The GSS—Capturing American Attitude Change

By James A. Davis

The General Social Survey contains several hundred replicated items, too many for me to follow. Instead I track a "portfolio" of fifty (loosely defined) attitude/opinion (loosely defined) items[1] covering major GSS themes, such as family roles, ideology, media, morale, occupational and income attitudes, permissiveness, race relations, sex norms, and the "social fabric." These items are not a probability sample of GSS items, but they do cover a wide spectrum of sociology and are the most often used GSS questions. I use the portfolio to ask: 1) How much change have we seen?; 2) How do cohort replacement and period/aging shape change?; 3) Is there a direction to these trends?

How much change?

Although GSS samples, like fine wines, are known by their years—e.g., GSS78—it is better to look at change in terms of periods (grouped years). On the technical side, it must be noted that until the late 1980s many items were on a rotation scheme, appearing two years out of three to allow more questions. Also, the vicissitudes of funding produced, and continue to produce, small irregular gaps in the series.

On the substantive side there is a very important negative finding: one hardly ever sees interesting year-to-year changes in GSS variables! No analyst has claimed, for example, that 1986 was a year of extraordinary transition, or that the 1974-75 shifts were exceptionally smooth. At best, one may hope to spot trends over decades and semi-decades. Considering these negative results in the light of the universal belief that the rate of social change is dizzying and probably accelerating, the simple question "How much change?" merits attention.

I grouped the surveys into five periods: early 1970s: 72-73-74-75; late 1970s: 76-77-78-80; early 1980s: 82-83-84-85; late 1980s: 86-87-88-90; and early 1990s: 91-93-94 (double sample).

Table 1
GSS Items Showing Largest Period-to-Period Shifts

Item	Percentage Point Shift	Periods
Local courts not harsh enough	+14	1972-75/76-80
Approve busing for desegregation*	+14	1982-85/86-90
Approve married woman working	+13	1976-80/82-85
Approve open housing*	+12	1986-90/91-94
Disagree women should stay home	+12	1976-80/82-85
Approve marijuana legalization	+12	1972-75/76-80
Disapprove miscegenation laws*	+11	1986-90/91-94
Approve open housing*	+10	1976-80/82-85
Homosexuality not always wrong	+10	1986-90/91-94
*calculated among whites		

...And Chart Its Values

The simplest answer to the simple question, "How much change?" is the number of Period x Item changes that are statistically significant. I dichotomized each item in the portfolio to *maximize* change from the early 1970s to the early 1990s and cross-tabulated each against Period, giving 52 2x5 tables with Ns ranging from 11,403 to 29,965. Such large and variable Ns make the standard significance test problematic, since the conclusion depends as much on sample size as effect size. For what it is worth, 44 of the 52 items show significant (.05) period differences after adjusting each for its design effect. With large Ns, a useful alternative is to calculate the sample size required to make the difference just significant.

Since a typical national survey (N=1500) has an effective N of about 1000, the 16 items with values of less than 2,000 have trends strong enough to produce significant differences in two surveys five years apart, i.e., large enough to be caught in a typical trend study. At the opposite extreme, nine of the trends are so weak they require Ns of 10,000 or more for reliable detection. Thus, among the portfolio GSS items: About one-fifth (9/52=17%) are *apparently* constant; about one-third (16/52=31%) show clear-cut period-to-period variation; and about one-half (27/52=52%) show detectable change too small to catch with two surveys.

If forced to pick an adjective I'd choose "sluggish" rather than "breathtaking" for the overall rate of social change in the 1970s, 1980s, and 1990s. While most of these attitudes and opinions do change, only a minority of the changes are strong enough to be apparent in paired surveys five years apart.

Even among the 43 "changers," the period-to-period jumps are less than spectacular. The typical significant period-to-period change is about 3 points in terms of percentage differences[2] and only about a quarter are five points or larger. In addition, the rate of

attitude change was much the same through the GSS years. Among the 172 (43 x 4) differences only nine exceed ten points (see Table 1).

