




1996

# Political Orientations and the Influences of Cohort Membership and Time: Patterns of Change in Tolerance, Confidence, and the Strength of Party Affiliation

Chien Joanna Lei-Lee  
*University of Pennsylvania*

Follow this and additional works at: [http://repository.upenn.edu/dissertations\\_asc](http://repository.upenn.edu/dissertations_asc)

 Part of the [Demography, Population, and Ecology Commons](#), [Mass Communication Commons](#), and the [Political Science Commons](#)

---

## Recommended Citation

Lei-Lee, Chien Joanna, "Political Orientations and the Influences of Cohort Membership and Time: Patterns of Change in Tolerance, Confidence, and the Strength of Party Affiliation" (1996). *Dissertations (ASC)*. 8.  
[http://repository.upenn.edu/dissertations\\_asc/8](http://repository.upenn.edu/dissertations_asc/8)

This paper is posted at ScholarlyCommons. [http://repository.upenn.edu/dissertations\\_asc/8](http://repository.upenn.edu/dissertations_asc/8)  
For more information, please contact [libraryrepository@pobox.upenn.edu](mailto:libraryrepository@pobox.upenn.edu).

---

# Political Orientations and the Influences of Cohort Membership and Time: Patterns of Change in Tolerance, Confidence, and the Strength of Party Affiliation

## **Abstract**

Seeking to better understand inter-generational continuity of political orientations, this study investigates the relationships among three archetypes of political orientations (tolerance of nonconformists, confidence in people running institutions and the strength of party affiliation) and enduring versus contemporaneous forces. Birth cohort membership and education are selected to represent the former and the time of survey and media use the latter.

Three fundamentals of the present study differ from most prior research in this tradition: First, instead of focusing on different effect models, this study seeks to establish a conceptual structure among outcome variables. Second, the inter-generational continuity is assumed to be cohort-generational rather than lineage-generational. Third, it employs a year-cohort matrix rather than a standard cohort table as the central analytical scheme.

Using the NORC General Social Surveys (1972-1993), the study tracks eight birth cohorts across twenty-two years to discern change patterns over time. Overall three archetypes and a sub-type emerged from the data.

The two tolerance scales and five individual indicators are overwhelmingly affected by enduring forces of one's birth cohort membership and education. Once formed, these orientations remain relatively stable through life. The patterns found among two confidence scales and six confidence indicators are those of a sweeping time effect. Cohorts' confidence levels are closely "bunched together" and fluctuate from year to year. The strength of party affiliation represents a third archetype, in that we suspect the basic partisanship is fixed by formative experiences but the specific action of affiliating with either party is incited by environmental cues. The resulting change pattern is one of unsynchronized waves. The researcher found a fourth sub-type in confidence in the Supreme Court where enduring forces dictate the responses in the absence of significant contemporaneous forces.

Education is reconfirmed as a quintessential force to be reckoned with when one studies political orientations. Large effects of education are found among all four types of variables, though the mechanism via which education affects each may differ.

## **Degree Type**

Dissertation

## **Degree Name**

Doctor of Philosophy (PhD)

## **Department**

Communication

---

**First Advisor**  
Charles Wright

**Keywords**  
civil liberties

**Subject Categories**  
Communication | Demography, Population, and Ecology | Mass Communication | Political Science

POLITICAL ORIENTATIONS AND THE INFLUENCES OF COHORT  
MEMBERSHIP AND TIME: PATTERNS OF CHANGE IN TOLERANCE,  
CONFIDENCE, AND THE STRENGTH OF PARTY AFFILIATION

Chien Joanna Lei-Lee

A DISSERTATION

in

Communication

Presented to the Faculties of the University of Pennsylvania in Partial Fulfillment  
of the Requirements for the Degree of Doctor of Philosophy

1996

  
\_\_\_\_\_  
Supervisor of Dissertation

  
\_\_\_\_\_  
Graduate Group Chairperson

Annenberg/P/002/1996/L525

COPYRIGHT

CHIEN JOANNA LEI-LEE

1996

## ACKNOWLEDGMENT

I started a journey many years ago, not knowing there would be a long detour. I was a young graduate student then. One day I sat in awe listening to Dr. Ray L. Birdwhistell asking: "Where is blue located?"

This may sound simple to you. But is "blue" located in the spectrum, on your sweater, or in the American Flag? "Is the 'not ring' on the ring finger simply the absence of a ring?" Those and many other questions resonated in me to this day. They constantly remind me to challenge my own assumptions of meaning and of the location of meaning. They are the impetus of this study.

I want to thank my supervisor, Dr. Charles R. Wright, for allowing this student to wonder in her pursuit. He is the keystone of my intellectual development. Much of this work is the fruit of the many hours I spent in his cluttered office. I learned from him a set of perspectives, academic and otherwise, which shall be with me always.

Dr. Robert Hornik, who supervised my master thesis, is the force that keeps me from going astray. Whenever I hit a wall during this study, I hear him asking

me to clarify my hypotheses, underlying assumptions, and expected shape of the data. He has taught me everything I need to remember in methodology.

I would like to thank Dr. Larry Gross for serving on my committee. His insights and suggestions helped me to address a number of my own blind spots.

Not many people get a second chance as I did. For that I would like to thank a number of people whose support had made the journey almost painless. I thank my bosses and friends at Capital Cities/ABC, Inc., Messrs. George M. Cain and Phil J. Meek, who arranged for me to work on this dissertation while being employed. I thank the Dean of the Annenberg School, Dr. Kathleen Hall Jamieson, for providing a sanctuary (and the picture on the wall). All the staff members, especially my friend Pam Robinson, have been wonderful. I am also grateful for the generous financial support provided by the Annenberg School during my early graduate student years.

My husband, Peter H. C. Lee, agonized through this process with me in more than one way. He deserves my eternal gratitude.

To My Parents

who know how much it means to me to

finally

be able to make this dedication



## ABSTRACT

POLITICAL ORIENTATIONS AND THE INFLUENCES OF COHORT  
MEMBERSHIP AND TIME: PATTERNS OF CHANGE IN TOLERANCE,  
CONFIDENCE, AND THE STRENGTH OF PARTY AFFILIATION

CHIEN JOANNA LEI-LEE

CHARLES R. WRIGHT

Seeking to better understand inter-generational continuity of political orientations, this study investigates the relationships among three archetypes of political orientations (tolerance of nonconformists, confidence in people running institutions and the strength of party affiliation) and enduring versus contemporaneous forces. Birth cohort membership and education are selected to represent the former and the time of survey and media use the latter.

Three fundamentals of the present study differ from most prior research in this tradition: First, instead of focusing on different effect models, this study seeks to establish a conceptual structure among outcome variables. Second, the inter-generational continuity is assumed to be cohort-generational rather than lineage-generational. Third, it employs a year-cohort matrix rather than a standard cohort table as the central analytical scheme.

Using the NORC General Social Surveys (1972-1993), the study tracks eight birth cohorts across twenty-two years to discern change patterns over time. Overall three archetypes and a sub-type emerged from the data.

The two tolerance scales and five individual indicators are overwhelmingly affected by enduring forces of one's birth cohort membership and education. Once formed, these orientations remain relatively stable through life. The patterns found among two confidence scales and six confidence indicators are those of a sweeping time effect. Cohorts' confidence levels are closely "bunched together" and fluctuate from year to year. The strength of party affiliation represents a third archetype, in that we suspect the basic partisanship is fixed by formative experiences but the specific action of affiliating with either party is incited by environmental cues. The resulting change pattern is one of unsynchronized waves. The researcher found a fourth sub-type in confidence in the Supreme Court where enduring forces dictate the responses in the absence of significant contemporaneous forces.

Education is reconfirmed as a quintessential force to be reckoned with when one studies political orientations. Large effects of education are found among all four types of variables, though the mechanism via which education affects each may differ.

## TABLE OF CONTENTS

	<b>Page</b>
<b>I. INTRODUCTION</b>	<b>1</b>
A. Statement of the Problem	1
B. Previous Research Findings	4
1. Inter-Generational Continuity	4
2. Time-Related Effect Models	11
3. Education Effect	16
4. Media as Influencing Forces	20
5. Delineation of Dependent Variables	22
6. Implications for the Current Study	24
C. Significance of the Study	26
<b>II. RESEARCH METHODOLOGY</b>	<b>28</b>
A. Design of the Study	29
1. Year-Cohort Matrix and Analytical Procedures	29
2. Principles of Cohort Analysis	31
B. The NORC Database	32
C. Key Measurements	34
1. Birth Cohort Membership	34
2. Education	35
3. Media Use	37
4. Tolerance and Confidence Indicators	38

	<b>Page</b>
<b>III. CHARACTERISTICS OF THE SAMPLE</b>	43
A. Understanding Birth Cohorts	44
1. Overview	44
2. Cohort Snapshots 73-83-93	50
B. Understanding Time Periods	58
1. Overview	58
2. By Political Orientations	61
<b>IV. FACTORS AFFECTING POLITICAL ORIENTATIONS</b>	64
A. Year-Cohort Matrices for Tolerance Indicators	65
B. Year-Cohort Matrices for Confidence Indicators	77
C. Year-Cohort Matrices for Strength of Party Affiliation	88
D. Exploring Enduring Versus Contemporaneous Effects	92
<b>V. DISCUSSION AND SUMMARY</b>	100
A. Education as a Component of Cohort Experience	101
B. The Interaction of Media Use and Time	105
C. Summary	109
<b>EPILOGUE</b>	114
<b>APPENDIX</b>	
<b>BIBLIOGRAPHY</b>	

## LIST OF TABLES

		<b>Page</b>
2.1	Birth Cohort Membership	36
2.2	Factor Analysis of Tolerance and Confidence Indicators	41
2.3	Reliability of Tolerance and Confidence Scales	42
3.1	Characteristics of Birth Cohorts	45
3.2	Standard Cohort Tables for SES and Happiness	47
3.3	Cohort Snapshots 73-83-93	51
3.4	Characteristics of Periods	60
3.5	Tolerance and Confidence Indicators by Period	62
4.1	rTOLSUM by Cohort by Year	69
4.2	rTOLSUM3 by Cohort by Year	69
4.3	rCONSUM by Cohort by Year	81
4.4	rCONSUM4 by Cohort by Year	81
4.5	rPARTY3 by Cohort by Year	94
4.6	Descriptive Matrix of Over Time Change Patterns	95
4.7	Effects of Cohort and Year on Tolerance Indicators, Confidence Indicators, and the Strength of Party Affiliation with Aggregate Data	98
4.8	Expanded Effect Model	99
5.1	Effects of Cohort and Education on rTOLSUM and rTOLSUM 3, Summary of Regression Results	103
5.2	Interaction Effect of Media	107
5.3	Effects of Year and Media on rCONSUM and rCONSUM4 Summary of ANOVA Results	108
5.4	Effects of Cohort, Education, Year and Media, Summary of Regression Results	111

	<b>Page</b>
<b>APPENDIX</b>	
2.1 Question Wording	116
2.2 Years in Which Data Were Available for Key Measurements	118
4.1 rSPKATH by Cohort by Year	119
4.2 rSPKCOM by Cohort by Year	119
4.3 rSPKHOMO by Cohort by Year	120
4.4 rSPKMIL by Cohort by Year	120
4.5 rSPKRAC by Cohort by Year	121
4.6 rCONBUS by Cohort By Year	122
4.7 rCONFED by Cohort By Year	122
4.8 rCONJUDG by Cohort By Year	123
4.9 rCONLEGI by Cohort By Year	123
4.10 rCONPRES by Cohort By Year	124
4.11 rCONTV by Cohort By Year	124
4.12 Effects of Cohort and Year on Tolerance Indicators, Confidence Indicators, and the Strength of Party Affiliation	125
4.13 Effects of Education and Year on Tolerance Indicators, Confidence Indicators, and the Strength of Party Affiliation with Aggregate Data	126

## LIST OF CHARTS

	<b>Page</b>
4.1 rTOLSUM by Cohort by Year	66
4.2 rTOLSUM3 by Cohort by Year	67
4.3 rSPKATH by Cohort by Year	71
4.4 rSPKCOM by Cohort by Year	72
4.5 rSPKHOMO by Cohort by Year	73
4.6 rSPKMIL by Cohort by Year	74
4.7 rSPKRAC by Cohort by Year	75
4.8 rCONSUM by Cohort by Year	78
4.9 rCONSUM4 by Cohort by Year	79
4.10 rCONBUS by Cohort by Year	83
4.11 rCONFED by Cohort by Year	85
4.12 rCONJUDG by Cohort by Year	86
4.13 rCONLEGI by Cohort by Year	89
4.14 rCONPRES by Cohort by Year	90
4.15 rCONTV by Cohort by Year	91
4.16 rPARTY3 by Cohort by Year	93

## CHAPTER ONE

### INTRODUCTION

#### A. Statement of the Problem

Stemming from a question of how a society perpetuates itself and its culture, I was intrigued by a body of recent political socialization literature. The literature documented generally low one-to-one correlation between the presumed "agent" of socialization and the "socializee," be it parent-child or teacher-student. On the other hand, it found consistencies between large groups in the two generations over time. If not by modeling or other means of communications and direct political socialization, how was this consistency in the aggregate, which then contributed to the continuity of the system, achieved? This was the kernel of the present research.

Could it be that we are looking at the inter-generational transmission of political orientations (political socialization) in the wrong places, with wrong measurements? At what level does sharing "some significant life event within a given period of time," by which the birth cohort membership is defined (Glenn, 1977:8), affect those individuals above and beyond socialization by their primary groups? To what extent are one's orientations "fixed" by these early experiences? How do we account for forces of maturation or of the environment in which one exists? Let us delineate these questions one by one.



1) The Measurement Question: Prior research in political socialization tends to treat a variety of indicators as undifferentiated measurements of political orientation. These include party affiliation, confidence in people running institutions, and tolerance of nonconformist individuals. We would argue that some of these items measure fundamental beliefs and values while others gauge transitory events and system performances. Therefore, we expect formative forces such as one's birth cohort membership or education attainment to influence only the former and not the latter group of measurements.

To test this hypothesis we analyze a number of political indicators against the birth cohort membership and the time of survey. We expect the cohort membership to affect those items measuring fundamental values more than those measuring opinions about current events and system performance. Conversely, we expect the Zeitgeist of a period, as represented by the year of survey, to have a stronger effect on the latter group of political variables than on the former.<sup>1</sup>

2) The Enduring Effect Question: Prior research suggests that people born within a period of time share something in common which affects their attitudes and behaviors through life. In this study we argue that only the dimension of fundamental values will be subject to such enduring effects.

---

<sup>1</sup> Conventional cohort effect studies would make historical inferences on the obtained effect or the direction of said effect. In this study, cohort membership is conceived as representing a host of shared formative experiences, including those associated with history, society, events, and individuals. Our focus is on *if* the cohort membership has effects on only certain types of political orientations. We will, nevertheless, address some questions as to what components of cohort differences may help us to understand their differences in political attributes (See Chapter Five).

We propose to examine this hypothesis in two stages: first to establish lasting trends in civic tolerance among cohorts and second to delineate key components which make up cohort differences. A year-cohort matrix would be employed to trace birth cohorts through time, yielding observations about change patterns. To decompose the cohort effect, education, established by prior research to be associated with both cohort membership and values, will be introduced in the second phase of the analysis.

3) The Contemporaneous Effect Question: In the realm of evaluations of specific social institutions, we expect the respondents, being rational individuals, to take into account various cues presented by the environment (the *Zeitgeist*). One of the means by which environmental cues reach individuals would be through mass media. Hence we would test an interaction hypothesis of media arguing that the effect of contemporary events, as indexed by the year of survey, would be greater among heavy media users than among light users.

We believe this investigation will shed some light on a key area in political communication: the communication of fundamental values versus specific confidence in political and social institutions between generations. Secondly, the study helps us to better understand the extent to which generational differences and/or contemporary factors influence the public's opinions toward freedom of communication for nonconformist individuals.

## B. Previous Research Findings

In the vast body of literature addressing political orientations, the subset focusing on the inter-generational continuity is of particular relevance to the current study. We begin this section by reviewing selected political socialization studies and some seemingly paradoxical empirical results. A line of inquiry inspired by “The Stouffer Prediction” provides a framework within which time related factors may be explored. These studies are reviewed in detail because of their direct bearings on this study, conceptually and methodologically. Research exploring the effects of education and media are reviewed next to frame our selection of education to represent enduring forces and of media to represent contemporaneous forces in this study. In our literature search, we encountered some recent studies exploring the issue of measurement. While none of these studies have tested our hypothesis specifically, they are included at the end of this section to illustrate a linkage between earlier work and the current endeavor.

### 1. Inter-Generational Continuity

Scholarly inquiries of the inter-generational continuity in political orientations began over three and a half decades ago with Hyman's theoretical work: Political Socialization (1959). The topic immediately attracted the attention of scholars in political science and sociology. These early studies tend to define political socialization as a developmental process by which children

and adolescents acquire cognitions, attitudes, values, and participatory patterns (for example, Hyman, 1959; Hess and Torney, 1967); thus prompting researchers to focus on the relationships between various socializing agents and the acquisition of political knowledge and attitudes. Not surprising, most early overviews conclude that the family plays the most important role in political socialization.

Greenstein (1965) advanced the conception of political socialization by incorporating the notions of non-political learning and life-cycle positions. To Greenstein, political socialization is all “political learning, formal and informal, deliberate and unplanned, at every stage of the life cycle, including not only explicit political learning but also nominally non-political learning of politically relevant social attitudes and the acquisition of politically relevant personality characteristics.”

If we consider socialization a process through which we acquire “the culture of our social group and internalize...its concepts and social norms, thus coming to take into account the social expectations of others” (Wright, 1986:185); then it would be essential to study the lifelong acquisition of nominally non-political knowledge than formal political learning during childhood. However, such longitudinal study would require time and resources beyond the means of most researchers or even institutions.

Being so constrained, most childhood socialization studies focus instead on a rather limited set of dependent measurements, such as children’s awareness

of and reactions to political authority figures (as in Greenstein's well publicized study of the "Benevolent Leader," 1960) or the stability of fundamental political orientations like partisanship (Converse, 1964). Their collective findings are well summarized by Easton and Dennis (1969) into four principles: politicization, personalization, idealization, and institutionalization (pp. 91-93).<sup>2</sup>

Along this tradition, the research by Chaffee et. al. (1973), Greenly (1975), Jennings and Niemi (1975) are particularly pertinent because of their conflicting empirical results.

In a study of family structure as a motivational factor for information seeking, Chaffee et. al. (1973) constructed a fourfold family communication typology from two dimensions: concept-orientedness and socio-orientedness. They argue that each family type conditions the information seeking of children, consequently affecting their political socialization.

---

<sup>2</sup> Subsequent research made the following significant modifications to the early body of literature:

(a) Idealization of political authorities are no longer seen as universal. Only very young children showed rather high rates of approval and admiration for authority across the board. Some children as young as in fourth and fifth grades showed some degree of negative evaluations (see "The Malevolent Leader" by Jaros, Hirsch, and Fleron, 1968)

(b) Minority pre-adults usually feel less politically efficacious. They are less trusting of authorities than whites (Abramson, 1977; Greenstein, 1975). However, they also reveal a mixture of both positive and highly negative views that defy any simple characterization (Niemi and Sobieszek, 1977:213).

