A GENERATION OF ATTITUDE TRENDS AMONG U.S. HOUSEHOLDERS
as measured in the NORC General Social Survey 1972-2010

Two generations (1972-1976 and 2006-2008) are compared using 43 replicated attitudes in the NORC General Social Survey. The report describes the generational changes (primarily liberal) weighs the causal impact of rising educational levels (liberal), cohort replacement (liberal) and period effects (mildly conservative). It argues that this long term causal mechanism is slowly eroding.

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Introduction

The 38 year span of the NORC General Social Survey (GSS)[1] provides enough time to allow comparison of attitudes in two generations following the dictionary definition "the average time in which children are ready to take the place of parents (usually reckoned at about thirty years)". Since the cumulative file includes a wide variety of replicated items, one may not only describe attitude changes (and stabilities) but also hope to find some substantive generalizations.

The survey not only replicates attitude items, it replicates a vast array of "objective" variables that might help to explain the dynamics. Two of them, Cohort (birth year) and Educational attainment (years of schooling) stand out, if only because they have a history in attitude research long pre-dating the GSS.

Samuel A. Stouffer in his landmark *"Communism Conformity and Civil Liberties"* (Stouffer, 1955,1992) - the first national, probability sample of attitudes - documented two clear findings:

> 1) Within Age and other control categories, better educated Americans were more tolerant on a variety of free speech items.
> 2) Within Educational levels and other controls, older Americans were less tolerant.

In Chapter Four (pp. 107-8) Stouffer ventured forecasts of trends in support for civil liberties. He cautiously predicted:

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[1] The NORC General Social Survey (GSS) is an annual/biennial area probability, face-to-face interview sampling of U.S. householders 18 and older, conducted 28 times from 1972 to 2010. Yearly sample sizes range from 1,416 to 4,510 (mean= 1,967) and the cumulative file comprises 55,087 respondents and 5,416 variables. Non-English speakers were excluded until 2004 when a Spanish version was fielded. The data here are weighted by WTSALL in the cumulative file which shifts the universe from households to individuals (adults in large households are under-represented in household designs) and adjusts for advances in sampling. Unless otherwise noted, the results here are limited to respondents 26 and older because the educational attainments of 18-25 year olds are still in flux.

1) Rising educational levels would increase tolerance.
2) Negative effects of aging might dampen this effect.

Prediction 1 is quite testable and will be considered at length here. Prediction 2 is more

complicated. In Stouffer's single cross section the notorious trio - Age, Period, and Cohort were

hopelessly entangled (Stouffer could not be aware of the later controversies on the topic)[2]. He

gambled, chose one, Age, and lost. Of the three, Age is the least likely driver of long term social

change - because its mean does not change much and therefore it cannot drive trends[3]. Table 1

from the GSS quantifies the point:

Table 1. Correlations (r) of Age, Year and Cohort
in the General Social Survey (1975-2010)

	Year	Age	Cohort
Year		+.026	+.530
			-.834
N=54,896 (total cumulative file)			

While the mean age changed little, Cohort shifted considerably. The +.530 correlation for

Year and Cohort is by far the strongest Year correlation the writer has seen and hence the best

candidate for attitude trend driver - to the extent cohorts differ on attitudes. The second predictor,

Educational attainment, a persistent correlate of attitudes, also increased during the GSS years,

giving a bivariate correlation of +.205 (N= 54,930, total cumulative file) for Year and Education

(in years). Changing educational levels, assuming persistent Education/Attitude correlations,

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[2] Currently, advanced statistical procedures are advocated to estimate independent effects of Age, Period, and Cohort (Yang, 2008). One hopes to be permitted the agnostic/atheistic view that, by definition, the independent effect of, say, Age, can only be interpreted as "the effect of Age on a dependent variable among persons matched on Year and Cohort" - but this is a *logical* contradiction (Glenn, 1976.)

[3] As for the well-publicized "aging population" (1) persons under 18 are excluded here but in the total population contribute to the denominator and (2) Demographic trends require long, long spans of time: During the GSS years one might say the adult population was "middle aging", not aging - as the baby boom generation moved into their middle years.

should help explain trends.

The import of Education has a more than statistical implication as many analysts assume, implicitly or explicitly, that education has a broadly "liberalizing" effect (Hyman and Wright; Nie, Junn and Stehlik-Barry). This slippery concept will be discussed below but for now we note that educational effects can be assessed in terms of size and also in terms of ideological direction.

The notion that Cohort replacement[4] and Education, driven by Cohort replacement, are the major forces for long run[5] attitude change is treated in the major volumes on attitude change (Fischer and Hout, pp. 247-250; Hamilton and Wright, pp. 17-18; Mayer, Chapter 7 and pp. 141-189; Page and Shapiro, pp. 325-327; Putnam and Campbell, pp. 72-79; Schuman, pp. 228-229) although seldom as their main focus.

Given the slow and steady rate of change for the predictors and the liberal flavor of Educational effects historians, - skeptically - might call this frame work "Whigish" – according to the dictionary, "an historical interpretation which finds in events an uninterrupted line of progress against reactionary forces". These ideas can be expressed as a path model with four variables including Generation, Cohort, Education, Liberalism. Figure 1 displays the model.

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[4] One might argue that Cohort Replacement is not a "real" variable because it has no intrinsic substantive import but rather is carrier for a wide variety of socialization forces. Probably true and it may be useful to consider it as a residual for cultural forces other than Education.