Although the typical period-to-period shift is only about three points, directions tend to be consistent, so they cumulate. After four such transitions from the early 70s to the early 90s, the typical changer has moved six percentage points and the top quarter eleven or more. While this history lacks melodramatic lurches, the pattern of American attitudes in the early 90s is distinctly different from the pattern of the early 70s. To give the flavor, Table 2 reports the top quartile among the 43 changers.

In sum, among the 52 attitude/opinion items tracked from the early 70s to the early 90s: 85% showed statistically significant period to period shifts; 20% showed shifts strong enough to be detected in pairs of surveys; and 10% showed a cumulative shift of 20 points or more, equivalent to a rate of one point per year. The rate of change was similar across the periods. Among the changers the typical (median) period-to- period shift was about three percentage points. Since changes tend to cumulate, the median item showed a net shift of about six points from the early 70s to the early 90s. The top quarter moved from 12 to 29 points.

Cohort v. Period + Age

Why—received sociological wisdom to the contrary notwithstanding—has attitude change been so glacial? The cynic may invoke random error, but I am not persuaded. First, our large samples give us ample power to cancel out random error. Second, GSS experiments showing striking effects of item wording imply respondents are seldom answering at random.

The secular trinity, Age/Period/Cohort (APC), gives a helpful perspective. Although pop social science focuses on the (dubious) attitu-

dinal effects of birth cohort *size*, the single largest change among all the variables in the GSS is sheer cohort *replacement*. In 1972-75 half the GSS respondents were born before the Great Depression, while in 1991-94 half were born after the Korean war. The youngest quartile in 1972-75 became (roughly) the oldest third in 1991-94.

The message of APC analysis for attitude change is that trends can be produced by two distinct and separable processes: first, the slow but steady replacement of older cohorts by newer cohorts with different attitudes; and second, net shifts in opinion among people in cohorts present throughout the period. Call the first, REP, for replacement; the second, INTRA, for intra-cohort shift.

Table 2
Adjusted Cumulative Percentage Shift 1991-94 versus 1972-75 for Top Quarter of Discernible Changers

Item	Percentage Point Shift
Favor open housing*	+29
Disagree women should stay home	+27
Disapprove of miscegenation laws*	+27
Favor school busing for desegregation*	+23
Approve older parents living with adult children	+20
Decline in daily newspaper reading	+19
Approve married woman working	+16
Favor capital punishment	+16
Oppose removing homosexual's book from public library	+16
Agree local courts not harsh enough	+12
Approve sending own child to mostly black school*	+12
*calculated among whites only	

There is a voluminous and often esoteric methodological literature on all this but consensus seems to be emerging in support of Firebaugh's multiple regression approach.[3] In brief, one regresses the attitude (here a 0-1 dummy variable) on Period and Cohort (here divided into five equal groups to match the Period distribution) and multiplies each **b** coefficient by the amount of change in the predictor. The products are two numbers which (1) add up to close to the total change and (2) tell how much change was produced by (a) cohort replacement (REP) and (b) effects of time and aging within cohorts (INTRA).

In terms of sheer magnitude, each process, REP and INTRA, typically produces in our GSS items a five-point change from the early 1970s to the early 1990s. Hardly impressive, but hardly trivial by comparison with the sorts of numbers we have seen so far. Clearly, both cohort replacement and intra-cohort shifts are major effects when examining American attitude trends.

You will remember I began by dichotomizing each item to maximize total change. Following this, a plus sign means "in the direction of the cumulative trend," and a minus sign means "opposite to the cumulative trend." A quarter of the REP and a quarter of the INTRA signs are negative. So what? While the overall regression results imply a general linearity in attitude trends, these latter findings imply some pushing and tugging

between the two processes. Since (by definition) the two coefficients can't both be negative there must be lots of variables where REP and INTRA work in opposite directions. Exactly the same point emerges from the bivariate correlation between the raw REP and INTRA **b** coefficients. Over the 52 items the *r* is -.594! While REP and INTRA seem to be about equally powerful forces, they tend to push in opposite directions for the portfolio items. For 31 of 52 items (60%), the two forces have opposite signs.

