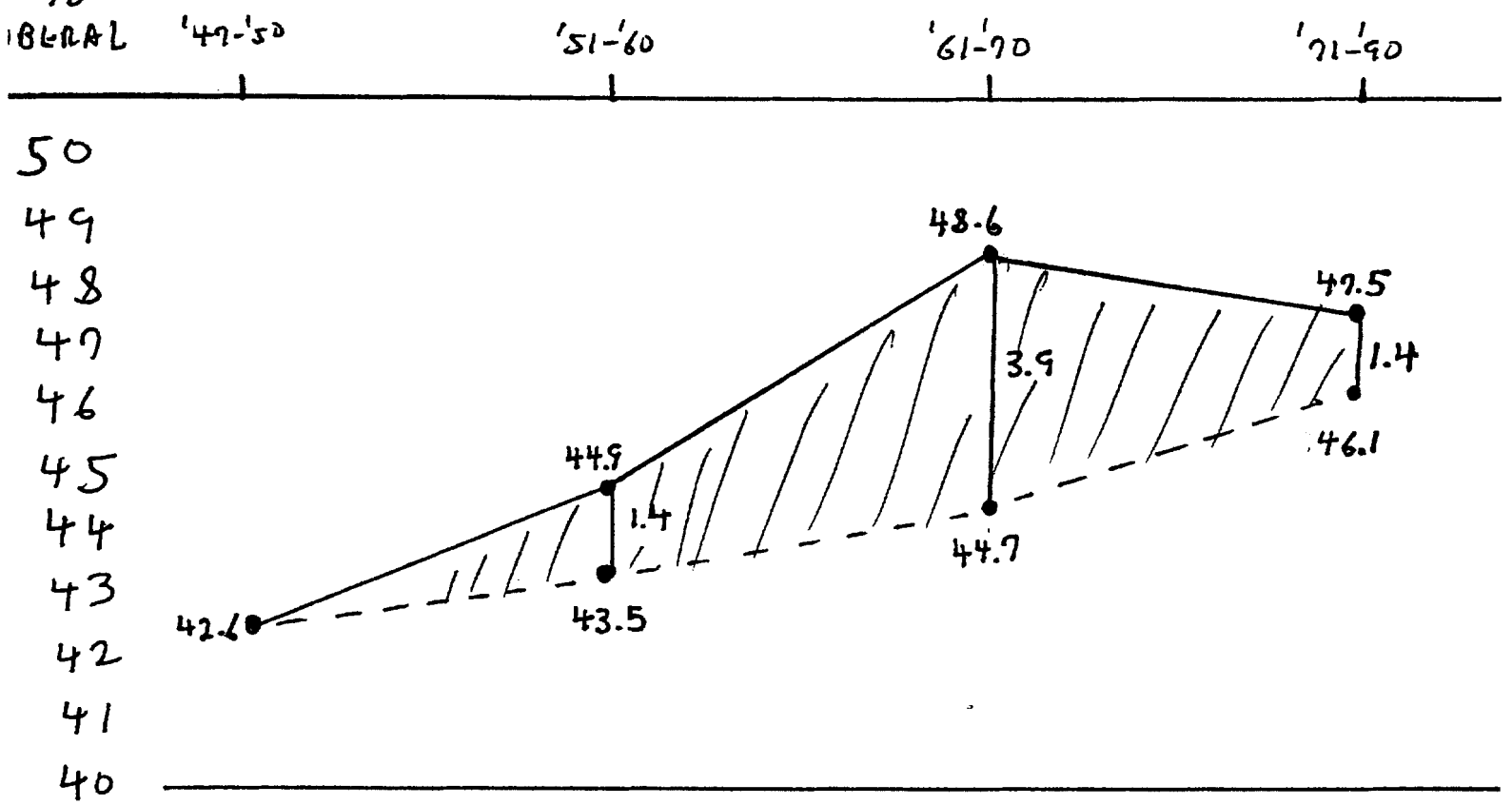
ATTITUDE RAW MEANS (MINUS MEAN IN '47-'50) BY COHORT+16 AND CLUSTER



	N		'47-'50	'51-'60	'61-'70	'71-'90
FAMILY	4	0		6.87	15.80	16.52
SEX	6	0		5.64	13.15	15.63
SPEECH	5	0		5.96	14.00	12.81
RACE	6	0		2.97	7.85	12.29
AUTHORITY	7	0		3.60	9.90	8.86
ALL	28	0		4.75	11.69	12.84

FIGURE 6.