[5] Political scientists often focus on short run changes such as candidate approval which, by definition, are not well explained by long run forces.

Figure 1. Four Variable Model of Long Term Attitude Change

Cohort   E

A   D

Generation   *Liberalism*

C

F

B
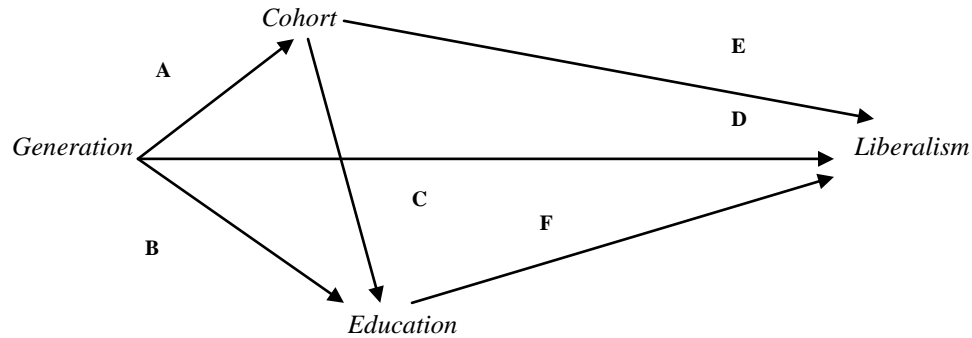
Education

The coefficients (direct effects):
    A bivariate correlation Generation and Cohort
    B Generation and Education net of Cohort
    C Cohort and Education net of Generation
    D Generation and Attitude net of Cohort and Education
    E Cohort and Attitude net of Generation and Education
    F Education and Attitude net of Generation and Cohort
The paths:
    Generation to Education = B + (A*C)
    Generation to Attitude = D + (A*E) + (B*F) + (A*C*F)
    Cohort to Attitude = E + (C*F)

To proceed, I created a two-generation variable and located 43 GSS attitude items with

sufficient cases in both generations.

Measurement

Defining Generations

With a GSS span of just 38 years there are few options for defining periods 30 years

apart. Therefore:

    Current Generation: = interviewed in 2006-2008 (N=7,466)
    Previous Generation: = interviewed in 1972-1976 (N= 6,349)

Are the cutting points meaningful? Pop sociologists are lavish with labels for their

generations (Greatest Generation, Post-Millennial generation, etc.) but tempting as labels may

be, researchers, examining plots of Cohort against attitudes, have difficulty in spotting clear

cutting points in the commonly linear attitude trends (e.g. Davis, 2004). We will settle for

"Current" and "Prior".

> The Prior generation were *typically* (midspread):
>> interviewed between 1973 and 1975
>> between age 28 and age 56
>> born between 1917 and 1946
>> first eligible for the sample between 1935 and 1964
> The Current generation were *typically*:
>> interviewed between 2006 and 2008
>> between age 32 and age 58
>> born between 1950 and 1975
>> first eligible for the sample between 1968 and 1993

Note the generations differ in Year and Cohort, but not much in age.

If slogans are needed, the Prior generation is that of Nixon, Vietnam and Watergate, the

current generation that of Bush II and Iraq.

Attitude Items

The 5,416 items in the cumulative GSS file were boiled down to 43 attitudes[6] with

sufficient numbers of cases in each generation. Although the GSS (alone among major surveys)

gives priority to strict replication, the winnowing occurs because (1) the permanent core is only a

portion of each survey, (2) non-attitude items are a major component of the core, (3) some major

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[6] An attitude - roughly - is a positive or negative affect toward some external target. Analysis not reported here suggested very little generational difference in subjective, non-attitude measures such as happiness (See Fischer 2011, 91-92).

series were truncated as levels appeared to approach a ceiling[7], (4) for some batteries I selected a few individual items, and (5) some items (e.g. Are people fair?) seemed closer to "traits" than "attitudes".

For simplicity and comprehension each item was recoded to a zero/one variable with 1 for the liberal end. "Liberal" is famously ambiguous and useful. I interpreted it as supporting government intervention in the economy, expansion of personal liberties and secularism in religion following the political scientists' cross-cutting of social and political dimensions (Asher, p. 178, Lipset p. 92). Coding reliability was not assessed but when the 43 items were run against the GSS variable POLVIEWS[8] (self-rating from extreme liberal to extreme conservative) all of the correlation directions were "correct".

The import of the analysis depends on whether the 43 items - though numerous by contemporary research standards - are "representative" of attitudes. They cannot be so in any strict sense since they are not a probability sample from a defined universe. That said, (1) the GSS was and is designed with input from a broad spectrum of social scientists to cover the range of research issues in the field and (2) in a form of reverse causal ordering, many of the items (e.g. the abortion battery, the Stouffer items) have come to "define" sub-fields of attitude research. One may argue that the data are representative of American social attitudes as measured by social scientists.