When two equally strong forces push dependent variables in opposite directions, the total change will be muted. If INTRA and REP always had the same sign, were uncorrelated and had a typical effect of five points each, the typical attitude item would have shifted ten points during the GSS years rather than the six points actually observed. Equal and opposite forces can cancel each other totally. Thus, all but one of the items with no significant bivariate period difference show significant and opposite INTRA and REP coefficients. One concludes that virtually every attitude item in the portfolio was subject to detectable change during the GSS era. The "moral" here is that raw trends can be quite misleading.

The frequent contradictory patterns raise intriguing questions of interpretation. The Firebaugh method cuts the APC Gordian knot by not separating Period and Aging effects. There is no way to tell whether an INTRA effect comes from "normal aging" or from forces unique to the sequence of periods. Coefficient signs may be suggestive. An effect due to Aging should produce contradictory signs, the aging process pushing one way within cohorts and the substitution of more youthful cohorts pushing the other. For example, for HEALTH (+ = self rating as "Excellent" or "Good") we get an INTRA of -6.4 (as

aches and pains develop with age) and +11.2 for REP (as frisky baby boomers replace sagging oldsters). It seems plausible to me that the sign patterns in responses to questions like whether one goes to taverns or bars, and satisfaction with one's financial situation, reflect the natural effects of aging—since bar hopping and career progress both decline in old age. However, I am not prepared to say the same for responses on the morality of homosexual relations. My inclination is to invoke AIDS anxiety as the force behind the negative INTRA effect.

The Liberal Plateau

Following Mr. Justice Stewart's algorithm for pornography, I rated the items in the portfolio on whether they have a social/political liberal v. conservative polarity. (I associate liberalism with permissiveness, racial color blindness, irreligion, and untraditional family structures). I coded each of the 52 items with +1 if its overall trend was liberal, -1 if conservative, and 0 otherwise. Overall, 17 trends were liberal, 11 conservative, and 24 neither.

The typical ideological item in the portfolio shifted 4 points in the liberal direction, a quarter liberalized by 12 or more points, and a quarter conservatized 4 or more points. Again, a tepid overall result conceals opposing tendencies. The Cohort and Period/Age effects are quite different in ideology. Almost all cohort effects (25 of 28) are liberal, with a median of +6. Period/Age effects are mostly, but not overwhelmingly, conservative (18 of 28) with a median of -3.

To review: the question is why attitude shifts in contemporary America, while statistically reliable, are so modest. Part of the answer is that the Cohort replacement and Period/Age processes are equally powerful, but they tend to push attitudes and opinions in opposite directions. Some of this comes from the necessary statistical consequences of "age effects" although we can't spot them directly with the tools at hand. When we focus more narrowly on the 28 items with a liberal/conservative flavor to the options, the situation changes. The negative correlation disappears but the push/pull remains. This is simply because almost all Cohort effects are liberal and the majority of Period effects are conservative, so their sums are reduced. Now this is actually a bit odd. Assuming cohort differences are produced by the same broad forces that produce period effects, it is hard to see how younger generations can be increasingly liberal while growing up in increasingly conservative milieux.