NET AND PREDICTED ATTITUDE MEANS BY COHORT+16



N = 28

—— NET of DEMOGRAPHICS AND YEAR

– – – " " " - PREDICTED from 1917-50 TREND

Table 3.
Results by Item

Bold = percentage difference per decade ≥ 2.0
Underline = percentage difference per decade ≤ -2.0

Attitude	Long Range Trend	47-50 to 51-60 Δ1	"Ring"	61-70 to 71-90 Δ2	"Ring"	71-90 Δ3	"Ring"
			Authority				
THINKSLF	**2.8**	-2.2	-3.6	**2.7**	-3.5	-7.1	-13.8
OBEY	**2.4**	-0.2	-0.6	**4.6**	1.6	-4.2	-5.4
COMMUN	-0.9	**5.7**	**4.4**	**3.1**	**8.3**	0.8	**9.9**
CONARMY	-0.8	**2.3**	**3.1**	**3.7**	**7.6**	-3.4	**5.2**
GRASS	-0.8	1.2	1.8	**5.8**	**8.2**	-0.6	**9.1**
NATARMS	-2.5	**3.4**	**4.4**	**2.7**	**9.6**	**3.6**	**16.0**
SPANK	-3.0	**2.6**	**3.0**	1.2	**7.1**	-0.5	**10.2**
			Family				
FEHELP	**6.1**	**7.0**	**3.6**	**5.0**	**2.7**	-0.6	-4.9
FEFAM	**5.3**	**3.6**	1.6	**9.0**	**5.4**	-0.2	-1.2
CHLDIDL	**3.2**	**2.0**	1.7	**3.9**	**2.5**	-7.6	-8.8
DIVLAW	**2.1**	**3.0**	**2.7**	**2.8**	**3.4**	-1.2	-0.3
			Free Speech				
LIBHOMO	**5.1**	-0.3	-4.3	**2.9**	-6.4	-3.8	-16.1
LIBRAC	**5.1**	-0.3	-4.9	1.3	-8.5	-5.2	-19.6
LIBATH	**3.4**	**2.1**	-0.8	**2.8**	-1.4	-4.2	-9.5
LIBMIL	**3.0**	1.5	-0.2	**5.2**	**2.0**	-4.9	-6.4
LIBCOM	**2.6**	-1.3	-2.0	1.4	-0.7	-6.6	-7.3
			Race				
RACDIF4*	0.1	**4.4**	**4.8**	**2.8**	**7.6**	1.4	**8.9**
RACDIF1*	-0.1	-1.7	0.3	**2.6**	**3.1**	-4.0	-0.8
RACDIF3*	-0.7	-1.4	-1.5	0.7	-0.1	-1.3	-0.6
NATRACE	-0.8	0.7	-0.2	1.5	**2.0**	**3.6**	**6.5**
RACPUSH	-2.4	1.1	**5.3**	**4.4**	**12.1**	0.3	**15.4**
BUSING	-2.5	**3.7**	**6.2**	**2.3**	**10.9**	**7.7**	**21.2**
			Sex				
PREMARSX	**4.0**	**2.2**	-0.5	**3.6**	-0.8	0.3	-5.1
TEENSEX	**2.8**	-1.2	-2.2	**4.1**	-0.7	**6.3**	**2.2**
XMARSEX	**2.7**	**2.4**	0.0	**2.0**	-0.7	-4.4	-8.2
PORNLAW	1.7	**5.9**	**5.5**	**8.3**	**12.2**	1.1	**11.2**
HOMOSEX	-0.4	**5.7**	**4.3**	**3.8**	**8.4**	-1.2	**7.7**
PILLOK	-2.8	**6.8**	**9.7**	**5.2**	**17.5**	**3.1**	**23.9**

* RACDIF: Lower African-American status is due to "discrimination" (RACDIF1), "chance for education" (RACDIF3), [lack of] "motivation, will power" (RACDIF4).

Long Range Trend = slope (percentage points per decade for cohorts reaching age 16 1917-1950 net of YEAR and demographics.

Δ = difference in means of net variable for adjacent decades of cohort plus 16.

"Ring" = residual: net variable minus prediction from long range trend