Item by item results appear in an appendix table, but for an overview they may be

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[7] FEWORK (Should women work?) is a good example. It appeared 1972-1988. During that period favorable percentages rose from 65 to 83. Multivariate analysis showed net effects of -.010 for YEAR, +.181 for COHORT and +.199 for Education (EDUC), which is what the Stouffer/Whig hypothesis would predict.
[8] Variable names in CAPS are the mnemonics in the cumulative data file.

grouped as follows:

> ABORTION (6 items) allow legal abortion if the woman...
> AUTHORITY (5 items) e.g. harsh sentences, legalize marijuana
> FAMILY/GENDER (5 items) e.g. ideal number of children, feminism
> FREE SPEECH (5 items) standard "Stouffer" items
> POLITICS (11 items) e.g. PARTYID, selections from a battery on government
> functions
> RACE (2 items, whites only) e.g. open housing, government aid to African
> Americans
> RELIGION (4 items) degree of religiosity, belief in God
> SEX NORMS (5 items) e.g. homosexuality, pornography

Flouting convention, the relationships were assessed with Ordinary Least Squares[9].

Results

How much change?

Before explaining change, one should establish whether there is enough of it to merit

scrutiny. The measures here are the bivariate (Pearson) correlations between two 0-1 variables,

Generation and Attitude, similar to but not identical to the percentage difference. Lacking a

statistical criterion (See note 6), coefficients will be classified as follows:

> .40 or larger:" Strong"
> .20 -.39:   "Medium"
> .10 -.19:   "Small"
> .05 - .09:   "Trivial"
> <.05   "Nil"

Table 2 shows the absolute values for Generation/Attitude.

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[9] In defense: 1) OLS estimates of 0-1 variables are unbiased - the issue turns on confidence intervals. 2) With N's ranging from 5,904 to 15,686 and analyses turning on 43 replications, the likelihood of a Type I error in the major conclusions is rather small. 3) Logistic coefficients do not follow path (linear) principles.

Table 2. Absolute Generational Correlations

Correlation		N	Percent	Cumulative
Strong	.40 or more	1	2	2
Medium	.20-.39	8	19	21
Small	.10-.19	9	21	42
Trivial	.05-.09	16	37	79
Nil	<.05	9	21	100
		43	100%	

While only one trend is "strong", 79 percent (37 items) show a non-trivial difference and more than a third (42 percent) are .10 or larger. Thus, the Current generation differs from the Prior on most of the attitude items but the contrast is not striking.

While the topical groups are too thin for serious analysis, there seem to be some differences in stability. Table 3 displays the numbers.

Table 3. Absolute Change by Topic

Topic	Nil/Trivial	Other	N	% Other
Free Speech	1	4	5	80
Sex Norms	1	4	5	80
Authority	2	3	5	60
Family	2	3	5	60
Race	1	1	2	50
Politics	9	2	11	18
Abortion	5	1	6	17
Religion	4	0	4	0
	25	18	43	

Generational change is not "across the board". Politics, Abortion, and Religion show only nil or trivial trends while the other five show non-trivial trends for half or more of their items.

Conclusion one: Most of the 43 attitude items (79%) show non-nil generational changes but only one is strong.

Direction

Since positive changes are "liberal", shifting from absolute to signed coefficients tells us whether the changes are liberal or not. Table 4 gives the distribution.

Table 4. Trend Direction

	Negative=Conservative	Positive=Liberal	Total
Strong	0	1	1
Medium	0	8	8
Small	3	6	9
Trivial	8	8	16
			34
			9
			Trivial=43

The generational attitude differences in Table 4 are overwhelmingly Liberal: 65 per cent of the non-nil, 88 percent of the non-trivial and all nine of the medium and strong coefficients are positive.

Table 5 displays the 18 non-trivial inter-generational differences along with the liberal percentages in the two generations.

Table 5. Non-Trivial Generation Differences Sorted by Direction

Item		Correlation		% Liberal	
		Conservative	Liberal	Prior	Current
RACOPEN	Referendum on open housing (Whites only)		+.424	32	74
FEPOL	Women not unsuited for politics		+.267	49	76
FEPRES	Vote for a woman presidential candidate		+.258	76	96
AGED	Approve of aged living with kids		+.248	44	70
SKPHOMO	Free speech for homosexual		+.246	62	84
GRASS	Legalize marijuana		+.239	18	39
HOMOSEX	Homosexuality right or wrong		+.229	24	46
NATEDUC	Favor national spending on education		+.218	50	72
POLABUSE	Not OK for policeman to strike abusive citizen		+.203	77	92
COURTS	Local courts are too harsh		+.182	16	31
SPKATH	Free speech for anti-religious speaker		+.166	62	77
PREMARSX	Premarital sex not always wrong		+.142	62	75
SEXEDUC	For sex education in public schools		+.139	79	89
SPKMIL	Free speech for militarists		+.135	52	67
PARTYID	Favor Democrats	-.129		57	45
SPKCOM	Free speech for communists		+.134	54	67
ABDEFECT	Allow abortion if fetus is defective	-.099		82	74
XMARSEX	Extra-marital sex not always wrong	-.098		27	18

Some observations: The -.098 for XMARSEX challenges the notion that sex norms have

evaporated and "anything goes"... The very high value for RACOPEN (+.424) (open housing)

contrasts with the small conservative result (-.091) for HELPBLK (should the government do more for Blacks) - the two items encapsulating decades of trends in racial attitude research: *Anti*-Black sentiments have eroded dramatically but have not been replaced by *pro*-Black support for remediation. The political items match the political scientists' observation that while the generation is less democratic (PARTYID), they have moved in the opposite direction from the Republican party on many "social" issues. Although the generation trend for abortion is conservative (more discussion below), in the current generation three quarters support abortion in three circumstances (rape, defect, woman's health).