Among GSS respondents, liberalism increases with year of birth.[4] The "class of 1904" averages only 25% endorsement of the liberal categories in contrast to 50% in the youngest cohorts. But the shape has more to tell us. If we were to cut the graph off at 1949, the trend

Table 3
Percentage Difference, Cohort 1961-1976 Minus Cohort 1947-1950, for 17 Liberal/ Conservative Attitude Items (GSS72-75)

Item	Percentage Point Difference
Favor busing for desegregation	+22
Favor open housing	+11
Seen X-rated movie within year	+9
Legalize pornography for adults	+7
Denominational preference not "strong"	+5
Not remove communist's book from library	-1
Local courts too harsh	-1
Loosen divorce laws	-2
Premarital sex not always wrong	-2
Not remove homosexual's book from library	-3
Homosexuality not always wrong	-5
Not remove atheist's book from library	-6
Legalize marijuana	-6
Ideal family size less than 3 children	-9
Allow abortion for single woman	-9
Not remove racist's book from library	-10
Extramarital sex not always wrong	-12

would be almost perfectly linear. For Americans born before the Korean war, periods as short as half a decade produced definite increases in liberalism. But the trend stops cold in 1953! After the '49 cohort the mean liberalism flattens out at 50 percent. Americans born in the middle 60s (now in their mid- 30s) are no more nor less liberal than those born in the late 1940s. The GSS's Tom Smith was one of the first to spot this anomaly and dubbed it the "liberal plateau," with the implication that some sort of long-run historical process had ground to a halt.

A closer look at the raw data suggests some modification. As usual, means conceal interesting variations. Table 3 shows the net gain (Percent Liberal for the '65ers minus Percent Liberal for the '49ers). Table 3 has more minus signs than plus signs, and Samuel Stouffer's spirit would not be pleased by the results for his free speech items; but at the same time liberalism on race items shows strong positive differences. (Three race items are missing from the list because they had reached 80 per cent or more in the 49ers and stayed high.) A generation that outstrips its predecessors on controversial racial remedies and dirty movies is neither identical to nor more thoroughly conservative than its predecessors.

Speculations

Painting with a very large, almost unwieldy brush here, the following notions would, in my judgment, give consistency to these complex findings. The conventional wisdom has been that relatively stable and essentially conservative American values suddenly lurched to the left in the 1960s and 1970s, and then to the right in the 80s and 90s. To the contrary, these numbers suggest:

1) The strongest and most consistent liberalization took place in the first half of the century.

2) Cohorts that reached adolescence in the 1960s are only a little more liberal then their immediate predecessors.

3) Cohorts born "after Korea" are both more liberal and more conservative than their predecessors, depending upon the item.

Extending the width of the brush enormously, it could be that:

4) While social climates from the turn of the century to the late 1950s were steadily, thoroughly and increasingly liberal, attitudinal forces have pushed in both directions since then.

5) The opposition between Cohort and Period effects in the GSS years may be temporary. In the GSS era it may merely reflect the passing of the pre-1950 cohorts rather than a permanent feature of social change.

6) It is possible that the liberal trends from the 1950s to the 1970s, tracked in many replication studies, reflected the coincidence of short term and long term forces. Analysis of long term trends in the Stouffer free speech items indicates this.

5) If so, once the pre-1950 generations depart, long-run attitudinal change may become much less muted while at the same time much less easy to characterize as liberal or conservative.

One may hope that the GSS will be around long enough to validate or refute these speculations.

Endnotes

[1] The fifty mnemonics produced 52 items because two items showed complex trends. FINRELA (self-rated financial position) tended to polarize, with "Average" shrinking while "Above" and "Below" both grew. HAPPY (self-rated happiness) tended to depolarize with "Pretty Happy," swelling while "Very Happy" and "Not Too Happy" both shrank. Both variables were cut two ways, as Middle v. Other and High v. Low.

[2] The numbers here are actually "log odds ratios" divided by 4.0 (and then multiplied by 100 to get rid of the decimals). They are very close to what the percentage differences would be if the items had 50-50 splits. This corrects the effects for disparities in the marginal cuts but allows the more comfortable percentage interpretation.

[3] Glenn Firebaugh, "Methods for Estimating Cohort Replacement Effects," *Sociological Methodology*, Volume 19, 1989, pp. 243-262.

[4] Analyses not reported here show these curves are not artifacts of cohort difference in years of schooling or the more recent periods for the data from younger cohorts.

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