(c) Children may hold conflicting attitudes about a political leader, depending upon whether the point-of-entry is the specific person involved or the role (Niemi and Sobieszek, 1977:214-15). For example, although many Watergate studies reported highly negative images of President Nixon (e.g., Arterson, 1974), other studies recorded positive responses about "how much the president would care" (Hershey and Hill, 1975; Greenstein, 1975).

The researchers measured the degree of politicization and communication patterns for parents and children separately.<sup>3</sup> Overall they found their hypothesis supported by the data but some results were unexpected. While the patterns of political participation by the children are similar to those of the parents within family types, the correlations between each child and his/her parent on the four indices (political trust, interest, activity, and knowledge) are not big. Limited by their assumption that the inter-generational similarity results only from direct modeling, Chaffee et. al. falsified their hypothesis when one-to-one parent-child correlation was not obtained.

Similar paradoxical results are found in Greenly (1975). Greenly presented a model of the transmission of political values across generations within four ethnic communities: Italian, Jewish, Irish, and Scandinavian. His two dimensions of family structure are power (similar to the “socio-orientedness” of Chaffee et. al.) and support (similar to the “concept-orientedness.”)

Greenly’s analysis showed that although family structure did have some impact on the direct transmission of value from parents to children, it is not a very important factor. The author postulated that there were ethnic subcultures that transmit political values to children both independently and thorough their influence on family structures.

---

<sup>3</sup> Politicization is measured with indices of political knowledge, campaign activities, trust in the political system, admiration of political leaders, and comparative interest in politics. Communication is measured by likelihood to view television public affairs programs, daily time spent reading newspapers, number of newspapers read regularly, and extracurricular activities.

Jennings and Niemi (1975) also reported inconsistencies within family in the extensive Michigan political socialization study. The study collected data from a national representative sample of high school seniors and their parents in 1965. The same respondents were reinterviewed in 1973, yielding an eight-year panel database.

In the original (1965) data, Jennings and Niemi found some (generally weak) correlations between parents and children in terms of political attributes. With the panel data, they found both similarities and differences in the parent-child dyads, in each year and across years. As Cutler demonstrated in his critique (1977), the directions of inference by the authors were not always consistent. Parent-child similarities were used to imply generation continuity in some places and generation discontinuity in others.

How can we account for the lack of direct correspondence between parents and children while accepting the overall similarity in large groups (such as within family types) between the two generations?

The answers, suggested Cutler, may lie in the assumptions of the analytical approach. He argues that many political socialization analyses, while labeled as generational, are in fact "lineage generational." In this lineage tradition, inter-generational effects are often defined as intra-family. This approach is inherently limiting and ambiguous. Due to the constraints of a single-time cross sectional design in these studies, the obtained differences between the young

and the old can not be used to draw inferences about the younger person's political development in the direction of the older person (Cutler, 1977: 295).

The "lineage generational" approach also exacerbates a fundamental problem of early political socialization research: its theoretical justification. By studying political socialization one hopes to gain insights into the continuity and change in a nation's political system. If we only examine data between the young and the old in a single time point, then we must be able to argue the following to be a priori: First, adult attitudes are formed during childhood socialization and remain stable thereafter. Second, there is a strong association between adult attitudes and behaviors. However, research suggests that at the minimum certain conditional statements must be attached to either assumption.<sup>4</sup>

Studies of maturation or aging have amply established that attitudes go through continual changes through life. Even the most fundamental political attitude (partisanship) went through significant changes during adulthood (Jennings and Niemi, 1975).<sup>5</sup> There are at least two plausible explanations why attitudes change. Niemi and Socieszek propose that continuity may only exist at the level of specific attitudes but not at the level of dispositions which help structure attitudes on new issues (Niemi and Socieszek, 1977:227). Marsh argues that "different expectations are made of the individual at different times

---

<sup>4</sup> A thorough treatment of these two questions and a third question concerning the relationship between individuals and elite players can be found in Marsh (1971).

<sup>5</sup> The eight-year panel study by Jennings and Niemi (1975) shows that while only a small portion of individuals change between parties, the movement into and out of the independent category is much greater.



and often the individual needs to make important personal changes to cope with these changed expectations" (1971). Thus, an individual's political attitudes may be viewed as a function of changing role expectations and environmental cues. It is hardly reasonable to expect an individual to uphold the same pre-adult attitudes through adult years while all the other external factors are undergoing changes.

Neither can we argue convincingly for the bond between attitudes and behaviors. First of all, personal and situational factors may intervene between attitude and behavior to reduce consistency. This has been demonstrated in the Corey's cheating study (1937) and Lapierre's classic study of Chinese guests in restaurants and hotels (1934). Secondly, in many circumstances different attitudes may be associated with a given action, as shown by election exit polls. This would help explain why Butler and Stokes (1969) found that among 1959 and 1964 elections, 26% of their sample changed their voting behavior, and 40% did not vote consistently for the same party in three elections.

We do not mean to imply these researchers did not argue their positions well. But the constraints imposed by the "lineage generational" approach may be insurmountable. The alternative, a cohort approach, resolves some of the problems of ambiguous interpretation and uncertain theoretical justification embedded in the lineage-generational approach by allowing for the effects of aging and time.

If we consider society an unending succession of birth cohorts, each representing a unique intersection of history, events and individuals (Cutler, 1977:295), then social change or continuity could also be located at the level of cohorts. Intra-family consistency, which is a special case of similarity between the young and the old, is no longer the necessary condition for continuity in the system. With the cohort approach, one would focus on the attitudes or behaviors of successive birth cohorts of adults, rather than correlating adult behaviors with early life socialization.

We begin exploring this path by way of “the Stouffer tradition.”

## 2. Time Related Effect Models

In *Communism, Conformity and Civil Liberties*, Samuel A. Stouffer (1955) reported that the older generation in 1954 was less tolerant of Communists, atheists, and Socialists than was the younger generation. Furthermore, more educated people were more tolerant than those less educated, and that people became less tolerant as they age. This study inspired a long line of political research, including those by Cutler (1968), Cutler and Kaufman (1975), Davis (1975, 1992), McClosky and Brill (1983), Muller (1988), Nunn, Crockett, and Williams (1978), Page and Shapiro (1982), Smith (1990), Sullivan, et. al. (1979, 1981), Wilson (1994), etc.

Conceptually, the Stoufferian tradition could be examined within a broader context of time-related effect models. Using party affiliation for example, the

Zeitgeist (“period effect”) model would argue that the specific party affiliation is a function of the political atmosphere of the time. The life-cycle (“age effect”) model would argue that different age groups have different levels of familiarity with politics, hence showing different levels of affiliation. And the formative experiences shared by most of the members in a birth cohort can also have lingering influences on that cohort’s political participation (“cohort effect”). These three models with their respective modal research are examined below.

a. Period effect

Of the three time-related models, the period effect model appears to be the most established. In a secondary analysis of responses to 3,315 questions asked of national samples between 1935 and 1979, Page and Shapiro (1982) found that virtually all rapid shifts were related to some important changes in the political and economic arenas or to some significant events which “sensible citizens would take into account” (Page and Shapiro, 1982:34). Otherwise there has been considerable stability in public opinions: responses to 52% of the 613 repeated policy questions show no significant changes at all; approximately half of the detectable changes (n=161) were less than 10%, and rarely did preferences fluctuate back and forth within a short time frame. Contrary to conventional beliefs, changes in foreign policy (a “low-involvement” subject) questions were no larger or more frequent than those for domestic questions; but they tend to occur more abruptly.

Another classic period effect study was the analysis of liberal and conservative trends by Smith (1990). Smith constructed 455 time series from various studies conducted between late 1930s and 1987. The 455 time series consists of 419 personal preferences or beliefs, 13 non-affective judgments of social trends (e.g., "is drunkenness increasing in society") and 23 measures of personal or household behavior (e.g., "have you seen an X-rated movie last year"). They are then collapsed into 17 major trends such as civil liberties, economic regulation, family, feminism, etc.

Overall, "the post World War II period has been a time of liberal advances... liberal momentum and advance ended on the liberal plateau of the mid-1970s, but no general conservative advance occurred." (1990:502-3) To Smith this shift in social change "represents a response to the events of the period, but it may also be a periodic alternation of the cycle of reform" (1990:479).

b. Age effect

After examining party loyalties expressed by different age groups during the "steady-state" of political identification (1952-64), Converse (1976) found that the older adults had stronger party loyalty than their younger counterparts. Additionally, the overall level of partisan strength in the general electorate was stable. Both were used to support the age effect (life-cycle) hypothesis.

However, Abramson (1979) argued that the life-cycle model may not be supported in times when political identification does not maintain the “steady-state.” During periods of political upheavals, the period effect may cancel out the effect of the life-cycle. Furthermore, the period Converse investigated is one of dramatic changes for blacks, among whom the trends can not be accounted for by a simple life-cycle explanation.

c. Cohort effect

In an early application of cohort analysis techniques, Cutler (1968) found strong support for the cohort effect upon attitudes toward U.S. foreign policies. Cutler analyzed data, collected from 1946 to 1966 at five-year intervals, regarding twelve foreign policy issues. When data from seven designated birth cohorts were analyzed, clear differences in their mean Z-scores were found.<sup>6</sup> The directions toward which these cohorts moved were also as expected. On the other hand, Cutler found no clear trends when the mean Z-scores of difference age groups were compared. Not only were the lines curvilinear for all twelve attitude measures, the directions of change were not always consistent with the aging effect hypothesis.

Perhaps the most troublesome aspect of these time-related effect models is

---

<sup>6</sup> Each of these mean Z-scores represents the arithmetic mean of all Z-scores obtained across the five sampling points for one birth cohort.

the notorious multi-collinearity problem between age, period, and cohort (“APC”). While no research has definitively addressed this issue, recent investigation by Davis (1992) and Smith (1990) have argued eloquently that “commonsense, conservative interpretation and outside information” could give researchers protection against totally unwarranted conclusions. We tend to agree with Davis that “like the notion of causation, the APC framework, while metaphysically shaky, seems to be not only profitable but indispensable when studying attitude trends” (Davis 1992: 295).<sup>7</sup>

Another troublesome aspect of many studies in this tradition is the implicit assumption of ubiquity, affecting people in all subgroups. Holsti et. al. (1980) found just the opposite to be true. In a mailed survey to American leaders (n=2,282) in various occupations in 1976, Holsti et. al. asked questions concerning (a) the Vietnam experience, (b) general orientations toward foreign policy and domestic politics, and (c) personal background information. The respondents are categorized into four cohorts: World War II, Korean War, Interim, and Vietnam War. Each cohort was further divided into ten occupation groups. Two-way ANOVA with cohort and occupation as explanatory variables were then performed. In general, they found that the most salient cleavages on foreign policy exist between occupations and within cohorts, not vice versa.

---

<sup>7</sup> We did not come across the manuscript on social capital by Putnam (1995) until this study had already been completed. However, we wish to note that Putnam's analysis of GSS data for civic engagement represents a well-reasoned treatment of the APC question. His findings regarding the effects of education and television on civic engagement are especially relevant to the current study.

It is to avoid this pitfall that we employ the variables of education and media use in this study.

### 3. Education Effect

The enduring effects of education on knowledge and values were well established by Hyman and his colleagues (1975, 1979). In one of the first large-scale attempts to apply secondary analysis to the study of enduring effects, Hyman, Wright, and Reed (1975) examined 54 national sampled surveys conducted between the years 1949 and 1971. Overall they found large and consistent effects of education on knowledge and receptivity to new information. In their second and equally copious analysis, Hyman and Wright found that education produced “large, lasting and diverse good effects on values” (Hyman and Wright, 1979:61). In this investigation they found consistent positive associations between education and tolerance of nonconformists. The authors made the observation that the consistency does not mean that individuals would perceive nonconformists in exactly the same light under different circumstances. Rather, they appear to have highly situation-specific applications of the values (Hyman and Wright, 1979:33.)

Arguing that educational attainment contributes to tolerance and that the education levels of the American electorate are to rise through a continual process of cohort succession, Stouffer (1955) predicted that tolerance and other democratic values would increase gradually in the United States. This optimistic

view of the future has been the focus of many studies since its first publication and the "Stouffer Items" have been included in many surveys thereafter.

The most comprehensive examinations of the Stouffer prediction to date are the two studies by James A. Davis (1975, 1992). They are reviewed in detail due to their relevance to the current study.<sup>8</sup>

In the first study Davis decomposed the Stouffer thesis into three propositions: (a) the younger the cohort, the greater the tolerance; (b) the greater the education, the greater the tolerance; and (c) the older the cohort, the less the education (Davis, 1975:492). It is on these grounds that Stouffer predicted "as the education level of those entering the older generation goes up decade after decade, we should expect our oldsters to be increasingly tolerant--unless external conditions change drastically" (Stouffer, 1955: 94)

Stouffer also argued that "even if the people who are now 30 may still be more tolerant when they reach 60 than their elders, they may on the average be somewhat less tolerant than they are now. This is suggested by the tendency, among people at the same educational level, for the older ones to be...less tolerant...(Stouffer, 1955:107-8). From this passage Davis derived three more

---

<sup>8</sup> Another direct replica of the original Stouffer study was conducted by Nunn and his colleagues (1978), using similar sampling procedures and original questions (with only minor modifications). They found that tolerance was substantially higher in 1973 than 1954. Community leaders are substantially more tolerant than the mass, though these differences are reduced to nonsignificance when combined control of sex, region, media, exposure, city size, occupation, and education are introduced (p. 152). The data provided little support to the thesis that aging decreases tolerance. However, because tolerance increases more among the younger cohorts than among the older cohorts, one can still argue that relatively speaking, aging may result in decreased tolerance.



proposition: (d) net of all other variables, tolerance will decline with time (period-age); (e) cohort change completely accounts for change in education, and (f) the inter-relationships between cohort, education, and tolerance remain constant over-time (Davis, 1975:492).

Using the data collected by the National Opinion Research Center in 1972-73, Davis employed a flow graph model to estimate the percentages of the total increase of tolerance resulted from different factors including (a) cohort effects on educational attainment, (b) generational replacement, (c) increased college attainment not accounted for by cohort, and (d) factors not accounted for by cohort and education.

Overall Davis found that Americans became more tolerant between 1954 and 1972-73, regardless of their cohort or education group. The trend resulted partly from cohort succession mediated by education and partly by cohort succession unrelated to education.<sup>9</sup> But he found attitude change among all cohort and education groups, seemingly contrary to Stouffer's prediction.

Some of his interim findings are worth noting. First of all, the older cohorts are less tolerant in every year of survey. Second, within cohort and year, more educated respondents are more tolerant than less educated ones. Third, when each cohort-education group ages, it becomes more tolerant. Lastly, the entering cohort is generally the most tolerant among all cohorts.

---

<sup>9</sup> Davis noted clear education effects within each of the cohorts and a net contribution of education of 4% to the overall change of 22% in tolerance between 1954 and 1971.

A second study by Davis (1992) deals with trends in liberalism and conservatism using 42 NORC GSS items from 1972-1988. Davis explored two primary questions with this data set: (a) whether the "liberal" shift since World War II has ended and (b) what are the relative importance of cohort succession and intra-cohort shifts.

From this monumental analysis, Davis stated five major conclusions: (1) There is no support for a major conservative shift. (2) There was a discernible shift to the Right in the late 1970s, "apparently led by positions on international affairs." (3) Intra-cohort movements are topic specific. Race relations showed a strikingly liberal movement throughout; crime showed a strikingly conservative one. (4) The Stoufferian predication of liberalization through cohort replacement fits the 1972-89 data. (5) The data reveal a historic decline in the cohort/liberalism correlation. The decline is only partially accounted for by ceiling effects and the age/education correlation among youngest adults (Davis, 1992:294).

Perhaps the most important contribution of this 1992 analysis is in its modification of the original Stouffer thesis. Davis demonstrated that the relationship between cohort and liberalism over time is both curvilinear and item-specific. The fact that people born after the World War II showed a dramatically different pattern from their predecessors reminds us that history and society are neither linear nor necessarily progressive. The content-specific patterns in political orientations further supports our position that one must first make clear

conceptual decision on what and where to look for continuity. (This aspect will be further elaborated in part five of this section.)

#### 4. Media as Influencing Forces

The linkages between media exposure and political orientations were first pursued in early election studies (Berelson et. al., 1954; Campbell et. al., 1960). Typically, researchers relate voting, or more specifically, changes in voting decisions, to media exposure within some socio-contextual frameworks. From these studies of highly salient changes in campaign periods, a limited effect model emerged. According to this model, mass media have limited effects, sometimes further mediated through interpersonal communication, in reinforcing predispositions or in crystallizing issue positions and candidate preferences (for example, Katz and Lazarsfeld, 1955).

At the same time these voter studies seem to have found a high consistency in the aggregate. Not only is there a high correlation between a person's first vote and his subsequent votes, but there is a stable trend in the proportion of people holding specific voting preferences over time.

Do mass media, with their surveillance and interpretation activities, contribute to this political stability? If yes, in what ways? To investigate these questions, researchers turned to long-term effects such as socialization or agenda-setting.

Media began to be considered in political socialization studies around 1960s (Klapper, 1960; Dawson and Prewitt, 1969). Later research argues that whenever interpersonal information is lacking, media would be the most important source of information, thus mediating the influence of the Zeitgeist on the individuals. For example, Chaffee, Ward, and Tipton (1970) suggest that media exposure would have direct effects on children (a group assumed to have little interpersonal information about politics) in their development of (a) political predispositions, (b) interest in public affairs, and (c) political knowledge.<sup>10</sup>

While conceptually we agree that some subgroups within the society may be particularly susceptible to the influence of media, we do not have appropriate means to further this line of inquiry within the context of the current study. We would approach the media effect question from a quasi agenda-setting perspective instead.

The agenda-setting (building) literature focuses on the ways in which media presentations provide perspectives, shape imagery, and define political Zeitgeist and issues for the public. The general investigative approach, as presented by McCombs, is to test a “positive- ..., causal-relationship between the emphases of mass communication and what members of the audience come to regard as

---

<sup>10</sup> Chaffee et. al. (1977) performed a cross-lagged panel correlation analysis on data from five Wisconsin cities and the national survey by Center for Political Studies (University of Michigan) to test a direct effect (media exposure --> knowledge gain) model. Overall, they found that political knowledge is strongly associated with one's media use (print and electronic) in adolescence, but weakly with media use (print only) during young adulthood. Across media, television is more important than print at an earlier stage, but its importance declines rapidly with age. Political activity does not appear to be directly involved in these relationships (1977:236-39).

important” (McCombs, 1981:126). Typically researchers would delineate “press agenda” through content analysis and correlate that with the “public agenda” derived from surveys.

Though agenda-setting effects have been well documented by previous research, we know relatively little about the types of issues or audience groups which are most susceptible to media’s agenda setting power.