Conclusion Two: The current generation is thoroughly, but not totally, more liberal than the prior generation.

Coefficients for the model in Figure 1 are easily estimated with Ordinary Least Squares[10] and displayed in Figure 2**.**

Figure 2. Four Variable Model of Inter-Generational Attitude Change
Figure 1. Four Variable Model of Long Term Attitude Change
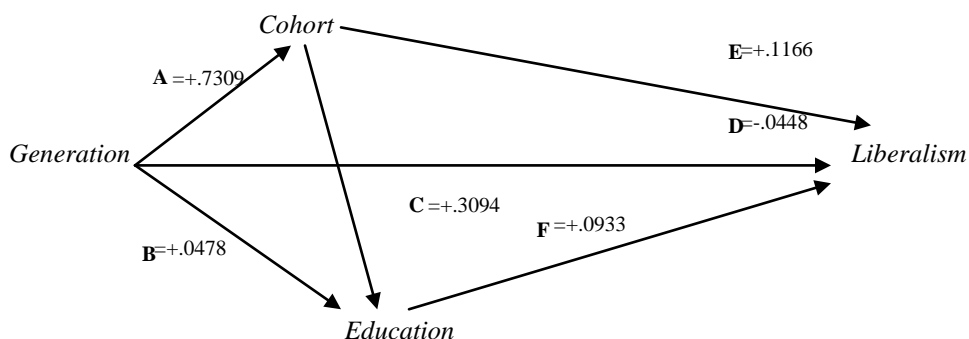
The total increase in Liberalism from Prior to Current generation, + .0660, is composed of:

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[10] The coefficients are partial regression coefficients controlling for prior and intervening variables as applicable. For the 43 attitude items each was estimated and the results averaged - because there are no cases where a respondent answered all 43. Estimated this way the bivariate from Generation and Liberalism is +.0716 - reasonably close to the modeled value, .0660.

Direct effect (Generation difference net of Cohort and Education)		-.0448
Via Cohort (Cohort replacement net of Education)	=.7309*.1136	+.0852
From Education (Due to Cohort Replacement)	=.7309*.3094*.0933	+.0211
From Education (Generational Educational differences within Cohorts)	=.0478*.0933	+.0045
		+.0660

From which:

The direct effect of Generation is *negative* (conservative).
Sheer Cohort replacement is the largest of the three (+.0852).
The total Education effect (.0211+.0045=+.0256), while *positive*, is the smallest.

Turning from the complete model, we can inspect item by item results (partial direct path coefficients). Table 6 summarizes.

Table 6. Multivariate Findings Summarized

Coefficient		Generation	Cohort	Education	Label
	>.39	0	0	0	Strong
+.20	+.39	1	9	10	Medium
+.10	+.19	5	16	10	Small
+.05	+.09	4	7	5	Trivial
-.04	+.04	7	10	12	Nil
-. 09	-.05	8	0	3	Trivial
-.19	-.10	17	1	1	Small
-.39	-.20	1	0	2	Medium
<-.39		0	0	0	Strong
		43	43	43	

Non-Trivial			
Yes	31	36	35
No	12	7	8

Viewed this way the three predictors seem equally potent, although their individual impacts are qualitatively different. Table 7 displays the correlations among the three net effects across the 43 attitudes.

Table 7. Bivariate Correlations among Net Effects

	Cohort	Education
Generation	-.138	-.023
Cohort		+.005
		N=43

The three are essentially independent. Generational differences stemming from one of the three predictors are neither similar nor opposite those stemming from the others. Putting it another way, no pair operates in tandem and no one consistently offsets the other.

Education

As predicted, the Current generation is better educated and consequently more liberal. The schooling gains are shown in Table 8.

Table 8. Educational Attainment by Generation (Mean Years)

Generation	Parents	Respondent
Current	11.2	13.4
Prior	8.7	11.5
Difference	2.5	1.9
	N range: 5,383-7,477	

Since the GSS asks about parental schooling years, their means allow us to compare parents and children (if results were only available for one parent, it was used as the estimate). Table 8 says the Current generation have about two more years of schooling than the Prior. During the GSS years Americans' typical schooling moved from a bit less than high school graduation to a bit more.

The value 8.7, seen in Table 8, suggests the grandparents of the current generation (parents of the Prior generation) were typically ninth grade graduates and the two generation gap is almost five years (13.4- 8.7 = 4.7). In three generations the typical adult schooling of an

American increased from 9th grade to high school graduate to some post-high school training[11].

Although Education is not the strongest driver of change - its level does not change as much as Cohort's - it has 23 non-trivial net correlations, 20 of which are liberal, 3 conservative. The strongest net coefficients are almost all from two groups, displayed in Table 9.

Table 9. Items with Net Education Coefficients of .20 or Larger

Item		Stouffer*	Abortion**	Other
SPKCOM	communist	+.324		
SPKATH	anti-religion advocate	+.310		
SPKMIL	militarist	+.276		
SPKHOMO	homosexual	+.270		
HOMOSEX	homosexuality not always wrong			+.260
ABSINGLE	not married		+.254	
ABNOMORE	married		+.236	
SPKRAC	racist	+.232		
ABPOOR	can't afford more		+.228	
ABRAPE	was raped		+.215	
PRAYER	oppose prayer in public schools			+.205

* Allow public speech by...
** Allow legal abortion if the woman....

The Free Speech results confirm 56 years of research but the Abortion coefficients merit scrutiny. Table 10 shows why.

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[11] While this gives plausible estimate of the differences, it is not a good estimate of the mean schooling in earlier generations because parents and grandparents with large numbers of offspring are over-represented in a contemporary sample.

Table 10. Net Differences in Attitudes toward Legal Abortion

Item	(Allow abortion if...)	Generation Bivariate	Generation Net	Cohort Net	Education Net	% Liberal Prior	% Liberal Current
ABDEFECT	fetus is defective	-.099	-.146	+.244	+.310	82	74
ABPOOR	can't afford more	-.088	-.145	+.163	+.276	51	42
ABSINGLE	not married	-.076	-.137	.000	+.172	47	40
ABRAPE	was raped	-.072	-.109	+.084	+.232	83	77
ABHLTH	her health is in danger	-.032	-.102	+.176	+.324	90	88
ABNOMORE	married	.001	-.095	+.232	+.270	44	44

The Educational and Cohort net differences are non-trivial and positive (one exception) while the

Generation effects are negative (see below on Generation). Thus, the Stouffer/Whig long run

shift to liberalism on abortion via Education and Cohort Replacement while clearly present, was

offset by a conservative generational shift during the GSS years (more on this to come).

Education has non-trivial conservative net coefficients for three items - all asking

whether the national government should spend more or spend less. But the Educational tilt on

spending is not totally conservative. Thus, net of Generation and Cohort.

> HELPPOOR   improve standard of living of all poor Americans   -.152
> HELPNOT   do even more to solve the nation's problems -.119
> HELPSICK   help in paying for doctors and hospital bills -.081
> NATFARE   spend more on welfare. - .066
> NATHEAL   protecting the nation's health +.031
> NATEDUC   improving the nation's education system +.057
> NATARMS   military, armaments, defense (reversed)   +.075
> NATENVIR   improving and protecting the environment +.108

Conclusion three: Cohort driven increases in educational attainment contributed to increased

liberalism for most attitudes.

Cohort and Generation

While interpreting Education correlations is apparently straight forward[12], Cohort and

Generation are more abstract. Cohort's silent partner (evil twin), Age, helps. Table 11 shows Age

means in the Cohort by Generation Layout with Cohort split into 12 equal N categories:

Table 11. Age by Cohort and Generation

Cohort Mean	Generation Prior	Generation Current	N (Prior)	N (Current)
1979	-	26	-	(2,413)
1970	-	37	-	(1,178)
1964	-	43	-	(832)
1959	-	48	(8)	(772)
1956	20	52	(420)	(665)
1952	22	56	(775)	(625)
1947	26	60	(733)	(527)
1943	31	65	(846)	(583)
1937	37	71	(767)	(401)
1929	45	78	(1,203)	(362)
1921	53	86	(1,792)	(194)
1910	67	-		

Reading across Table 11 one sees a particular group of people (not the same individuals) at two

times about 30 years apart. Reading up and down one sees different cohorts, each captured at a

particular age. The results in Figure 2 (-.0448 for Generation, +.1166 for Cohort) show Cohort

and Generation generally have opposite signs. So do the patterns in Table 11. This suggests

aging is the key driver - older people and earlier born cohorts being more conservative.

Perhaps it is a bit of a stretch to assume narrowing arteries and expanding waists drive the

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[12] Superficially so, but voluminous research has not yet nailed down the specific mechanisms through which Education produces long range attitude patterns. Analyses not reported here suggest the effect on attitudes tends to be monotonic but at a decreasing rate.

complete spectrum of attitudes. Physiology aside, each group is also exposed to a changing society during differing periods. Reading up and down we do see groups who differ in age - but also they differ in exposures to what one might call social climates. In standard language, these are *period* effects. One may doubt attitudes on social issues are imprinted at birth. Presumably then persons in various cells developed their attitudes during in differing spans of social climate (periods). In sum, Table 11 is consistent with two totally different interpretations, Aging and Exposure to social climates. It is hard to find direct evidence for or against Social Climates but not so for Age. It goes like this: Consider some variable completely driven by chronological age. It would, of course, show these Cohort v. Generation sign reversals. But it would have another characteristic: between generations, people at the same age would have the same attitudes even though they would differ on their exposure to social climates.

It may be impossible to find a GSS variable that is strictly a function of age but sex frequency - after all, a biological phenomenon - is a candidate. That series didn't start until 1989 so we cannot examine it in both generations, however, we can compare 1989-1990 versus 2008-2010, a span of close to 20 years. Table 12 gives the raw results.

Table 12. Self-Reported Sex Frequency by Age and Period
(Percent 2-3 times per month or more, all marital statuses)

Age	Period 1989-1990	2008-2010	(Nbefore)	(Nafter)
85+	4	6	(27)	(42)
80-84	3	13	(38)	(70)
75-79	9	21	(70)	(77)
70-74	25	28	(94)	(143)
65-69	30	29	(132)	(186)
60-64	45	45	(107)	(255)
55-59	55	45	(98)	(278)
50-54	64	57	(75)	(133)
45-54	75	64	(153)	(326)
40-44	80	67	(189)	(323)
35-39	83	77	(215)	(332)
30-34	82	82	(237)	(309)
25-29	77	80	(225)	(335)
18-24	65	67	(214)	(397)

Here, as presumably in any age driven variable, there are steady progressions up and down and no consistent differences across rows (in regression terms the partial coefficients with age ungrouped are Period = -.014, Age = +.162). From which, a test: if the dependent variable is a function of Age alone, in an Age/Period/Item regression it should show a partial Age relationship, but no partial Generation relationship. Upon running the 43 regressions for Age, Generation and Attitude, 36 are shown as non-trivial Age coefficients, *but* among them 35 showed a non-trivial Generation coefficient. That is, in 35 out of 36 cases the GSS attitude items clearly fail the test - nil period effects. It seems unlikely, therefore, that the attitude patterns for Cohort and Generation are spurious products of aging.