Perhaps the conclusions made by Lang and Lang (1971) in their review of early voting studies still summarizes our knowledge of the field best. Mass media influences, argued Lang and Lang, operating among a multitude of other factors, are not as easy to isolate for examination as age differences or regional locations. It is therefore, necessary to (a) examine changes in a longer time-span in order to allow some cumulative impacts of media exposure to emerge--such impacts may include shifts in public moods or drifts in political opinion; (b) treat media experience as a means by which people learn about political life vicariously; and (c) investigate the imagery made relevant by the media--the “public imagination” of public personalities and what politics is really like, and the relationship between these imageries and political orientations (Lang and Lang, 1971:699-700).

## 5. Delineation of Dependent Variables

In recent examination of civil liberties and tolerance issues, researchers have argued that the definition of tolerance is not content-free. Any

interpretation of tolerance would not be valid if the object of such "willingness to 'put up with'" is not being scrutinized. Sullivan, Piereson, and Marcus (1979: 784-85) argued for a re-conceptualization of tolerance in which opposition was an essential precondition of both tolerance and intolerance. This conceptualization has been embraced by many recent researchers (for example, Bobo and Licari, 1989, Green and Waxman, 1987, and Wilson, 1994). Together, they criticize traditional civil liberty's interpretations on two grounds. First, Stouffer and those who work in his tradition conceptualize tolerance as the willingness to extend civil liberties to groups that have only been assumed to be objectionable to most people. Second, early research has been content biased by the exclusive emphasis on target groups with leftist leanings (e.g., Communists, homosexuals, and atheists).

To control for content bias and to insure opposition to target groups in the dependent variables, Sullivan et. al. devised a content-controlled measure by handing respondents a card listing ten groups covering different ends of the political spectrum. Survey respondents were asked to first name a least-liked political group and then indicate willingness to extend civil liberties to it.

The concept of content-control was also employed in a re-analysis of the Stouffer data by Mueller (1988). Mueller retabulated the Stouffer data for all four groups asked (admitted Communists, atheists, Socialists, and alleged Communists) to derive the number of those who would be intolerant of *any* of these four groups, causing the 1954 estimates of tolerance to shift downward.

He then compared the adjusted 1954 Stouffer results with the 1985 response cadences obtained by the Sullivan-type questions for public speech, teaching in college and firing from job.

Wilson (1994), in an update of the Stouffer prediction, managed to minimize this content-bias by dealing with willingness to extend civil liberties to target groups on both ends of the political spectrum: militarists and racists to the right, and Communists, atheists, and homosexuals to the left. Wilson then conducted validation analysis with the GSS database to determine respondent's opposition toward each group and used only data from "opposers" for trend analysis.

While none of these studies deal specifically with the conceptualization of dependent variables as we propose here, they represent recent attempts to better understand the relative merits of different effect models through better conceptualization of the dependent measurements. The current study hopes to advance this line of inquiry by proposing a hierarchical structure within political orientations.

## 6. Implications for the Current Study

We began this literature review from the broad theoretical perspective of inter-generational continuity and ended it with recent investigations into the specific dependent measurement question. Several key findings are noted here as reminders for our journey ahead.

First of all, it is necessary to clearly delineate a hierarchy of political orientations, from the most fundamental to the most situation-specific. Not all variables will have the same association with earlier formative experiences. We would argue that fundamental values may be greatly affected by early life-stage experiences whereas reactions to the system and its performance should sway with environmental cues of a specific time.

Secondly, it is not reasonable to expect a person to uphold the same set of attitudes from pre-adult to adult years. Our model, contrasting fundamental and situation-specific dependent variables, would allow us to simultaneously account for continuity in the aggregate and changes within individual dyads. It is with this duality that we hope to push the boundaries of childhood socialization studies and bridge them to adulthood.

Thirdly, education is a key component of cohort differences. Stouffer and Davis have argued convincingly that much of the effect of the cohort membership on tolerance results from educational differences among cohorts. With each entering cohort attaining higher level of education than its predecessors, one would expect a gradual incline of tolerance over time.

Fourth, we would treat media experience as a means by which people learn about political life vicariously in this study, following an agenda-setting tradition.<sup>11</sup> Because we argue that fundamental values (e.g., tolerance) are

---

<sup>11</sup> However, the literature also suggests that it is necessary to examine changes in a long time span in order to allow some cumulative effects of media use to emerge. Having only one single time measurement of media use for each respondent in GSS, we can not fully investigate such a cumulative effect model.



“fixed” by formative experiences to a large extent, no media effect on them are expected. With respect to confidence indicators, we expect to find a significant effect of the interaction between media use and the time of survey.

On the methodological front, we wish to note that the road we choose has been traveled by many learned researchers before us. Many of their applications of secondary data analysis principles and specific treatments of the NORC GSS database have direct bearings on this study.

### **C. Significance of the Study**

There are several bases upon which we decided to embark on this journey. First of all, the general problem area, inter-generational continuity of political orientations, is of intrinsic importance to the participatory democracy in the United States.

Secondly, we would like to explore a framework within which conflicting data found in previous research may be accounted for. In our conceptualization, only fundamental values or normal expectations are influenced by one’s formative experiences. It is at the level of these values and normative expectations that inter-generational continuity is located and secured. This view of continuity can then help explain why many studies found similar overall proportions of political attitudes in two generations but not strong parent-child or teacher-student correlations.

Thirdly, by analyzing representatively-sampled longitudinal data, we are allowed an opportunity to investigate questions which are theoretically interesting but too large in scope otherwise. With the database spanning across twenty-two years (1972-93), we can trace a number of birth cohorts (and education sub-groups within each cohort) through their adult years. Following the footsteps of Hyman and Wright, we hope this application of secondary analysis would prove to be a very fruitful means for the investigation of theories like generation and social change.

## CHAPTER TWO

### RESEARCH METHODOLOGY

The major quest of this study is to explore over time change patterns for three archetypal measurements of political attribute. It is, therefore, of pivotal importance to employ a methodology that allows both diachronic analysis over a long time span and synchronic analysis of a large cross-sectional sample. Ideally one would combine the in-depth ethnographic method with a comprehensive survey tapping specific dimensions into one instrument and administer it over a long period of time. Such an endeavor would be beyond the means of most institutions, let alone individual researchers.

To satisfy the dual demand, we believe an alternative approach termed by Hyman as secondary analysis (1972) will prove to be both appropriate and fruitful. Conceptually if we treat longitudinal data (such as the General Social Surveys by NORC) as repeated samples of the same population, then it would be appropriate to draw inferences from the analysis of such data about long term effects on that population.<sup>12</sup> It is with this conception that we proceed with the design of the current study.

---

<sup>12</sup> This is not to ignore some other benefits provided by panel data, such as allowing for estimation of measurement error, providing evidence of intra-individual changes, and allowing early variation of one variable to predict later variation of another. But for all practical purposes, we argue that an analysis of cross sectional cohorts provide good approximation of what an analysis of panel data would achieve. An exception would be when one wishes to make a cumulative effect argument, like in the case of the agenda setting effect of mass media. There one may be subject to criticism of erroneous conclusion since GSS did not survey the same respondents over time.

Section A of this chapter discusses our general research design and analytical approach. Characteristics of the NORC database and specific data reduction steps are discussed in section B. It is important to begin any data analysis with an examination of key constructs. Our analyses of cohort membership, education, media use, and political orientation indicators are reported in section C.

## **A. Design of the Study**

One of the most challenging tasks of this study is to juxtapose enduring and contemporaneous effects. Not satisfied with the illustrative nature of the standard cohort table, we decided to employ a year-cohort matrix as the central analytical scheme of this study. We discuss this matrix and various analytical procedures in part one of this section.

Cohort analysis formed the base of an earlier iteration of this study. While the current version does not lean as heavily on the cohort analysis tradition, some of its principles are important when we draw inferences from the data. These principles are discussed briefly in part two.

### **1. Year-Cohort Matrix and Analytical Procedures**

The central analytical scheme of this study is a year-cohort matrix, with the year of survey going across the top and the birth cohort going down the left-hand

column. With nineteen years<sup>13</sup> and eight ten-year birth cohorts, our matrix has a total of 180 cells (152 individual year-cohort cells, 19 year-cells, 8 cohort-cells, and 1 total cell). Mean score for each cell for each dependent variable is obtained using sub-sample means procedures. Eta statistics are used to test the strength of the observed association and the goodness of fit to the model.

Since we argue that fundamental value variables (“tolerance”) should not change significantly with time and that system performance variables (“confidence”) should, we will conduct a second round of sub-sample means analysis using year of survey and birth cohort as alternate controls. This step allows us to further clarify the relationships between cohort and year on different types of outcome variables.

Prior research established that education is integrally related to tolerance and that mass media use may be the bridge between individual and the environment (operationalized by the “year of survey” in this study). We will introduce these two variables in the next stage of the analysis to test a component hypothesis for education and an interaction hypothesis for media.

Though the notorious age/period/cohort problem has not been resolved to our satisfaction, recent researchers (for example, Davis, 1992, Wilson, 1994) have employed multiple regression procedures in their analyses. We will draw upon their experiences in similar analyses to further explore the interactions between cohort, time, education, and media.

---

<sup>13</sup> GSS was not conducted in 1979, 1981, and 1991.

## 2. Principles of Cohort Analysis

Glenn (1977) in his book on cohort analysis delineated a series of techniques for studying changes attributable to the process of aging or to the events of a particular period. The first step of such cohort analysis is to construct a standard cohort table “in which sets of cross-sectional data for the different dates are juxtaposed and in which the intervals between the points in time for which there are data correspond in years with the intervals used to delineate the birth cohorts” (Glenn, 1977:10). Though we have decided to use a year-cohort matrix instead of a standard cohort table, Glenn’s logic of analysis still applies.

Glenn specified three kinds of effects which may be associated with changes found in a standard cohort table: the effects produced by influences associated with aging (“age effects”), those associated with one’s birth cohort membership (“cohort effects”), and those associated with each period of time (“period effects”). In a “standard cohort table”; inter-cohort trends can be traced by reading down the columns, intra-cohort trends by reading diagonally down and to the right, and trends of different age levels by reading across the rows.

Unfortunately, these effects are inter-related in a standard cohort table. Age and cohort effects are confounded in each column. Age and period effects are confounded in each cohort diagonal. And cohort and period effects are hard to separate in each row. It is, therefore, necessary to conduct further cross-sectional analyses in order to draw any conclusion.

While our thesis places less emphasis on the effect of aging per se, the multi-collinearity problem between age/period/cohort identified by Glenn still warrants close attention. We bear his arguments in mind in our analysis and interpretation throughout this study.

## **B. The NORC Database**

The General Social Surveys (GSS) conducted by the National Opinion Research Center (NORC) constitute the most extensive longitudinal database for our area of concern. We have entertained an idea of merging GSS data with those of the National Election Studies by the Inter-University Consortium for Political and Social Research (ICPSR) at an early stage of study design. However, due to the incompatibility of question wording in some cases and to concerns over the decline of over-time comparability in the National Election Studies,<sup>14</sup> we have rejected the idea and worked exclusively with the GSS database.

The GSS is a multi-stage (clustered) probability sample survey of English-speaking adults living in non-institutionalized settings in the continental United States.<sup>15</sup> It is an almost annual, omnibus, item replication, household interview

---

<sup>14</sup> A very comprehensive treatment of this topic can be found in the article by Paul R. Abramson (1990) in *Public Opinion Quarterly* 54:177-90.

<sup>15</sup> Due to the clustered sampling frame of the GSS, each item has a design effect (DEFF) estimating its precision vis-à-vis a simple random sample. A rule of thumb according to Davis is  $DEFF=1.5$ . In other words, one can use a conservative strategy of treating GSS  $N$ s as “worth”  $0.67N$  (Davis, 1992). We will discuss this issue in greater detail in Chapter Four.

study (Davis and Smith, 1989). Between 1,100 and 1,300 interviews were completed each year from 1972 to 1993; except during 1979, 1981, and 1992 when the survey was not conducted.

From this cumulative 72-93 GSS database, we selectively excluded three groups from our analysis: those who are under twenty years old; those who are of African, Asian, or Hispanic descent; and foreign born respondents. The eighteen and nineteen year olds are excluded to increase the clarity of results concerning the youngest cohort in the general electorate. The second group is excluded for a major theoretical reason. Ideally, we would like to contrast patterns obtained among African, Asian, and Hispanic Americans with those obtained among Caucasians. However, due to the small sample sizes of these three non-white groups, we are unable to examine similarities and differences systematically. Being duly warned by prior research of the danger of applying primarily “white” political interpretations to non-white groups, we decided to exclude them from the overall analysis.<sup>16</sup>

Because of our explicit assumption that people born within a period of time have shared formative experiences, we are required to exclude foreign-born individuals whose experiences of the time period and education can only be

---

<sup>16</sup> This is an important decision and we did not make it lightly. Abramson (1979) and other researchers have argued that African Americans and white Americans have very different experiences of political and other major events in the past few decades, especially during the civil rights movement period. To include both groups without being able to elaborate their similarities and differences would only show our insensitivity toward a major difference in experience, which is an important time factor in and of itself.



assumed to be drastically different from those born and grew up in the United States.

The resulting sample comprises 23,229 white Americans twenty years of age or older. They were interviewed between the years of 1972 and 1993.

### **C. Key Measurements**

Five groups of variables went through major transformation from their original forms in the GSS. This section records our procedures. For simplicity reasons, measurements are regularly referred to by their codebook variable names in capital letters. Exact wording for each question and the years in which a question was included in the survey could be found in Appendices 2.1 and 2.2.

#### **1. Birth Cohort Membership**

The operationalization of “cohort” is a complex task, though its conceptual definition seems rather straightforward. Glenn defines “cohort” as a group of people “who experienced the same significant life event within a given period of time” (1977:8). What is not clear from prior research is which significant life event and within what period of time. Are members of a cohort affected most by events happening when they were born, during adolescence, or entering adulthood?

Since we do not wish to use historical events to explain cohort differences in this study, it is less critical for us to have a precise handle on the specific

formative experiences with which a cohort should be identified. Rather, we adopted an operationalization of the cohort concept used by Davis (1992) to achieve comparability with his and Stouffer's results.

We first calculate the year of birth for each respondent by subtracting their age from the year of survey (1993-20=1973).<sup>17</sup> Respondents who were born within a ten-year period are grouped into a birth cohort. Each of the eight birth cohorts aged twenty-two years across the span of our data. Table 2.1 summarizes the relationship between birth cohort and year of survey.

It is important to note that the full cohort one did not enter into the data until 1983, and cohort zero until 1993. Therefore only partial arrays for these two cohorts are used in trending their political orientations. Similarly data from the oldest cohort (cohort seven) were dropped after 1983.

## 2. Education

The GSS includes two separate measurements of education: highest year of school completed and highest degree received. While the degree variable provides a cleaner picture of the quality of education received than the year variable, we like the year variable for its interval nature, which in turn allows us to employ regression procedures. To insure that we do not grossly misstate what

---

<sup>17</sup> We excluded respondents who were born before 1898 because of their small number.

**TABLE 2.1**  
**BIRTH COHORT MEMBERSHIP**

Cohort Label	Year of Birth	Member's Age in.....			N's		
		73	83	93	73	83	93
COHORT 0	1963-1972	1-10	11-20	21-30		9*	228
COHORT 1	1953-1962	11-20	21-30	31-40	26*	330	294
COHORT 2	1943-1952	21-30	31-40	41-50	298	300	253
COHORT 3	1933-1942	31-40	41-50	51-60	256	187	159
COHORT 4	1923-1932	41-50	51-60	61-70	215	189	132
COHORT 5	1913-1922	51-60	61-70	71-80	219	156	136
COHORT 6	1903-1912	61-70	71-80	81-90	164	88	43
COHORT 7	1898-1902	71-75	81-85	91-95	59	25	

\* Number of respondents who are 20 years old.

the year of schooling variable really measures, we trichotomized the two variables<sup>18</sup> and cross-tabulated them. Not surprising, the two measurements of education are highly associated with a gamma of 0.99 ( $p < 0.000005$ ). Examining individual cells, we found less than 1% of the cases falling outside common education-year patterns (e.g., having a bachelor's degree with less than 12 years of schooling). We therefore proceed with "highest year of school completed" as our main measurement for education.<sup>19</sup>

### 3. Media Use

One of the weaknesses of the current study is its measurements for media use. Ideally we would like to have content-specific measurements of all print and broadcast media. The reality is that only "hours per day watching TV" and "how often does one read a newspaper" are included in the General Social Surveys consistently.

Furthermore, these questions were only asked of half of the respondents between the years 1988 and 1993, and not asked at all in the first couple of years of GSS. Hence the number of cases is sharply reduced whenever media use is included in the analysis.

---

<sup>18</sup> EDUC is recoded into less than 12, 12, and 13+. DEGREE is recoded into less than high school, high school and junior college, bachelor and graduate degrees.

<sup>19</sup> The degree variable is used in a number of places in Chapter Three for its clarity of meaning.

We have explored all other measurements of media use within the GSS database. None have been asked consistently through enough years to warrant their selection. This being the case, we can only hope to remedy the situation by being ultra-conservative and tentative in our inferences concerning the role of mass media.

#### 4. Tolerance and Confidence Indicators

We have emphasized throughout the first chapter the need to examine one's assumptions about outcome variables. It therefore behooves us to first examine our own assumptions about tolerance and confidence indicators.

The GSS includes 15 questions which are versions of some items in Stouffer's original Willingness to Tolerate Nonconformists Scale. The subset addressing one's willingness to grant the First Amendment Right to nonconformist individuals is the closest to our definition of fundamental values. These five items: allowing atheists, Communists, homosexuals, militarists, and racists to speak in one's own community (SPKATH, SPKCOM, SPKHOMO, SPKMIL, SPKRAC) are selected for the analysis.<sup>20</sup>

To represent the environment-sensitive dimension of political orientations, we selected six confidence indicators gauging one's evaluation of people running social and political institutions: major companies, federal government,

---

<sup>20</sup> Recent work by Bobo and Licari (1988) and Wilson (1994) have shown that while a content-controlled treatment of these items is preferable from a theoretical standpoint, there exists a general tolerance dimension across these items.

the Supreme Court, the Congress, the Press, and Television (CONBUS, CONFED, CONJUDG, CONLEGI, CONPRESS, CONTV). Question wording of tolerance and confidence indicators can be found in Appendix 2.1.

In our conceptualization, tolerance indicators should be tapping into the realm of fundamental values whereas the confidence indicators reflect one's evaluation of the specific players at a specific time. Therefore, we expect the two sets of variables to differ markedly when subjected to a factor analysis.

To avoid confusion about the direction, we first recoded the five tolerance indicators so that "0" is the intolerant response and "1" is the tolerant one. Similarly, the six confidence indicators were recoded so that the smaller numbers correspond to lower confidence.<sup>21</sup> All nine items were then factor analyzed using principle component extraction and oblique rotation (since the items are assumed to be correlated).