The climate interpretation of Cohort and Generation suggests that (1) until shortly before the GSS began America's social climate became steadily and broadly more liberal and that (2) during the GSS years, there was a sea of change, somewhat conservative, but more a dilution of

long term liberalism[13].

Table 13 shows the 14 attitudes with non-trivial net coefficients for both Cohort and

Generation, sorted by sign. (None were conservative for both climates.)

Table 13. Items with Non-Trivial Net Coefficients For Both "Climate" Variables

| Item	*Both Liberal*	Generation	Cohort
RACOPEN	Referendum on open house (whites only)	+.306	+.138
AGED	Favor elderly living with their children	+.166	+.151
FEPRES	Vote for woman presidential candidate	+.107	+.159
	Liberal Shift		
TAX	Federal income tax not too high	-.101	+.118
	Conservative Shift		
XMARSEX	Extra-marital sex not always wrong	-.233	+.112
PORNLAW	Legalize adult pornography	-.188	+.350
NATARMS	Spend less on defense	-.186	+.106
DIVLAW	Make divorce easier	-.184	+.248
HELPPOOR	Government aid to poor	-.176	+.171
HELPNOT	Government should do more	-.156	+.157
RELITEN	Lesser religiosity	-.130	+.259
RELITEN2	Lesser religiosity if affiliated	-.146	+.213
POLVIEWS	Self-rated liberalism	-.113	+.120
NATENVIR	Favor spending on environment	-.098	+.193

Half of the 10 reversing items are political, though, as noted above, not all political items

fit this pigeon hole (see TAX in Table 13, for example).

Conclusion 4: Social Climates prior to 1972 (Cohort replacement) produced increased liberalism,
social climates since (Period effects) have been diffuse and somewhat conservative.

[13] This updates and elaborates the arguments in Davis (1992).

The Slow Down

Cohort replacement is perpetual, barring a demographic catastrophe. Not so for progress in schooling. Mean educational attainment in the United States increased steadily for more than a century (Goldin and Katz, 2008) and probably longer. But as they observe, "starting around 1970 a disturbing trend became apparent in the high school graduation rate. The fraction of Americans graduating from public and private high schools began to backslide (p. 330)". Figure 3 documents this pattern for the GSS (Total cumulative file). Figure 3 shows educational attainments by year of entry into GSS eligibility (i.e. Cohort plus 18).

Figure 3. Year of Entry Into GSS Sample
GSS Cumulative File, Age 26+
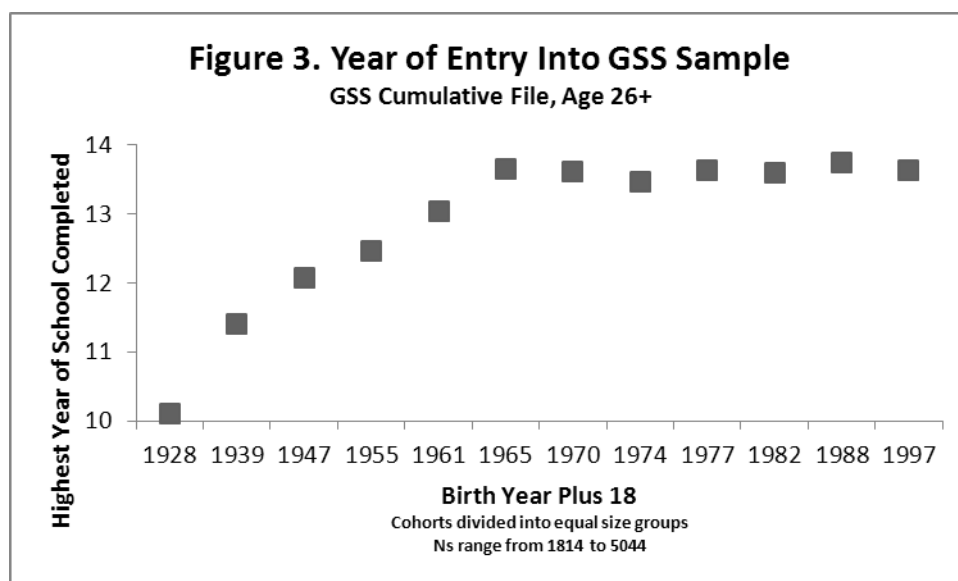
The pattern is clear: high school graduation increased steadily until around 1970 and then held steady. Figure 3 corroborates the Goldin and Katz conclusion: sometime around 1970 America's century-long advance in educational attainment came to a halt. Noting that the GSS entrants of 1970 were born in 1952, one might say educational upgrading halted with the advent of the baby boom. (Perhaps the nation's educational system did not expand sufficiently to handle

the increased enrollments.)

Dubbing Americans born 1949 and later as the "no-gain" cohorts a principle follows: as the proportion of "no-gainers" increases, the population's progress in educational attainment slows down but does not become negative (no-gainers will still be more highly educated than any of their predecessors). Figure 4 shows this process.

Figure 4. Proportion "No Gain" by Year and Generation
Vertical lines mark "Generations"
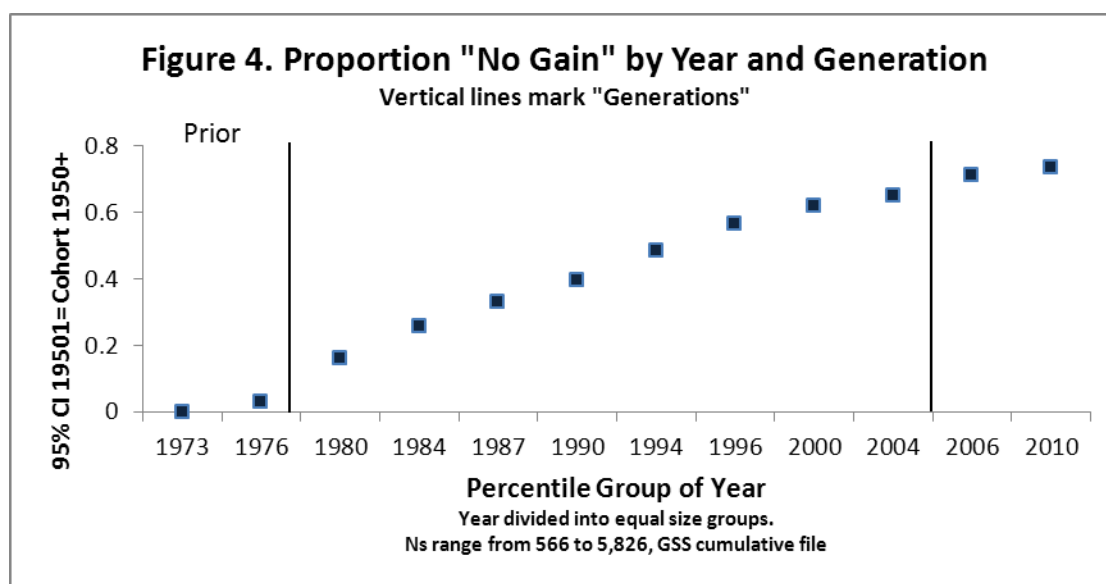
Going across Figure 4 are GSS years 1972 to 2010, the two generations marked by vertical lines. The interior shows the proportion in No-Gain cohorts. The difference is marked - from nil in the Prior generation to .72 in the Current. Regression analysis says the No-Gain percentage increases at about 2.1 points per year. Thus suggests that it will take about 13 years for the No-Gain proportion to reach 1.00.

Applying the same reasoning to social climates - assuming their increasing liberalism also stalled around 1967, and assuming (dangerously) these patterns will continue unmodified: we hazard two predictions:

Prediction 1: The liberal gains from increasing education will decrease steadily and end around 2023.

Prediction 2: The liberal gains from increasingly liberal social climates will decrease steadily and end around 2023.

These patterns have implications regarding the "Generation Gap", the widely accepted assumption that age and liberalism are negatively correlated in a cross-section (that is, older Americans are generally less liberal than younger ones). While chronological age may not be the source (see prior argument), the gap would be easily produced if older Americans were less well educated and grew up in a less liberal social climate. If, however, the Age/Education correlation is decreasing (because of "no-gainers") and the Age/Liberalism correlation is shrinking because recent climates are less liberal, the Generation Gap should be shrinking. It is. Table 14 displays the bivariate correlation between Age and Attitude within generations.

Table 14.

Table 14. Mean Correlation between Age and Attitude Within Generations

Correlation	Generation Prior	Generation Current	Difference
Absolute	+.135	.079	-.044
Signed	-.126	-.067	+.059
			N=43

Table 14 shows the Generation Gap dropped by almost one half during the GSS years.

Prediction 3: The Generation Gap in liberal attitudes will decrease steadily and end around 2023.

Conclusion 5: The Stouffer/Whig causal system is decreasingly useful for explaining attitude trends and will probably be of no use by 2023.

Conclusion

This research aimed to describe the similarities and difference between two generations, those interviewed in 1972-1976 and those interviewed in 2006-2010, and to test the belief that cohort replacement and educational attainment increases driven by cohort replacement, move the nation in a liberal direction. The test used 43 items from the NORC General Social Survey which appeared in both periods.

While the current generation is clearly more liberal than its parents were and the "Stouffer/Whig" process definitely contributed, the mechanism of change appears to be evolving. Prior to the first GSS the framework worked exceedingly well but, just as the series began, the main liberalizing mechanism, (cohort replacement driving both liberal social climates and higher educational attainment) began to lose steam and the predicted future is far from strikingly or pervasively more liberal.