Table 2.2 reports the results of the exploratory factor analysis of all tolerance and confidence indicators. We obtained three factors each of which has an Eigen-value greater than the Kaiser criterion of 1.0. The first factor is a very strong tolerance dimension with each item loading approximately .70 or higher. This factor accounts for 22% of the variance in the underlying correlations. The second factor captures the evaluation of current performers in

---

<sup>21</sup> All recoded variables are renamed with a prefix r to avoid confusion. For example, the recoded SPKCOM is labeled as rSPKCOM.

the executive branch, the Congress and the Supreme Court. Interestingly, executives of big businesses also fall into this evaluative category. (This seems to support the political-economic argument of a single “government-military-business” complex.) Again, individual items load .50 or higher into this factor, which accounts for 17% of the underlying correlations. Media, however, are distinct from other big businesses. The third factor captures this uniqueness with rCONPRES and rCONTV each loading approximately .80 to it.

Given the factor analysis results, we feel comfortable constructing cumulative confidence and tolerance scales which in turn enable us to explore the data using more powerful statistical procedures. We began with one tolerance scale (rTOLSUM) and two confidence scales, one with media (rCONSUM) and one without (rCONSUM4). After examining the years in which each item was asked (shown in Appendix 2.2), we decided to construct a fourth scale (rTOLSUM3) to take advantage of the full array of the data. Their respective levels of internal consistency and descriptive statistics are summarized in Table 2.3.

TABLE 2.2

FACTOR ANALYSIS OF TOLERANCE AND CONFIDENCE INDICATORS

	Rotated Matrix Loading		
	1	2	3
rSPKATH	0.80	0.00	-0.01
rSKPCOM	0.79	0.02	-0.02
rSPKHOMO	0.74	0.01	0.01
rSPKMIL	0.75	0.02	-0.01
rSPKRAC	0.68	-0.02	0.00
rCONBUS	0.01	0.60	0.03
rCONFED	-0.04	0.79	-0.07
rCONJUDG	0.09	0.66	0.21
rCONLEGI	-0.03	0.70	0.23
rCONPRES	0.03	0.13	0.80
rCONTV	0.06	0.14	0.78
Eigen-value	2.88	2.21	1.14
Variance explained	22%	17%	9%



TABLE 2.3

RELIABILITY OF TOLERANCE AND CONFIDENCE SCALES

	Cumulative Scales			
	rTOLSUM	rTOLSUM3	rCONSUM	rCONSUM4
rSPKATH	X	X		
rSKPCOM	X	X		
rSPKHOMO	X	X		
rSPKMIL	X			
rSPKRAC	X			
rCONBUS			X	X
rCONFED			X	X
rCONJUDG			X	X
rCONLEGI			X	X
rCONPRES			X	
rCONTV			X	
<b>Mean</b>	3.33	2.04	12.03	8.18
<b>Standard Deviation</b>	1.83	1.18	2.34	1.80
<b>N</b>	11,490	14,155	16,560	16,769
<b>Cronbach's Alpha</b>	0.84	0.80	0.66	0.65

## CHAPTER THREE

### CHARACTERISTICS OF THE SAMPLE

We begin our journey with a survey of the lay of the land. Descriptive statistics are used to provide overviews of the people and the time period covered in this study. Because we are not intending to pursue historical interpretations of cohort differences (as discussed in Chapter Two), we decide to use demographic, SES, and well-being measurements to describe our cohorts instead.<sup>22</sup> A number of “snapshots” taken at ten-year intervals are included to provide insights into each cohort’s life-cycle positions and psycho-graphic states (e.g., self-rated happiness) across the span of our data. Additionally, socio-economic-status variables are analyzed using a revised standard cohort table to illustrate the relationships between cohort, period, and age.

The specific environment (the *Zeitgeist*) captured by the “year of survey” is the other key factor in our analytical framework. For the twenty-two years covered by this study, we selected four 3-year periods plus the most recent year for which data are available (1993) to illustrate major changes/constancies in the

---

<sup>22</sup> This descriptive approach solved one of the fundamental questions in cohort analysis, i.e. which event should be considered key formative experience for which cohort. Because our main concern is which type of outcome variables would be affected by enduring forces and not the specific direction of outcome, we feel it is justifiable to use the construct of birth cohort in its most rudimentary form. The analytical framework used in this chapter is first employed by James Davis in “Changeable Weather in a Cooling Climate Atop the Liberal Plateau: Conversion and Replacement in Forty-Two General Social Survey Items, 1972-1989” (1992, *Public Opinion Quarterly* 56:261-306).

country. To the extent possible, we include the same set of variables as used in cohort descriptions to allow cross references. Tolerance and confidence indicators are used here to show macro-level changes.

## **A. Understanding Birth Cohorts**

### **1. Overview**

As described in Chapter Two, our operationalization of birth cohort membership follows the concept of Glenn (1977). We first calculated each respondent's "year of birth" by subtracting "age" from "year of survey." Eight birth cohorts each covering a span of ten years are constructed.<sup>23</sup> Table 3.1 reports their basic statistics.

Overall the gender distribution of our sample is consistent with the national statistic of a near even male-female split. The earlier cohorts tend to have higher representation of females, perhaps due to differential mortality rates between the genders.

Education reflects very clear cohort differences. The earlier cohorts (cohorts five, six, and seven) have less than 25% of their members completing more than twelve years of education, compared with about 50% of the three recent cohorts (cohorts zero, one, and two). Another way to analyze education

---

<sup>23</sup> Please note that entire cohort zero did not enter into the database until 1993 and cohort one until 1983. They and cohort seven, which dropped out after 1983, have smaller sizes than other cohorts.

TABLE 3.1

## CHARACTERISTICS OF BIRTH COHORTS

Characteristics	10-Year Birth Cohorts									N	Gamma	Sig.
	COH 0	COH 1	COH 2	COH 3	COH 4	COH 5	COH 6	COH 7				
Year of Birth	1963-72	1953-62	1943-52	1933-42	1923-32	1913-22	1903-12	1898-1902				
Age in 1973	0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-75				
N=	(1,149)	(3,964)	(5,202)	(3,469)	(3,352)	(3,196)	(1,970)	(543)	(22,845)			
<b>SEX</b>										(22,845)	0.05	*
Female	53%	55%	53%	55%	57%	58%	59%	58%	12,633			
Male	47%	45%	47%	45%	43%	42%	41%	42%	10,212			
<b>rEDUC</b>										(22,809)	-0.33	*
0-11	15%	14%	14%	22%	32%	42%	57%	62%	6,051			
12	32%	38%	34%	40%	37%	33%	22%	15%	7,817			
13+	53%	48%	52%	38%	31%	25%	21%	23%	8,941			
(Bachelor/Grad)	14%	21%	25%	20%	15%	11%	9%	10%	4,085			
<b>rPRESTIG</b>										(19,081)	-0.04	*
12-32	38%	29%	24%	25%	29%	32%	35%	30%	5,408			
33-46	37%	37%	37%	37%	37%	38%	38%	38%	7,153			
47-82	25%	34%	39%	38%	34%	30%	27%	32%	6,520			
<b>rTV</b>										(13,999)	0.11	*
4+ Hours	29%	28%	22%	23%	26%	39%	43%	39%	4,006			
<b>rNEWS</b>										(14,853)	0.33	*
Every day	27%	39%	52%	65%	73%	75%	75%	76%	8,714			
<b>rPARTY</b>										(22,489)	-0.06	*
Independent	40%	41%	44%	38%	30%	26%	23%	22%	7,885			
Democrat	24%	30%	33%	34%	42%	42%	42%	40%	8,157			
Republican	36%	29%	23%	28%	28%	32%	35%	38%	6,447			
<b>rPARTY3</b> Strong Affiliation	18%	17%	16%	21%	28%	32%	37%	37%	5,211		0.20	*

\* p&lt;0.000005

is using the proportions obtaining higher education. Only 10% of cohorts five, six, and seven receive bachelor or graduate degrees, whereas 20-25% of cohorts one, two, and three do. While education does have an “aging effect limited to the 20-29-year-olds” pattern (Davis, 1992: 293), much of this observed linear association is not age-related. Rather, it reflects the increased participation of education among all cohorts. This variable and two other SES indicators are further analyzed using a revised standard cohort table.<sup>24</sup>

Table 3.2 reports age and cohort differences of three SES variables: education (rEDUC), occupational prestige scores (rPRESTIG), and self-rated relative income level (rFINRELA). We also include the results of self-reported level of happiness (HAPPY) to reflect their frame of mind. Comparing the three SES variables, we find strong interactions between cohort and age in rEDUC and rFINRELA, but not in rPRESTIG (between 1973 and 1983). Some specific patterns are worth noting. First of all, the attainment of greater education during adult years is not limited to the “twentysomething” respondents. We observe increases in the proportions completing more than twelve years of education among cohorts zero through four.<sup>25</sup> In other words, all cohorts born after 1922 show increases of education level from 1973 to 1993. Not surprising the degree of increase varies by the age of the cohort during the period. Cohort one shows

---

<sup>24</sup> This table varies slightly from Glenn's standard cohort table in that one needs only to read across the row to trace a cohort over time. The format of this table is adapted from Davis (1992).

<sup>25</sup> While increase is observed for cohort five, we suspect part of it results from differential mortality rates between the higher SES and lower SES groups.

TABLE 3.2

STANDARD COHORT TABLES FOR SES AND HAPPINESS

Age in 73	rEDUC (13+ Years)			rPRESTIG (47-82)			FINRELA (Above Average)			HAPPY (Very)		
	73	83	93	73	83	93	73	83	93	73	83	93
COH 0 0-10			62%			NA			19%			33%
COH 1 11-20		45%	57%		30%	NA		20%	28%		31%	31%
COH 2 21-30	50%	50%	58%	30%	42%	NA	19%	23%	27%	31%	28%	30%
COH 3 31-40	34%	42%	51%	37%	44%	NA	25%	32%	22%	36%	30%	38%
COH 4 41-50	35%	34%	41%	40%	39%	NA	30%	31%	18%	46%	31%	40%
COH 5 51-60	21%	24%	30%	27%	28%	NA	17%	14%	15%	45%	43%	30%
COH 6 61-70	22%	33%	30%	25%	29%	NA	14%	14%	13%	40%	38%	47%
COH 7 71-75	19%	36%		34%	46%	NA	19%	16%		49%	32%	

an increase from 45% to 57% (a net increase of 12%) between 1983 and 1993. Cohorts two, three, and four show 6% to 17% net gains between 1973 and 1993. But the pattern of greater education attainment through the years applies to all cohorts born after 1922.

Self-rated relative income (rFINRELA), on the other hand, closely reflects one's life-cycle position and earnings potential. Cohorts zero, one, and two show gradual increase in their self-appraisal of earning power, while cohorts three and four going through aging and retiring show decreases between 1983 and 1993. There also seems to be an "age-effect limited to 60+" pattern. Once a birth cohort reaches 60 years of age, the proportion believing their incomes to be above national average goes into the teens (see Table 3.2).

Though we always believe that money can not buy happiness, it is reassuring to see these two variables diverge in our data. When members of cohort four reach sixty-years of age, we observe a sharp decrease in their self-appraised financial well-being (rFINRELA) but not in self-appraised level of happiness (HAPPY). Cohorts five and six are consistently less well off than other cohorts (only about 15% feel their incomes are above average) but for the most part of our data they remain the happiest cohorts (approximately 40% say they are "very happy"). Could it be that their collective formative experiences make them more content than other cohorts? Our data would support this interpretation.

We also find that each cohort has a discernible media use pattern and does not deviate from it for the most part of our data. The earlier birth cohorts are heavier users of both newspaper and television than recent cohorts. While factors like entering and exiting the work force may modify a cohort's media use, most of the observed inter-cohort differences are lasting and consistent.

This cohort difference is particularly clear in newspaper readership. Over seventy percent (73%-76%) of people born before 1933 (cohorts four, five, six, and seven) read newspapers "every day," compared with less than forty percent among people born after 1953 (39% for cohort one, 27% for cohort zero).

We are interested in party affiliation on two levels: the proportion affiliated with either party (rPARTY) and the strength of party affiliation (rPARTY3). The data on Table 3.1 show some interesting trends. On the level of specific party affiliation, we observed a Republican resurgence on the two ends of the age spectrum. The gradual increase of Republicans in the older cohorts may result from differential mortality rates (i.e., lower SES respondents who tend to be Democrats die earlier). But the slight increase of Republicans in the most recent cohort zero may be the early signal of a trend in formation.

The strength of party affiliation, on the other hand, has a strong linear association with cohort membership. Nearly twice as many respondents of the two earliest cohorts (cohorts six and seven) have strong party affiliation as those of the more recent cohorts (cohorts two and three). Aging is an important factor



in this aspect. As each cohort matures, there tends to be some increase in the strength of its party affiliation. We will discuss this aspect in part two of this section.

## 2. Cohort Snapshots 73-83-93

Many of the variables we chose to describe cohorts are clearly life-cycle related. Their relationships with cohorts vary a great deal, dependent on the time in which the questions were asked. In this section we use three snapshots to describe the state of each cohort through the time span of our data. All trends reported below are summarized in Table 3.3.

Cohort Zero (N=1,149) Born between the years 1963 and 1972, this youngest cohort is part late, late Baby Boomers and part "Generation Xers." The entire cohort did not enter into the sampling universe until 1993. At that time, about half of them were married and the other half (42%) still single.

This is the most educated group in our sample, with over 60% completing more than twelve years of education and 25% having bachelor or graduate degrees. With some of them still in school, we expect this number to increase another 5-10% by the year 2003. Since many of them have yet to enter the labor force, it is not surprising that only 19% feel their income levels are above the national average.

On a personal front, about one-third of these twentysomething respondents consider themselves healthy (36% "excellent" health) and happy (33% "very").

TABLE 3.3  
COHORT SNAPSHOTS 73-83-93

		COHORT ZERO		COHORT ONE			COHORT TWO			COHORT THREE				
N=		83	93	73	83	93	73	83	93	73	83	93		
		(228)		(330) (294)			(298) (300) (253)			(256) (187) (159)				
<b>MARITAL</b>														
	Married		48%	56%	63%	*	66%	70%	62%	*	89%	77%	67%	*
	Widowed		0%	0%	0%		0%	0%	2%		1%	2%	9%	
	Divorced/Sep'd		10%	10%	21%		4%	20%	28%		6%	18%	19%	
	Never		42%	35%	15%		30%	10%	8%		4%	4%	14%	
<b>rEDUC</b>	13 Years+		62%	45%	57%	*	50%	50%	58%	ns	34%	42%	51%	?
<b>rDEGREE</b>	Bachelor/Grad		25%	20%	31%	*	21%	27%	27%	ns	15%	21%	27%	?
<b>rPRESTIG</b>														
	12-32			31%			32%	20%		ns	27%	21%		ns
	47-82			30%			30%	42%			37%	44%		
<b>FINRELA</b>														
	Above Avg.		19%	20%	28%	?	19%	23%	27%	?	25%	32%	22%	*
<b>HAPPY</b>	Very		33%	31%	31%	ns	31%	28%	30%	ns	36%	30%	38%	ns
<b>HEALTH</b>	Excellent		36%		32%		44%		32%	ns	42%		35%	ns
<b>rTV</b>	4+ Hours		27%	31%	21%	?		25%	20%	ns		22%	25%	ns
<b>rNEWS</b>	Every day		24%	36%	37%	ns		50%	54%	?		68%	64%	ns
<b>rPARTY</b>														
	Democrat		29%	34%	25%	?	35%	36%	32%	ns	36%	37%	30%	?
	Republican		30%	28%	35%		54%	45%	49%		25%	31%	39%	
<b>rPARTY3</b>	Strong Aff.		16%	16%	20%	ns	11%	19%	19%	ns	19%	24%	35%	?

\* indicates  $p < 0.001$ , ? indicates  $0.05 < p < 0.001$ , ns indicates  $p > 0.05$

TABLE 3.3  
COHORT SNAPSHOTS 73-83-93

		COHORT FOUR				COHORT FIVE				COHORT SIX				COHORT SEVEN			
		73	83	93		73	83	93		73	83	93		73	83	93	
		N=	(215)	(189)	(132)	(219)	(156)	(136)		(164)	(88)	(43)		(59)	(25)		
<b>MARITAL</b>																	
	Married		82%	76%	68%	*	84%	70%	41%	*	69%	40%	28%	*	56%	24%	NA
	Widowed		2%	11%	16%		8%	21%	46%		21%	48%	72%		37%	72%	
	Divorced/Sep'd		11%	8%	9%		5%	6%	8%		7%	3%	0%		3%	4%	
	Never		5%	5%	7%		3%	3%	5%		3%	9%	0%		4%	0%	
<b>rEDUC</b>	13 Years+		35%	34%	41%	ns	21%	24%	30%	ns	22%	33%	30%	?	19%	36%	NA
<b>rDEGREE</b>	Bachelor/Grad		17%	17%	18%	ns	7%	12%	14%	ns	9%	13%	7%	?	5%	24%	NA
<b>rPRESTIG</b>																	
	12-32		33%	23%		ns	35%	31%		ns	36%	35%		ns	28%	23%	NA
	47-82		40%	39%			27%	28%			25%	29%			34%	46%	
<b>rFINRELA</b>	Above Average		30%	31%	18%	?	17%	14%	15%	ns	14%	14%	13%	ns	19%	16%	NA
<b>HAPPY</b>	Very		46%	31%	40%	ns	45%	43%	30%	ns	40%	38%	47%	ns	49%	32%	NA
<b>HEALTH</b>	Excellent		38%		25%	ns	26%		22%	ns	17%		16%	ns	17%		NA
<b>rTV</b>	4+ Hours			28%	38%	ns		38%	42%	ns		41%	48%	ns			
<b>rNEWS</b>	Every day			80%	75%	ns		72%	66%	ns		68%	79%	*		84%	NA
<b>rPARTY</b>																	
	Democrat		43%	38%	30%	*	39%	42%	36%	ns	48%	41%	35%	ns	29%	21%	NA
	Republican		18%	34%	39%		30%	29%	36%		13%	23%	35%		32%	41%	
<b>rPARTY3</b>	Strong Aff.		19%	30%	33%	ns	31%	29%	28%	ns	39%	36%	30%	ns	39%	38%	NA

\* indicates  $p < 0.001$ , ? indicates  $0.05 < p < 0.001$ , ns indicates  $p > 0.05$   
NA indicates statistical testing not applicable due to small sample size. Directional comparison only.

Their media use levels are low relative to other cohorts. Only about a quarter are heavy users of either television (watch four hours or more a day) or newspapers (read every day).

Forty percent of this cohort claims to be independent, with the remainder evenly split between Democrats and Republicans. It is perhaps more telling to examine the strength of their party affiliation. Being the most recent cohort entering the electorate, these respondents have less participatory experiences than the cohorts preceding it. This helps explain why only 16% of them claim to have strong affiliation with either party at the time. We will examine this life-cycle/experience hypothesis in the next few cohorts.

Cohort One (N=3,964) The entire ten-year group did not enter into our data until 1983. Born between the years 1953 and 1962, this cohort of late Baby Boomers was 21 to 30 years old in 1983 and 31 to 40 years old in 1993. One in five of this cohort got married between those ten years (from 35% never married to 15%).

About ten percent of them moved upward in their SES between 1983 and 1993, as reflected in their education (rEDUC) and relative financial status (rFINRELA). It is important to note the prominence of higher education in this cohort. By 1993, close to one third (31%) of them have bachelor or graduate degrees.

Their lives may have gotten more complicated as they moved into the world, taking time away from watching television at home (down from 31% to

21% watching four hours or more pre day). Newspaper readership on the other hand, showed no increase from the relatively low level where they began.

On the political front, we observe a slight increase of people affiliated with the Republican Party (and corresponding decrease in people affiliated with the Democratic Party). As far as the strength of party affiliation goes, this cohort started at the same low level as cohort zero when they entered the electorate (16%). Ten years later, consistent with our life-cycle/experience hypothesis, another 4% declared strong party affiliation.

Cohort Two (N=5,202) This is the first cohort for which we have data across the entire twenty-two years. Born between the years 1943 and 1952, this cohort consists mostly of early Baby Boomers. They were 21 to 30 years old in 1973, 31 to 40 years old in 1983, and 41 to 50 years old in 1993. Perhaps the one statistic that clearly sets this cohort apart from those born before it was its divorce rate. By the time the cohort reached 41 to 50 years of age in 1993, more than a quarter of them were divorced or separated.

About 10% of this cohort moved up in their SES between 1973 and 1993: from 50% completing more than 12 years of education to 58% and from 19% considering themselves to have above average incomes to 27%. A twelve percent net increase in the highest occupational prestige classification is also observed between 1973 and 1983.

These Boomers seem to be rather critical about their physical well-being. Between 1973 and 1993 we see a 12% net drop of respondents who consider themselves of "excellent" health. We understand aging and its relationship with

health. However, we suspect that more is at play here since the drop is sharper than the preceding cohort which was ten years older (cohort three).

The difference in television and newspaper use observed in cohort one repeats here. Between 1983 and 1993, this cohort watches slightly less television (from 25% watching four hours or more to 20%). Its daily newspaper readership, though showing a slight increase, remains lower than those cohorts born before it.

Democratic Party continues to be supported by about one third of this cohort. We again observe a clear jump (11% to 19%) in the strength of party affiliation between the time this cohort first entered the electorate and ten years thereafter.

Cohort Three (N=3,469) This cohort was born between the years of 1933 and 1942. They were 31 to 40 years old in 1973, 41 to 50 years old in 1983, and 51 to 60 years old in 1993. Most all of this group were married by 1973, with very small minorities of them being divorced/separated (6%) or never married (5%). By 1993 one in five of them were divorced.

This group experienced sharp increase in education level from their thirties through their fifties (from 34% completing more than twelve years of education in 1973 to 42% in 1983 to 51% in 1993). By 1993, over a quarter (27%) of this cohort had obtained bachelor or graduate degrees. However, the same increase is not found in their occupational prestige scores or relative financial position.

Over one third of this cohort consider themselves “very happy” over the years, though slightly fewer feel they are of excellent health in 1993 than ten years ago.

Daily newspaper readership of this cohort is approximately 65%, considerably higher than the levels for cohort two (about 50%), cohort one (about 35%) and cohort zero (about 24%).

On the party front, we observe a gradual increase of Republicans across the years (from 25% to 31% to 39%). Perhaps as they get more established in life, more of them turn to a pro-business ideology. The strength of party affiliation also shows a net increase of 17% (from 19% to 24% to 35%), supporting our life-cycle/experience hypothesis.

Cohort Four (N=3,352) This cohort was 41 to 50 years old in 1973, 51 to 60 years old in 1983, and 61 to 70 years old in 1993. They were born between 1923 and 1932, spanning across the Depression years. Marriage is a strong institution among these respondents. They remain married until they and their spouses are separated by death. Only about 10% of them were divorced/separated across the years.

Higher education is a scarcity for this cohort. Close to two thirds of them did not go beyond twelve years of schooling. College or graduate education was enjoyed by only 17%-18%. Besides education, this cohort is relatively comfortable with their station in life: about 40% assign high occupational prestige scores to themselves and about 30% consider their incomes to be

above average. However, their financial status dropped sharply after reaching 60 years of age (from 31% above average in 1983 to 18% in 1993). A fact of life, perhaps.

Consistent with reaching retirement age, this cohort watches more television in recent years and continues to show a very high level of daily newspaper readership.

On the political front, we observe a twenty percent net increase in Republicans in this cohort for which there is no easy explanation. We suspect this is due to an interaction of the demise of youthful idealism, changing party platforms, and differential mortality rates. On the other hand, the strength of party affiliation continues to support our life-cycle/experience hypothesis with a modification of a ceiling at approximately 30% having "strong affiliation" with either party.

Cohort Five (N=3,196) Members of this cohort were born between the years 1913 and 1922. They were 51 to 60 in 1973, 61 to 70 in 1983, and 71 to 80 in 1993. Our data covered the span of the downward portion in their life-cycle. The majority of them were still married in 1973 (80%), compared with only 41% married and 46% widowed in 1993.

Most of the data for this cohort are affected by forces of mortality and retirement. We suspect the slight increase in education across the years is attributable to the former and the patterns found for relative financial position



(rFINRELA), self assessed well-being (HAPPY) and television use (rTVHOURS) are driven by the latter.

Cohort Six (N=1,970) This cohort is the last cohort for which we have data for all years. Born after the turn of the century, they were 61 to 70 years old in 1973, 71 to 80 in 1983, and 81 to 90 in 1993. As with the last cohort, the forces of mortality and retirement dictate the pictures we have of them. Sixty-nine percent (69%) of this cohort were still married in 1973. In 1993, 72% of them were widowed. Because of the small cell size in 1993 (43), the changes during 1983 and 1993 can only be treated as directional. Overall, we find the patterns consistent with those of cohort five.

Cohort Seven (N=543) This is a partial cohort (covering five years instead of ten) for a partial array (data available only from 1973 to 1983). These venerable respondents were born between the years of 1898 and 1902. Survivors among them, as reflected in the 1983 data, tend to be more educated (24% bachelor or graduate degree), high in occupational prestige (46% scores of 47-82), and Republicans (57%).

## **B. Understanding Time Periods**

### **1. Overview**

Many period effect studies employ historical explanations for their results. Because it would be impossible to list all events for the twenty-two years

covered in our data and that any partial listing may err on selectivity, we decide to adapt a period table from Davis (1992) to illustrate the historical context of our data. The results are summarized in Table 3.4.

To the extent possible, we selected the same variables as for birth cohort analyses to allow cross references. Politically our data covered two Democratic Presidents (Carter, Clinton) and four Republican Presidents (Nixon, Ford, Reagan, Bush). In the three earlier periods, significantly more respondents identified themselves as Democrats than as Republicans. However, there seems to be a Republican resurgence in late 1980s. Similar to Davis, we observe substantial upward movement in both education and prestige across the years. Part of the upward movement in education results from broad-based participation among all cohorts, part from gradual cohort succession (as discussed in the last section), part from differential mortality rates, and the remainder from the twentysomethings completing their schooling. Through these forces, by 1993, 31% of the country is college or post graduate school educated and only 16% did not graduate high school. This is a flip-flop from the 1972-74 period.

Perceived financial health of the country (rFINALT) seems to go through a gradual decline, except a rebound around the second Reagan Presidency. So was the strength of a key social institution, family. The gradual decline of percent married corresponds to the delayed marriage and higher divorce/separation rates among recent cohorts.

**TABLE 3.4**  
**CHARACTERISTICS OF PERIODS**

Characteristics	3-Year Period					N	Gamma	Sig.
	N=	72-74 (3,870) Nixon/Ford	77-80 (3,668) Carter	82-84 (3,676) Reagan	87-89 (3,512) Reagan/Bush			
<b>President</b>								
<b>rPARTY</b>						(15,693)	0.10	*
Democrat		41%	38%	36%	33%	5,757		
Independent		33%	37%	37%	33%	5,482		
Republican		26%	25%	27%	34%	4,454		
<b>rEDUC</b>						(15,950)	0.18	*
0-11		34%	31%	26%	22%	4,418		
12		33%	36%	35%	34%	5,426		
13+		33%	33%	39%	44%	6,106		
<b>rPRESTIG</b>						(13,734)	0.06	*
12-32		30%	30%	29%	25%	3,944		
33-46		37%	38%	38%	37%	5,131		
47-82		33%	32%	33%	38%	4,659		
<b>rFINALT</b>						(15,857)	-0.02	*
Worse		18%	21%	25%	19%	3,368		
Same		39%	39%	38%	39%	6,135		
Better		43%	40%	37%	42%	6,354		
<b>MARITAL</b>						(15,985)	0.17	*
Married		75%	65%	61%	58%	10,323		
<b>HAPPY</b>						(15,892)	0.01	*
Very		37%	36%	34%	35%	5,619		
<b>HEALTH</b>						(12,194)	-0.01	0.004
Excellent		34%	33%	32%	34%	4,021		

\* p<0.000005

Whatever the respondents feel about the country politically or financially, their assessments of individual well-being (by HAPPY and HEALTH) appear to be rather stable. Overall about a third of the country consider themselves very happy or of excellent health.

## 2. By Political Orientations

While tolerance and confidence indicators are outcome variables in this study, they can also be used to illustrate the Zeitgeist of different times. It is for this descriptive purpose that they are reported in Table 3.5.

Comparing the percentages for an indicator across the four three-year periods, we can derive preliminary conclusions on the directions in which the country is headed. Take allowing atheists to speak (rSPKATH) for example, 73% of the respondents would extend the First Amendment Right to atheists in 1987-89, compared with 67% in 1972-74. We observe a net increase of 6%, an incline that seems to continue in 1993. Similarly we observe net increases of 6% to 9% for allowing Communists, homosexuals, and militarists to speak (rSPKCOM, rSPKHOMO, rSPKMIL.) The only tolerance indicator not showing the same increase is that for racists. This phenomenon will be discussed in Chapter Four.

On the confidence front, the direction of change is rather troublesome. Our data reflect gradual declines between 1972-74 and 1987-89 in confidence

**TABLE 3.5**  
**TOLERANCE AND CONFIDENCE INDICATORS BY PERIOD**

Indicators	N=	3-Year Period					N	Gamma	Sig.
		72-74 (3,870)	77-80 (3,668)	82-84 (3,676)	87-89 (3,512)	93 (1,259)			
rSPKATH							(12,083)	0.09	*
Allowed		67%	66%	69%	73%	75%	8,307		
rSPKCOM							(11,969)	0.11	*
Allowed		57%	57%	61%	63%	73%	7,220		
rSPKHOMO							(10,504)	0.17	*
Allowed		64%	67%	71%	75%	82%	7,383		
rSPKMIL							(8,173)	0.11	*
Allowed			55%	59%	61%	68%	4,856		
rSPKRAC							(8,138)	0.02	*
Allowed			63%	63%	65%	64%	5,167		
rCONBUS							(12,522)	-0.02	*
A great deal		34%	28%	28%	30%	22%	3,689		
rCONFED							(12,737)	-0.02	*
A great deal		24%	17%	18%	20%	11%	2,382		
rCONLEGI							(12,747)	-0.12	*
A great deal		22%	14%	12%	16%	6%	1,887		
rCONJUDG							(12,578)	0.05	*
A great deal		35%	30%	31%	38%	33%	4,163		
rCONPRES							(12,834)	-0.20	*
A great deal		25%	23%	16%	17%	10%	2,499		
rCONTV							(12,876)	-0.13	*
A great deal		20%	15%	12%	12%	10%	1,851		

\* p<0.000005

toward people running all institutions except the Supreme Court, where the level remains constant. Judging from the 1993 data, the erosion of confidence has yet to level off. Instead we are seeing declines in even greater rates from 1991 to 1993 across all indicators.

With this troubling trend we make the segue into the next Chapter.

## CHAPTER FOUR

### FACTORS AFFECTING POLITICAL ORIENTATIONS

National level data, as those reported at the end of Chapter Three, are used by many to understand the society in which we exist. We often hear news reports stating that consumer confidence is on the rise or conservatism is in decline. What underlies these overall changes in society? Are all changes the same?

We begin exploring forces of change in this chapter. We argue that individuals are affected by their formative experiences on a fundamental level. These affected attributes (such as values of tolerance) are “fixed” by enduring influences and remain stable through life. Changes for these indicators are gradual, partially resulting from entering groups replacing exiting groups. We also argue that each person encounters different *Zeitgeists*, receiving different environmental cues at different times. Being a rational individual, he/she would take into account these environmental cues in conducting specific behaviors or making specific judgments. Thus they may show rapid changes from year to year as dictated by contemporaneous forces. These two hypotheses are tested via sub-sample means procedures.

Using the year-cohort matrix as our basic analytical framework, we first examine the relationships between three types of outcome variables (tolerance indicators, confidence indicators, and the strength of party affiliation) with birth

cohort membership and the year of survey. Eta statistics are used to test the strength of the observed associations and the goodness of fit to the model.<sup>26</sup> To control for the effect of cohort and year, we use “Select If” commands in the second round of the analysis. The results are organized by outcome variables in sections A, B, and C. In search of a better way to describe the shape of the data and the observed associations, we experimented with a procedure using aggregate data. Its results are reported at the end of the chapter.

### **A. Year-Cohort Matrices for Tolerance Indicators**

Two cumulative tolerance scales (rTOLSUM, rTOLSUM3) and five individual tolerance indicators (rSPKATH, rSPKCOM, rSPKHOMO, rSPKMIL, rSPKRAC) are analyzed using a year-cohort matrix design. The matrix has twelve to fourteen years across the top (rSPKMIL and rSPKRAC were not asked in 1973 and 1974) and eight cohorts down the left hand column.<sup>27</sup>

Charts 4.1 and 4.2 summarize the overall relationships between tolerance scales, birth cohort membership and the year of survey. It is clear from the two

---

<sup>26</sup> Because of the Design Effect problem discussed by Davis, we first tried Davis' approach by treating each N in our sample as .67N. However, due to the overwhelmingly large sample sizes in the top level analyses, this approach did not result in greater clarity. After consulting other work, we decide to err on the conservative side and use 0.001 as our cut off point. In this chapter,  $p > 0.05$  is noted as nonsignificant (“ns”),  $0.05 > p > 0.001$  as borderline (“?”), and  $p < 0.001$  as significant with one, two, or three asterisks denoting the levels.

<sup>27</sup> We selected charts over tables in this chapter to better illustrate over time patterns. Some key tables are reported in the text while others are in the appendix to reduce redundancy. All charts include cohorts one to six only. On the two ends, we have cohort zero gradually entering the sample and cohort seven gradually exiting. At times their year-cohort cell sizes are too small to warrant charting of their averages. They are, however, included in all top level statistical analyses.



CHART 4.1

RTOLSUM BY COHORT BY YEAR

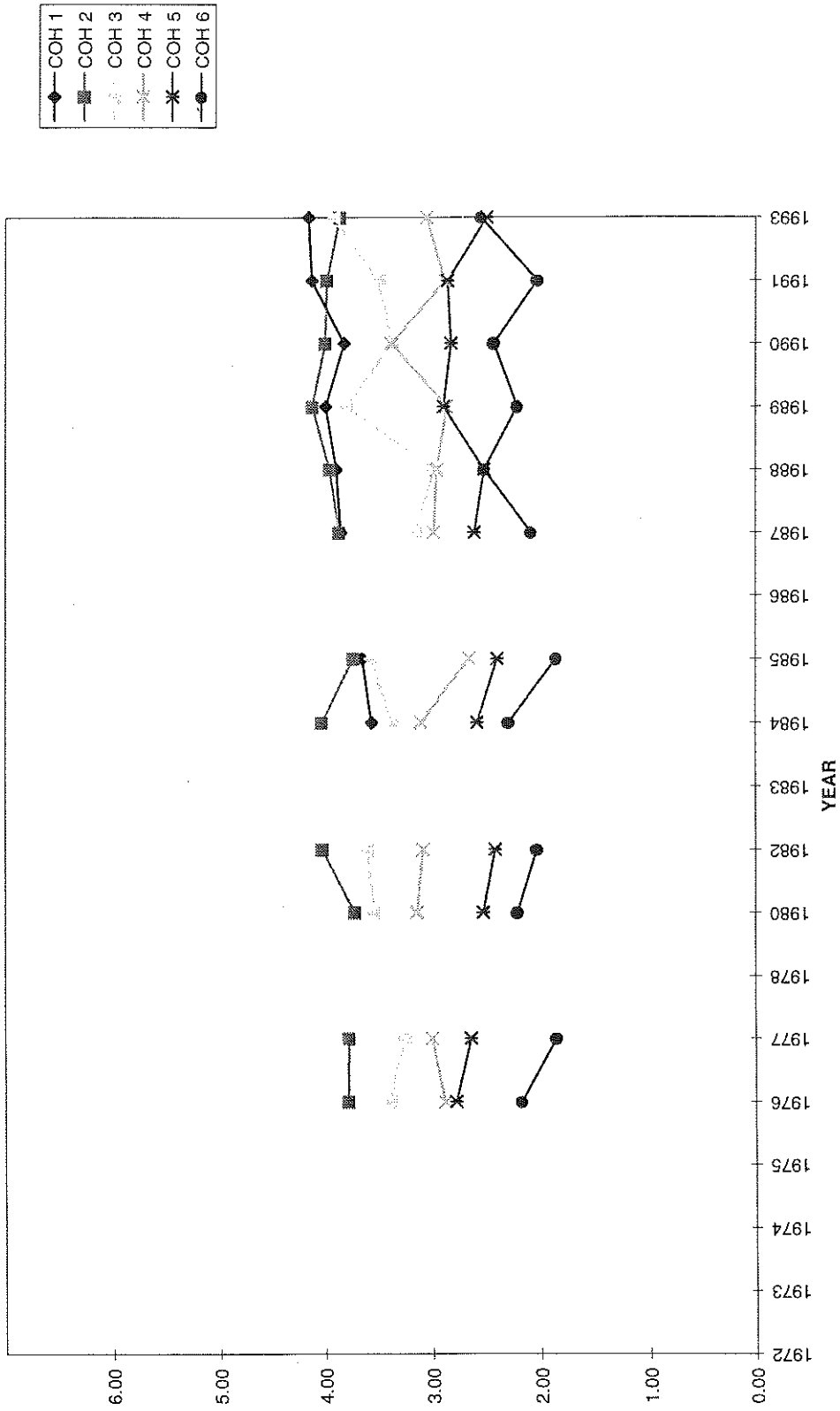
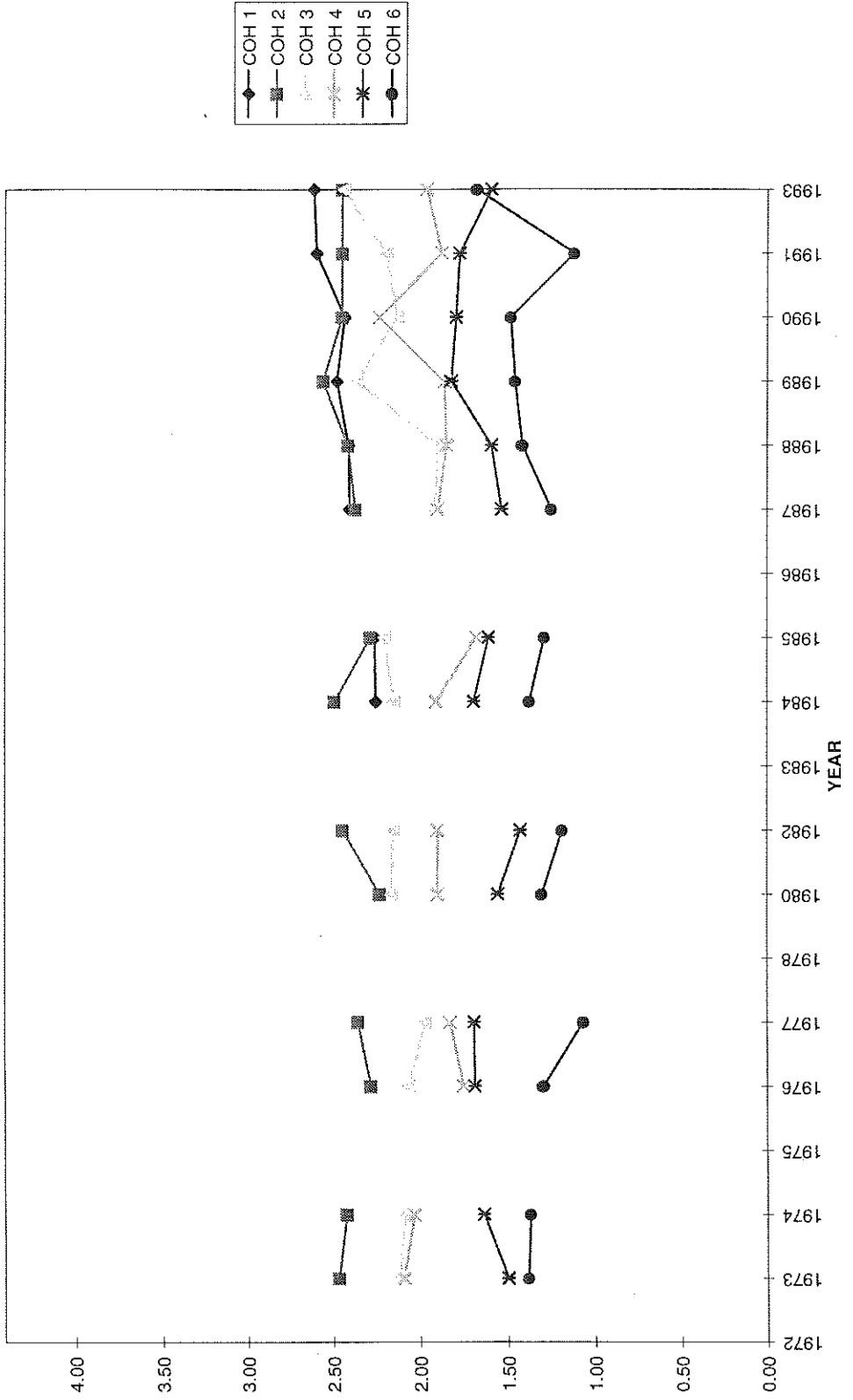