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APPENDIX
Results Item by Item

Mnemonic = Computer mnemonic in GSS cumulative file
Topic = Liberal answer paraphrase
Total = Bivariate correlation with Generation (**bold** = absolute value .10 or larger)
%Prior = Percent giving Liberal response in Prior Generation
%Current = Percent giving Liberal response in Current Generation
GENNET = Partial regression coefficient for Generation, net of Cohort and Education
COHNET = Partial regression coefficient for Cohort, net of Generation and Education
EDNET = Partial regression coefficient for Education, net of Generation and Cohort
N1 = Case base in Prior Generation
N2 = Case base in Current Generation

Topic Mnemonic	Total	%Prior	%Current	GENNET	COHNET	EDNET	N1	N2
Abortion: allow legal abortion if...								
ABNOMORE She is married	.001	44	44	-.095	+.042	+.236	6,056	3,880
ABHLTH Her health is in danger	-.032	90	88	-.102	+.048	+.128	6,163	3,869
ABRAPE She was raped	-.072	83	77	-.109	-.031	+.215	6,043	3,860
ABSINGLE She is single	-.076	47	40	-.137	-.011	+.254	6,015	3,986
ABPOOR She can't afford more children	-.088	51	42	-.148	-.004	+228	6,028	3,892
ABDEFECT The fetus is defective	**-099**	82	74	-.146	.000	+.172	6,119	3,845
Authority								
GRASS Legalize marihuana	+.234	18	39	+.075	+.157	+.162	3,606	3,749
POLABUSE Oppose police striking a civilian	+.209	77	92	+.070	+.158	+.086	3,059	3,965
COURTS Local courts not too lenient	+.182	16	31	+.128	+.056	+.046	5,250	5,753
GUNLAW Favor gun permits	+.048	74	78	+.055	-.026	+.043	6,190	3,944
CAPPUN Oppose capital punishment	+.008	68	69	.037	-.036	-.010	3,503	5,744

Topic Mnemonic	Total	%Prior	%Current	GENNET	COHNET	EDNET	N1	N2
FEPOL Women are not unsuited for politics	+.269	49	76	+.170	+.088	+.126	1,764	3,857
AGED Older people should share home with their children	+.266	44	70	+.166	+.151	-.037	3,704	4,060
FEPRES Would vote for woman presidential candidate	+.256	76	96	+.107	+.159	+.116	3,679	2,352
CHLDIDEL Favor small families	+.078	53	61	-.013	+.076	+.132	4,544	3,519
DIVLAW Loosen divorce laws	-.013	28	27	-.184	+.248	-.039	3,520	3,922
Free Speech: Allow public speech by...								
SPKHOMO homosexuality advocate	+.252	62	84	+.008	+.232	+.270	3,594	3,967
SPKATH anti-religion advocate	+.170	62	77	-.094	+.244	+.310	5,052	4,016
SPKCOM communist	+.134	54	67	-.083	+.176	+.324	4,977	3,965
SPKMIL militarist	+.132	52	67	-.063	+.163	+.276	1,229	3,970
SPKRAC racist	+.018	60	62	-.108	+.084	+.232	1,224	3,984
Politics								
NATEDUC Spend more on education	+.217	50	72	+.062	+.191	+.057	4,758	3,031
NATENVIR Spend more on environment	+.072	57	64	-.098	+.193	+.108	4,644	2,934
NATHEAL Spend more on improving health	+.064	64	70	-.019	+.102	+.031	4,774	2,990
TAX Federal income tax NOT too high	+.060	36	43	+.118	-.101	+.056	1,144	3,952
NATFARE Spend more on welfare	+.054	19	24	+.027	+.062	-.066	4,736	2,957
HELPSICK Govt should help pay doctor and hospital bills	+.016	48	50	-.072	+.151	-.081	1,193	3,978
POLVIEWS Self-rated liberalism	-.032	67	64	-.113	+.125	-.039	3,493	7,183
HELPNOT Govt should do more	-.074	36	28	-.156	+.157	-.119	1,128	3,938
NATARMS Spend LESS on defense	-.088	80	73	-.186	+.106	+.075	4,615	2,878
HELPPOOR Govt. should improve standard of living of the poor	-.093	39	29	-.176	+.171	-.152	1,191	3,991
PARTYID Favor Democrats	-.125	57	45	-.123	+.014	+.048	6,147	7,288

Topic Mnemonic	Total	%Prior	%Current	GENNET	COHNET	EDNET	N1	N2
RACOPEN Would vote for open housing	+.419	32	74	+.306	+.138	+.044	3,272	4,009
HELPBLK Govt should help Blacks	-.093	25	17	-.130	+.059	-.024	1,185	3,942
Religion								
PRAYER Oppose Prayer in public schools	-.088	68	59	-.024	+.077	+.205	1,806	3,919
RELITEN Not "strong" religiously	+.035	59	63	-.130	+.239	-.034	3,672	7,277
RELITEN2 Not "Strong" - if affiliated	-.005	57	56	-.146	+.213	-.055	3,450	6,155
POSTLIFE Believe in life after death - no	-.052	22	38	-.067	+.035	-.040	3,388	4,427
Sex Norms								
HOMOSEX Homosexuality always wrong - no	+.228	24	46	+.002	+.212	+.260	3,527	3,818
SEXEDUC Favor sex education in public schools	+.143	79	89	-.050	+.202	+.163	2,361	4,038
PREMARSX Premarital sex always wrong - no	+.138	62	75	-.066	+.231	+.128	3,670	3,999
PORNLAW Legalize pornography	+.093	54	63	-.188	+.350	+.090	3,652	4,049
XMARSEX Extramarital sex always wrong - no	-.101	27	18	-.233	+ .112	+.184	3,703	3,749