CHART 4.2

RTOLSUM3 BY COHORT BY YEAR



charts that there are fundamental differences in tolerance levels among birth cohorts. Not only do cohorts maintain their rank orders with respect to rTOLSUM and rTOLSUM3 between 1970s and 1990s, their absolute tolerance levels are for the most part stable as well.

While the two outcome variables (rTOLSUM and rTOLSUM3) are significantly associated with both cohort and year, their associations with cohort are much stronger than with year. Since eta square represents the proportion of the underlying variances attributable to the predictor variable, we can interpret the data as showing cohort effect to account for 10% ( $p < 0.00005$ ) of the variances in rTOLSUM and rTOLSUM3 and year effect to account for roughly 1% ( $p < 0.00005$ ). (See Tables 4.1 and 4.2).

Furthermore, when we control for birth cohort membership,<sup>28</sup> the observed associations between rTOLSUM, rTOLSUM3 and year are reduced to nonsignificance or borderline significance. Conversely, when year of survey is controlled for, the associations between rTOLSUM and rTOLSUM3 and cohort remain strong (eta squares from 0.08 to 0.14) and significant at 0.00005 level.

---

<sup>28</sup> All second round analyses are performed for cohorts two through six. Cohorts zero, one, and seven are excluded due to incomplete data.

**TABLE 4.1**  
**tTOLSUM BY COHORT BY YEAR**

COHORT	1972	1973	1974	1975	1976	1977	1978	1980	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1993	N	Mean	s.d.	YEAR EFFECT	
																							Eta Sqr	Sig.
COH 0											3.44	3.17		3.38	3.65	3.97	3.68	3.76	3.87	735	3.67	1.61		
COH 1					3.87	3.63		3.64	3.51		3.56	3.65		3.85	3.89	3.99	3.82	4.12	4.15	2,391	3.77	1.61		
COH 2					3.78	3.78		3.72	4.02		4.03	3.73		3.86	3.95	4.12	3.99	3.98	3.86	2,597	3.88	1.59	0.006	ns
COH 3					3.39	3.26		3.54	3.60		3.37	3.57		3.15	2.99	3.79	3.37	3.49	3.91	1,665	3.44	1.84	0.015	?
COH 4					2.89	3.00		3.14	3.08		3.11	2.66		2.98	2.96	2.87	3.37	2.89	3.06	1,550	2.99	1.90	0.007	ns
COH 5					2.78	2.64		2.53	2.42		2.58	2.40		2.61	2.52	2.90	2.83	2.86	2.50	1,465	2.62	1.89	0.007	ns
COH 6					2.17	1.86		2.21	2.03		2.29	1.86		2.09	2.53	2.22	2.43	2.03	2.56	795	2.13	1.81	0.012	ns
COH 7					1.83	2.04		1.88	1.93		2.38	2.18		1.06	2.71	1.78	2.14	2.67	178	1.94	1.70			
N					1,177	1,121		1,096	1,093		1,081	1,157		1,064	676	755	664	725	771	11,380	3.34	1.83	0.009	***
Mean					3.15	3.10		3.25	3.28		3.37	3.20		3.33	3.41	3.61	3.54	3.57	3.68	3.34				
s.d.					1.92	1.89		1.86	1.88		1.79	1.86		1.81	1.79	1.68	1.74	1.74	1.70	1.83				
<b>COHORT EFFECT</b>																								
Eta Sqr					0.100	0.100		0.087	0.115		0.088	0.109		0.110	0.097	0.130	0.070	0.106	0.100	0.100				
Sig.					***	***		***	***		***	***		***	***	***	***	***	***	***				

\* indicates p<0.001, \*\* indicates p<0.0001, \*\*\* indicates p<0.00005, ns indicates p>0.05, ? indicates 0.05>p>0.001

**TABLE 4.2**  
**tTOLSUM3 BY COHORT BY YEAR**

COHORT	1972	1973	1974	1975	1976	1977	1978	1980	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1993	N	Mean	s.d.	YEAR EFFECT	
																							Eta Sqr	Sig.
COH 0											2.20	2.03		2.15	2.37	2.54	2.33	2.37	2.46	753	2.34	0.98		
COH 1		2.46	2.11		2.33	2.25		2.24	2.18		2.25	2.26		2.40	2.41	2.48	2.43	2.60	2.61	2,496	2.35	1.00		
COH 2		2.47	2.42		2.28	2.36		2.23	2.44		2.49	2.28		2.37	2.41	2.56	2.45	2.45	2.45	3,228	2.39	0.98	0.009	?
COH 3		2.12	2.08		2.06	1.97		2.16	2.15		2.15	2.20		1.91	1.89	2.36	2.13	2.19	2.44	2,162	2.12	1.17	0.013	?
COH 4		2.09	2.03		1.75	1.83		1.90	1.90		1.91	1.68		1.90	1.85	1.86	2.23	1.88	1.96	2,007	1.90	1.21	0.011	?
COH 5		1.50	1.64		1.69	1.69		1.56	1.43		1.70	1.61		1.54	1.59	1.83	1.80	1.78	1.60	1,922	1.62	1.25	0.007	ns
COH 6		1.38	1.37		1.30	1.07		1.30	1.19		1.38	1.29		1.25	1.42	1.46	1.48	1.13	1.68	1,115	1.30	1.23	0.010	ns
COH 7		1.13	0.83		1.07	1.14		1.12	1.24		1.54	1.47		0.56	1.38	1.00	1.29	1.33	286	1.09	1.17			
N		1,161	1,149		1,204	1,146		1,123	1,130		1,098	1,183		1,097	703	770	678	740	787	13,969	2.05	1.17	0.012	***
Mean		1.97	1.95		1.90	1.90		1.97	1.99		2.12	2.01		2.05	2.11	2.27	2.23	2.24	2.33	2.05				
s.d.		1.20	1.21		1.24	1.22		1.20	1.20		1.15	1.173		1.16	1.15	1.06	1.08	1.09	1.05	1.17				
<b>COHORT EFFECT</b>																								
Eta Sqr		0.130	0.120		0.090	0.104		0.080	0.114		0.080	0.079		0.116	0.098	0.117	0.071	0.115	0.099	0.101				
Sig.		***	***		***	***		***	***		***	***		***	***	***	***	***	***	***				

\* indicates p<0.001, \*\* indicates p<0.0001, \*\*\* indicates p<0.00005, ns indicates p>0.05, ? indicates 0.05>p>0.001

Results from individual tolerance indicators tell the same story with only minor variations (see Charts 4.3 to 4.7, corresponding tables in Appendices 4.1 to 4.5). Take the granddaddy of these items rSPKCOM for example. From Chart 4.4 we observe that in general each cohort is more willing to let Communists speak than its preceding cohorts and that each cohort (except cohort six) shows an increase in its willingness over time. The net increase ranges from eight points for cohort two to more than fifteen points for cohorts one, three, and seven.<sup>29</sup> By the year 1993, 73% of the respondents would grant Communists the right to speak, compared with 54% in 1972.

Despite a shared gradual increase over time, the cohorts remain, for the most part, different in their rSPKCOM levels, each within its own boundaries. This pattern was broken in only two instances: one by cohort one which “crossed over” cohort two in 1990 to become the highest in rSPKCOM level, the other by cohort four which moved differently than its adjacent cohorts in 1989 and 1990.

Overall, the effect of cohort accounts for 7% ( $p < 0.00005$ ) of the underlying variances in rSPKCOM, while the effect of year accounts for 1% ( $p < 0.00005$ ). Once again, when cohort membership is controlled for, the associations between year and rSPKCOM are reduced to borderline significance for cohorts two and

---

<sup>29</sup> Because this is a dichotomous variable and that we recoded “0” to mean no and “1” to mean yes, we can interpret the numbers as “% of group who would allow Communists to speak.”

CHART 4.3

rSPKATH BY COHORT BY YEAR

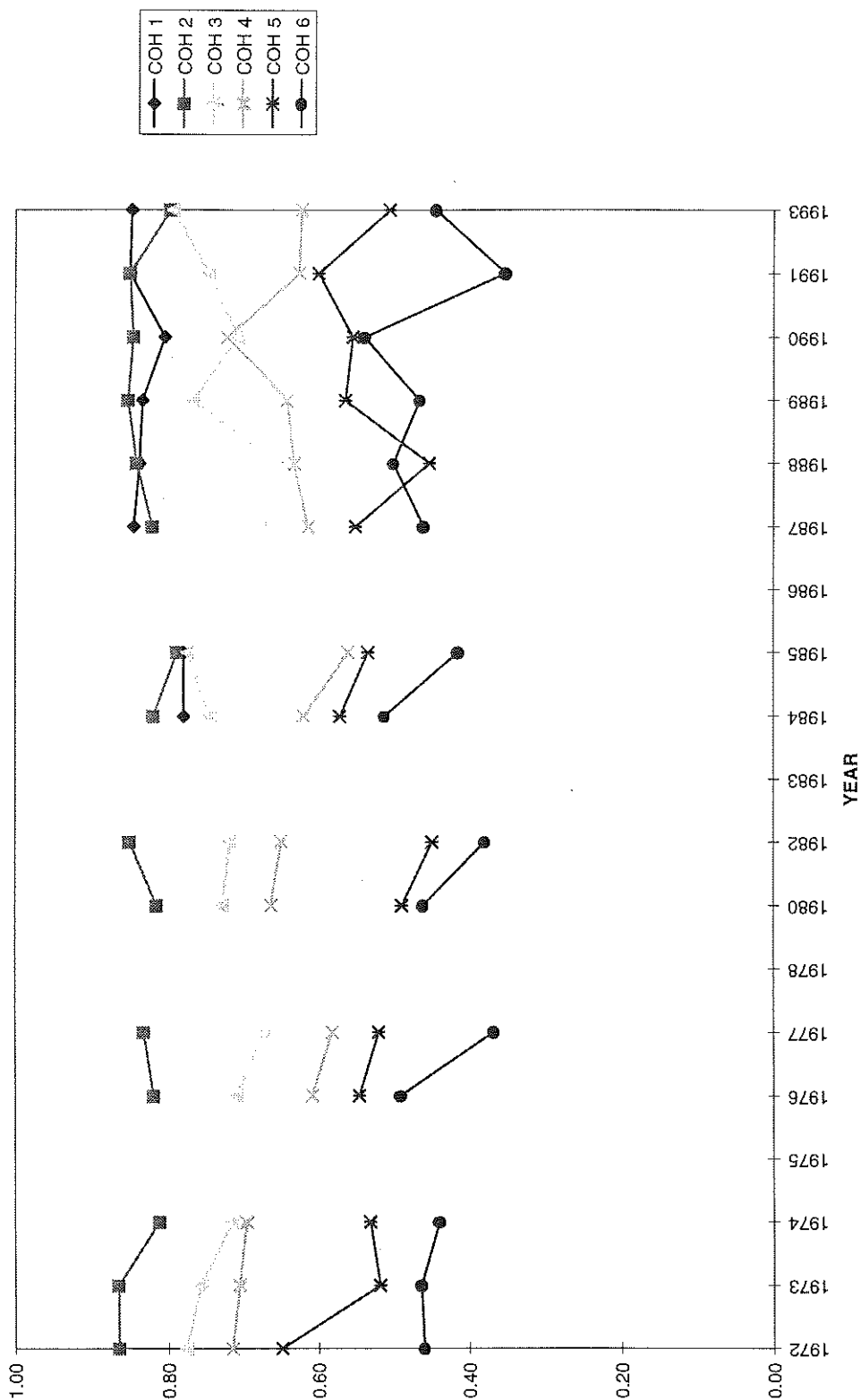


CHART 4.4

rSPKCOM BY COHORT BY YEAR

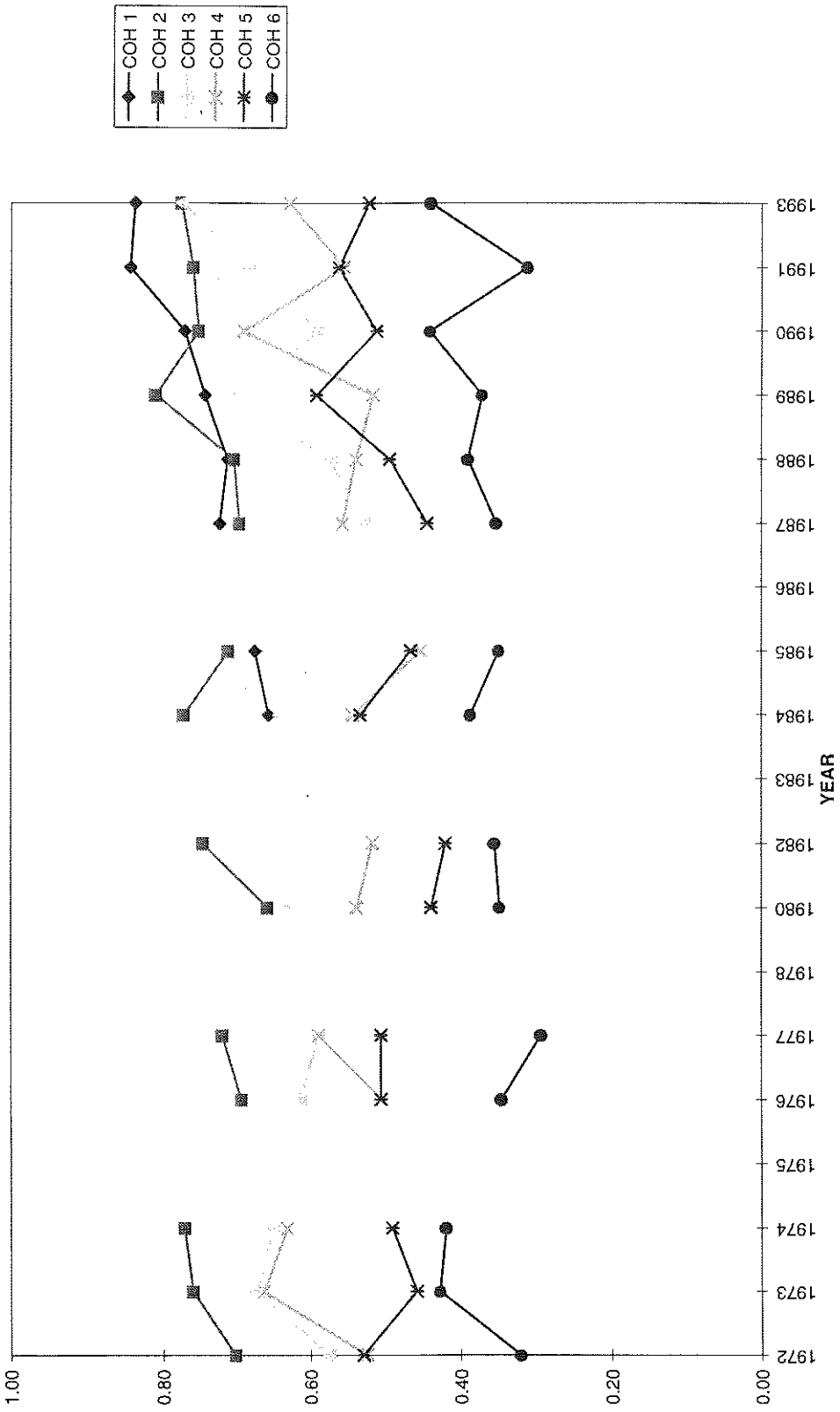


CHART 4.5

rSPKHOMO BY COHORT BY YEAR

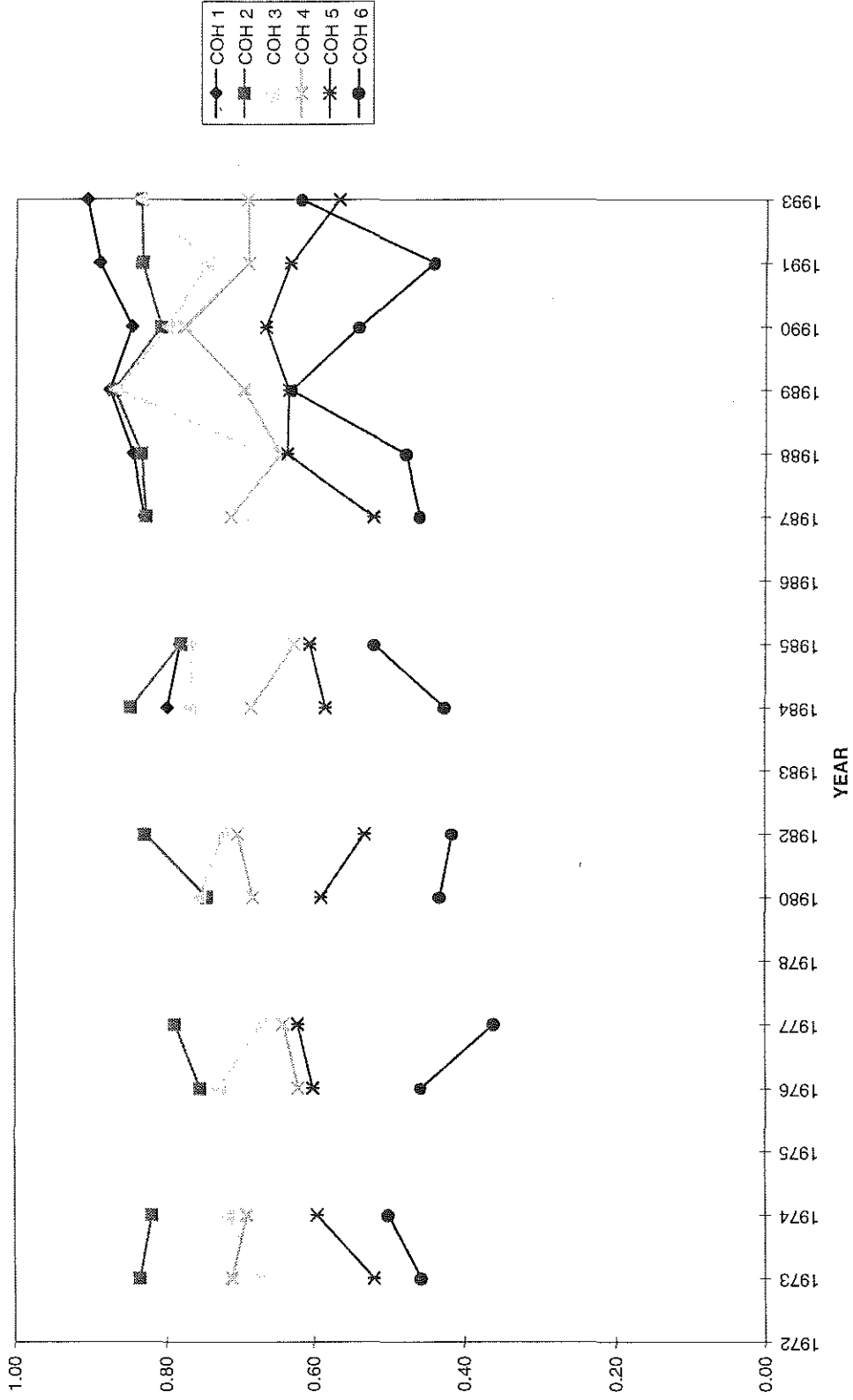




CHART 4.6

rSPKMIL BY COHORT BY YEAR

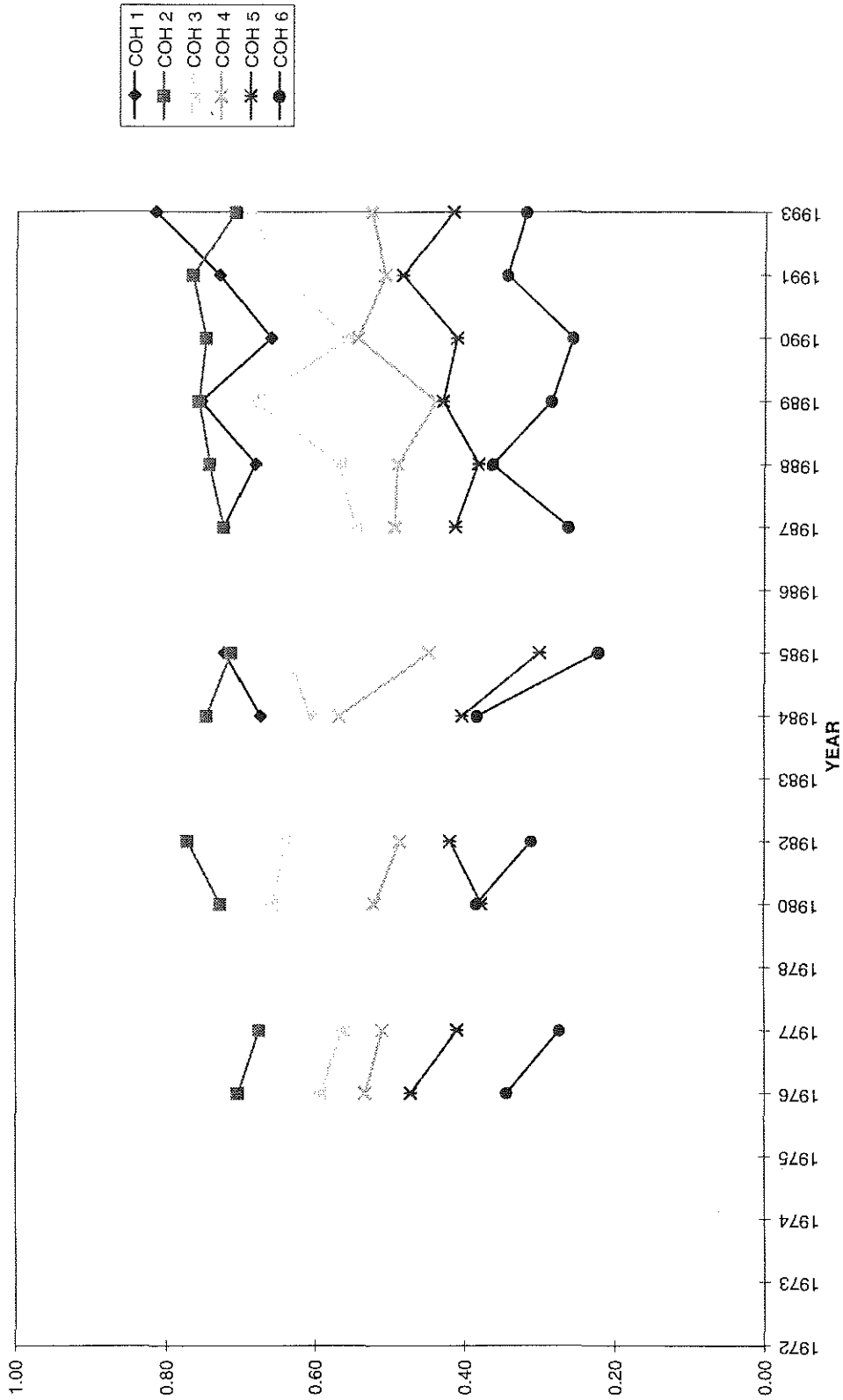
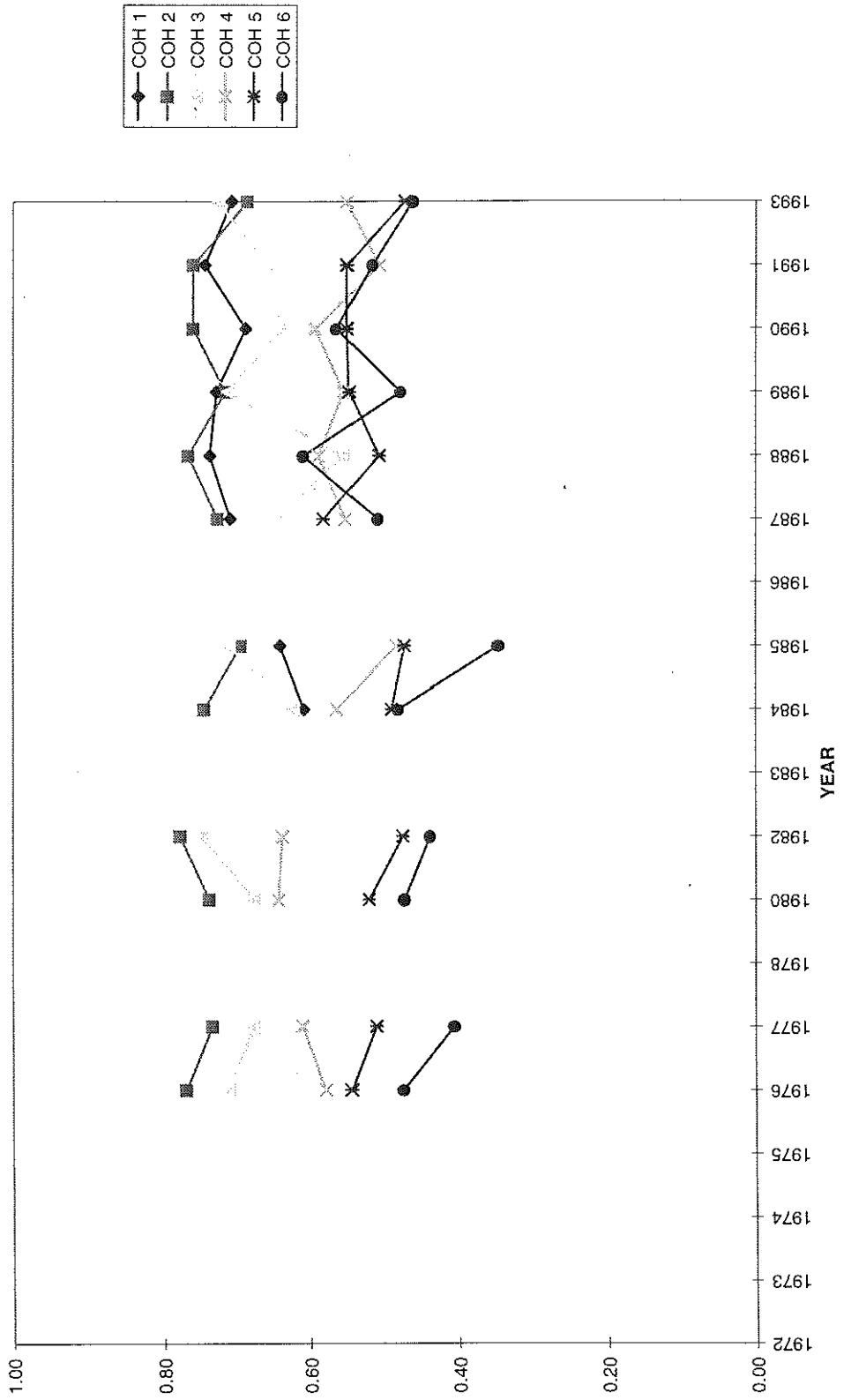


CHART 4.7

rSPKRAC BY COHORT BY YEAR



three, and to nonsignificance for cohorts five and six. Contrarily when year of survey is controlled for, the associations between cohort membership and rSPKCOM remain strong (eta squares from 0.05 to 0.08) and significant at 0.00005 level. (Please refer to Appendix 4.2 for complete detail).

Among the five indicators, rSPKRAC is the only one that did not show an increase between 1970s and 1993.<sup>30</sup> In fact, its overall pattern is different from the rest. The right hand part of Chart 4.7 (data shown in Appendix 4.5) illustrates a homogenization of opinions with respect to racists' right to speak in public. None of the other indicators have in any period of our data demonstrated such homogenization. What makes rSPKRAC behave differently?

Comparing the pattern of rSPKRAC with the other four indicators, we can derive at least four possible interpretations: There may be a clear rejection of any racist ideology among the more recent cohorts hence imposing a ceiling on the top. (63% of cohort zero and 71% of cohort one would let racists speak. The corresponding numbers are 79% and 85% for Communists, 89% and 91% for homosexuals.) The survivors of the early cohorts (five and six) may be more tolerant of racist speech to begin with or have become generally more tolerant in their advanced age. (However, since they did not show increased tolerance toward other groups, the later explanation is unlikely.) On the flipside, there may

---

<sup>30</sup> Increase for other tolerance indicators varies from five points for atheists, eleven points for militarist, to sixteen points for homosexuals and nineteen points for Communists.

be increasing racism among the survivors so that they want to let racists speak. Or we may have social desirability affecting respondents' answers to this sensitive question differentially.

We think this is an intriguing question and ought to be dealt with by future research. For the present study, it is important to note that though the inter- and intra-cohort trends are not as clean as with other tolerance indicators, cohort membership remains a significant factor in all recent years except 1990 (Appendix 4.2). Furthermore, there is no significant effect of year within each birth cohort. These results are highly consistent with all other tolerance indicators.

We take the data to mean the following: For values as complex and historically encumbered as racism, formative forces as represented by the cohort membership still produce sizable and enduring effects through life. When confronting huge environmental changes in society, each cohort brings with it its unique set of boundaries within which it fluctuates. These patterns are fundamentally different from those of confidence indicators.

## **B. Year-Cohort Matrices for Confidence Indicators**

The overwhelming pattern shown in confidence indicators is that of a sweeping time effect. In Charts 4.8 and 4.9 we see cohorts closely "bunched together" and move up and down with the forces represented by "year of survey." These patterns of minimal inter-cohort differences within each year

CHART 4.8

rCONSUM BY COHORT BY YEAR

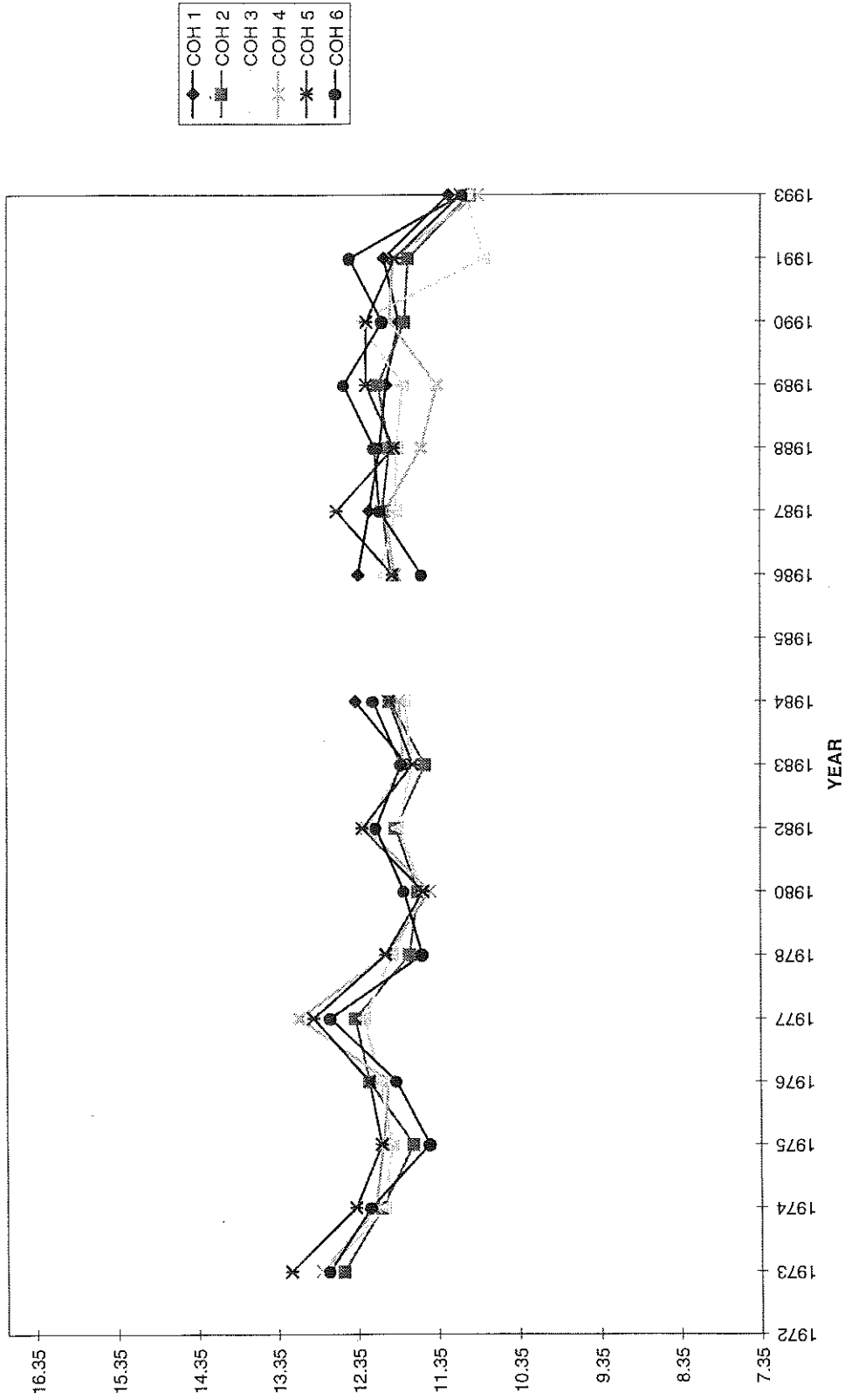
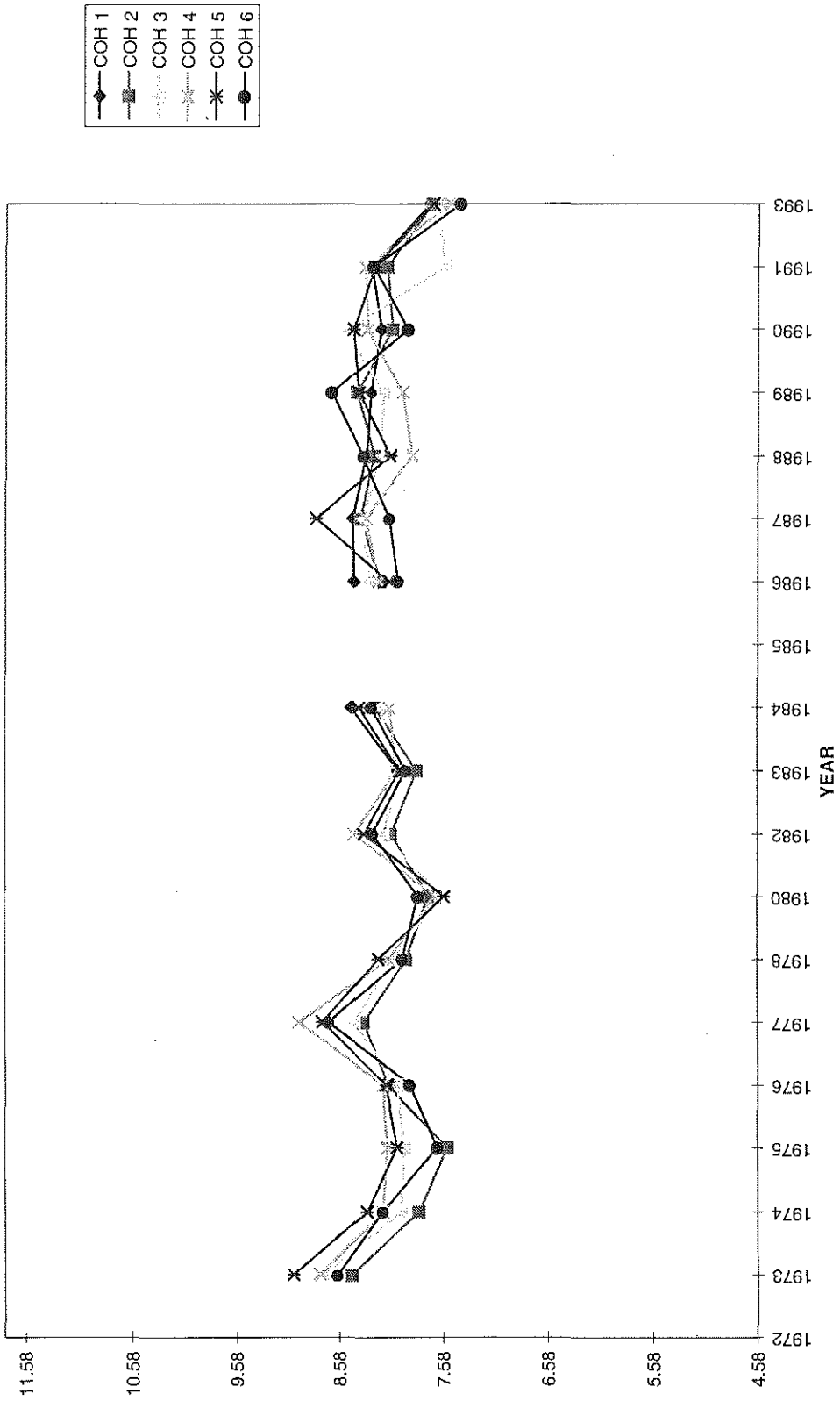


CHART 4.9

rCONSUM4 BY COHORT BY YEAR



and sharp intra-cohort changes across years are near complete reversal of what have been observed for tolerance indicators (as shown earlier in Charts 4.1 and 4.2).<sup>31</sup>

Confidence scales (rCONSUM and rCONSUM4) also show less of a trend than tolerance scales (rTOLSUM and rTOLSUM3) in the past two decades. Granted there are slight declines in recent years from the first part of our data (1973-1984), the declines are neither continual nor consistent.

On the overall level, year effect is the larger of the two, accounting for 2-3% ( $p < 0.0005$ ) of the underlying variances. Cohort effect, despite being statistically significant ( $p < 0.00005$ ), accounts for less than 0.5%. Furthermore, when the effect of year is controlled for, the relationships between cohort and rCONSUM and rCONSUM4 are reduced to nonsignificance or borderline in all years except 1991 (see Tables 4.3 and 4.4). Within each birth cohort, however, year continues to produce equal or larger effects than for the entire population, further attesting its strong relationships with rCONSUM and rCONSUM4. All eta squares for cohorts two through five meet or exceed those for the total sample.<sup>32</sup>

Our hypothesis argues that individuals would take into account the specific environmental cues when asked to make specific judgments. It is for this

---

<sup>31</sup> Since we use mean  $\pm$  2 s.d to set up the Y axis for Charts 4.1, 4.2, 4.8, and 4.9, we can superimpose 4.8 on top of 4.1 and get an accurate comparison of the extent to which year affected each outcome variable.

<sup>32</sup> Due to its small cell sizes in recent years, results for cohort six are less stable.

**TABLE 4.3**  
**rCONSUM BY COHORT BY YEAR**

COHORT	1972	1973	1974	1975	1976	1977	1978	1980	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1993	N	Mean	s.d.	YEAR EFFECT	
																							Eta Sqr	Sig.
COH 0										12.11	13.29		13.03	12.82	12.81	12.88	12.91	12.72	11.38	719	12.56	2.32		
COH 1	13.15	12.94	11.96	12.15	12.53	11.78	11.70	11.88	11.72	12.37			12.33	12.20	12.07	11.99	11.83	12.02	11.22	2,988	11.99	2.24		
COH 2	12.53	12.05	11.66	12.20	12.38	11.70	11.60	11.87	11.51	11.94			11.93	12.03	11.95	12.08	11.76	11.72	10.96	3,929	11.90	2.21	0.024	***
COH 3	12.74	12.02	11.92	12.07	12.27	11.91	11.53	11.85	11.66	11.76			12.05	11.86	11.86	11.78	12.32	10.79	11.00	2,534	11.93	2.32	0.031	***
COH 4	12.79	12.12	12.03	11.96	13.08	11.99	11.45	12.24	11.77	11.83			11.88	12.00	11.55	11.36	11.95	11.91	10.86	2,421	12.03	2.40	0.042	***
COH 5	13.19	12.38	12.05	12.20	12.89	11.99	11.53	12.28	11.66	11.95			11.91	12.60	11.89	12.24	12.24	11.89	11.07	2,182	12.19	2.44	0.041	***
COH 6	12.71	12.19	11.46	11.87	12.69	11.54	11.77	12.11	11.80	12.15			11.54	12.06	12.14	12.51	12.04	12.44	11.05	1,264	12.03	2.55	0.029	?
COH 7	13.24	12.47	11.73	12.26	12.19	11.12	11.50	12.87	11.50	10.50			13.43	11.75	11.86	11.50	13.33	12.67		323	12.21	2.52		
N	1,113	1,128	1,093	1,105	1,101	1,094	1,073	1,097	1,182	732			1,053	1,040	701	741	632	734	741	16,360	12.02	2.34	0.024	***
Mean	12.80	12.18	11.83	12.10	12.61	11.80	11.62	12.01	11.67	12.03			12.09	12.17	12.02	12.07	12.09	11.94	11.12	12.02				
s.d.	2.38	2.40	2.28	2.29	2.37	2.27	2.36	2.30	2.15	2.37			2.24	2.20	2.26	2.37	2.38	2.41	2.25	2.34				
<b>COHORT EFFECT</b>																								
Eta Sqr	0.010	0.007	0.008	0.003	0.017	0.007	0.011	0.008	0.003	0.021			0.023	0.017	0.022	0.030	0.027	0.047	0.006	0.004				
Sig.	ns	ns	ns	ns	?	ns	ns	ns	ns	?			*	?	?	?	?	***	ns	***				

\* indicates p<0.001, \*\* indicates p<0.0001, \*\*\* indicates p<0.00005, ns indicates p>0.05, ? indicates 0.05>p>0.001

**TABLE 4.4**  
**rCONSUM4 BY COHORT BY YEAR**

COHORT	1972	1973	1974	1975	1976	1977	1978	1980	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1993	N	Mean	s.d.	YEAR EFFECT	
																							Eta Sqr	Sig.
COH 0										8.11	8.63		9.08	8.89	8.94	9.01	8.95	8.95	7.82	728	8.72	1.81		
COH 1	9.12	8.48	7.87	8.04	8.48	7.92	7.73	8.05	8.02	8.46			8.44	8.45	8.32	8.28	8.18	8.27	7.72	3,007	8.17	1.74		
COH 2	8.46	7.81	7.54	8.11	8.34	7.93	7.73	8.08	7.84	8.24			8.18	8.38	8.25	8.41	8.07	8.12	7.70	3,960	8.05	1.72	0.025	***
COH 3	8.73	7.99	7.95	8.02	8.43	8.07	7.60	8.15	7.99	8.19			8.28	8.36	8.17	8.17	8.52	7.57	7.66	2,567	8.13	1.78	0.028	***
COH 4	8.77	8.16	8.11	8.16	8.97	8.10	7.65	8.44	8.03	8.09			8.20	8.32	7.88	7.98	8.31	8.33	7.53	2,443	8.23	1.82	0.038	***
COH 5	9.03	8.31	8.02	8.13	8.74	8.20	7.57	8.34	8.00	8.39			8.10	8.80	8.09	8.39	8.44	8.24	7.69	2,225	8.28	1.85	0.042	***
COH 6	8.60	8.16	7.64	7.89	8.69	7.97	7.82	8.26	7.94	8.27			8.02	8.10	8.35	8.66	7.92	8.25	7.43	1,298	8.12	1.90	0.031	*
COH 7	9.14	8.32	7.70	8.18	8.48	7.35	9.06	8.93	8.17	7.36			9.14	7.83	8.33	7.75	9.33	8.00		335	8.27	1.97		
N	1,113	1,128	1,093	1,105	1,101	1,094	1,073	1,097	1,182	732			1,053	1,040	701	741	632	734	741	16,360	8.18	1.80	0.026	***
Mean	8.73	8.08	7.83	8.08	8.59	8.00	7.70	8.20	7.97	8.29			8.31	8.46	8.28	8.38	8.34	8.28	7.70	8.18				
s.d.	1.82	1.86	1.77	1.77	1.78	1.74	1.82	1.76	1.68	1.81			1.71	1.76	1.75	1.80	1.85	1.84	1.64	1.80				
<b>COHORT EFFECT</b>																								
Eta Sqr	0.014	0.012	0.016	0.002	0.016	0.008	0.010	0.009	0.002	0.020			0.021	0.015	0.027	0.027	0.026	0.041	0.003	0.001				
Sig.	?	?	?	n	?	ns	ns	ns	ns	?			?	?	?	?	?	**	ns	***				

\* indicates p<0.001, \*\* indicates p<0.0001, \*\*\* indicates p<0.00005, ns indicates p>0.05, ? indicates 0.05>p>0.001



specificity that we expect to see different institutions fare differently through time.

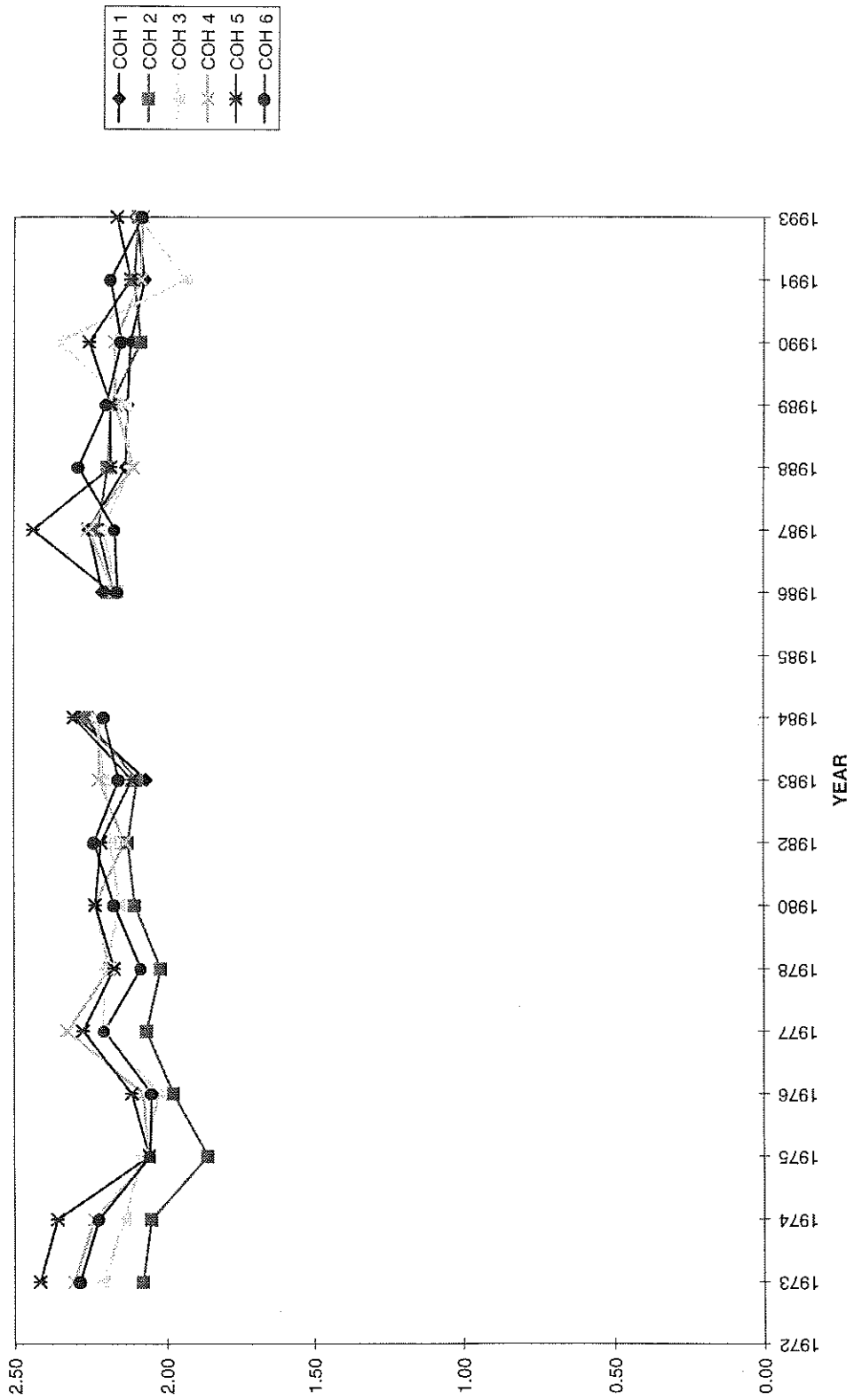
Our hypothesis is supported by the data. Appendices 4.6 through 4.11 summarizes results for rCONBUS, rCONFED, rCONJUDG, rCONLEGI, rCONPRES, and rCONTV. Even a cursory look will establish that each follows its unique pattern of change during the past twenty odd years.

Big businesses fared relatively well vis-à-vis other institutions. In most years executives in major companies receive very high vote of confidence from the public, second only to the judges in the Supreme Court. The only exception was during 1975-76 when confidence in big businesses took a big dip to below confidence in the Congress as well. On the top-line level, year accounts for 1.4% ( $p < 0.00005$ ) of the underlying variances in rCONBUS, while cohort accounts for 0.7% ( $p < 0.00005$ ).

During the 70s the cohorts moved similarly from year to year but remained discernibly different from one another. After 1980 they become much more homogenized, with only one or two outliers (see Chart 4.10). The changing relationships between cohort, year, and rCONBUS are clearly summarized by eta statistics (Appendix 4.6). When we examine each year individually, we find the differences among cohorts to be significant in five of the first six years of data (1973-1978). Afterwards the cohort differences are mostly nonsignificant (in seven years) or at borderline (in four years). Conversely, the differences

CHART 4.10

rCONBUS BY COHORT BY YEAR



attributable to year of survey remain significant within each cohort (except cohort six where results are less stable.)

Confidence in the federal government (rCONFED) shows the greatest variability among the confidence indicators. Its single year change ranges from one point (in 1989-90) to forty-six points (in 1973-74). (Please refer to Chart 4.11.) Overall year of survey accounts for 3.6% ( $p < 0.00005$ ) of the underlying variances, compared with 0.3% ( $p < 0.00005$ ) by cohort. Because of such great volatility, there is no easy way to describe the federal government in terms of its ranking among major institutions. It, we suspect, is being scrutinized quite closely by the public. Hence its rank order closely mirrors the public's image of its performance at the time.

When the year of survey is controlled for, there are no significant cohort differences in twelve of seventeen years. The inter-cohort differences are borderline ( $0.05 > p > 0.001$ ) in four years and significant in only one year. On the other hand, we continue to observe strong (with eta squares of 0.04 to 0.06) and significant ( $p < 0.00005$ ) effects of the year within each birth cohort. (Please refer to Appendix 4.7 for details.)

The Supreme Court seems to set the gold standard for all institutions (see Chart 4.12). Its overall confidence score is 2.19, with over one third of the respondents having a great deal of confidence in people running it.

CHART 4.11

rCONFED BY COHORT BY YEAR

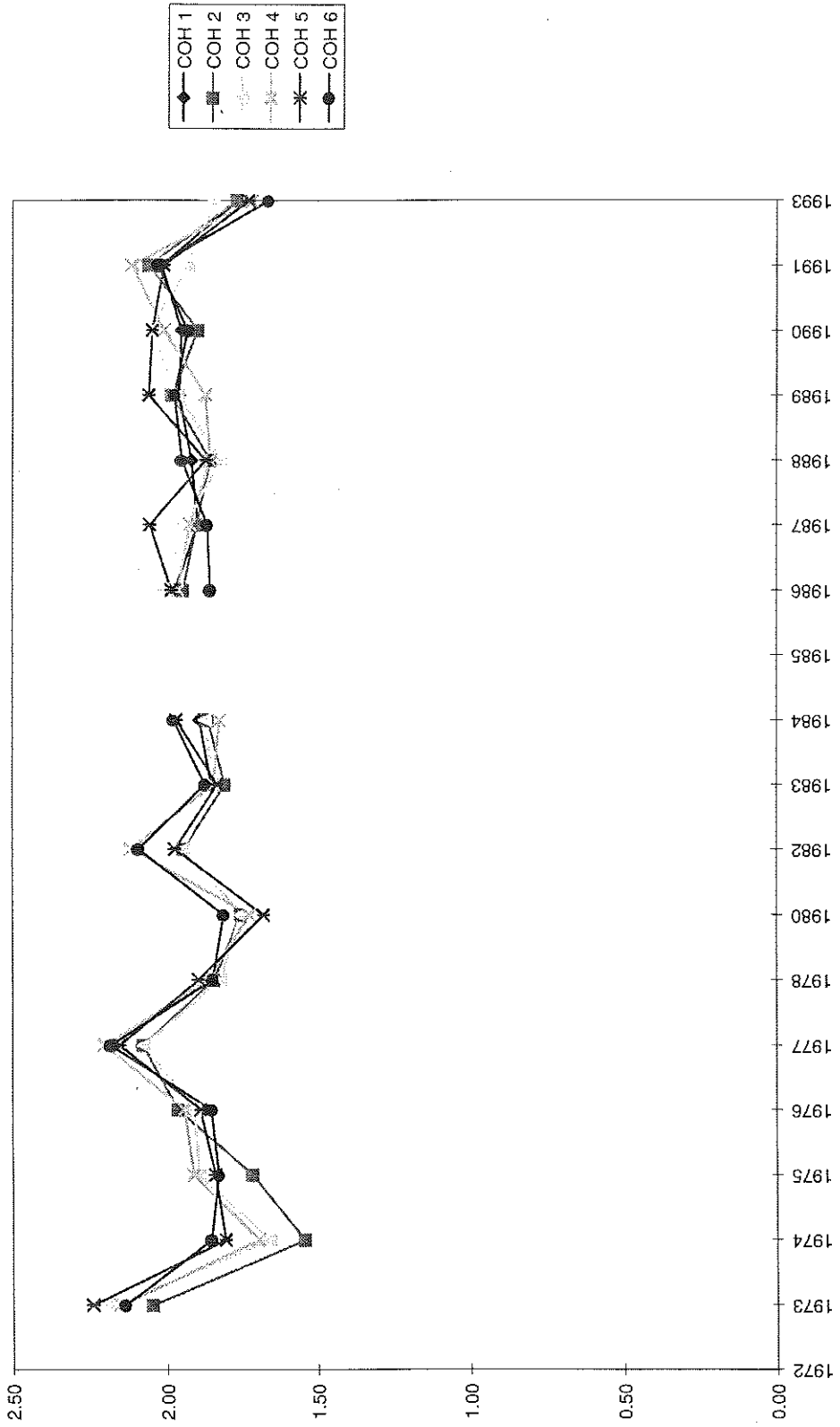
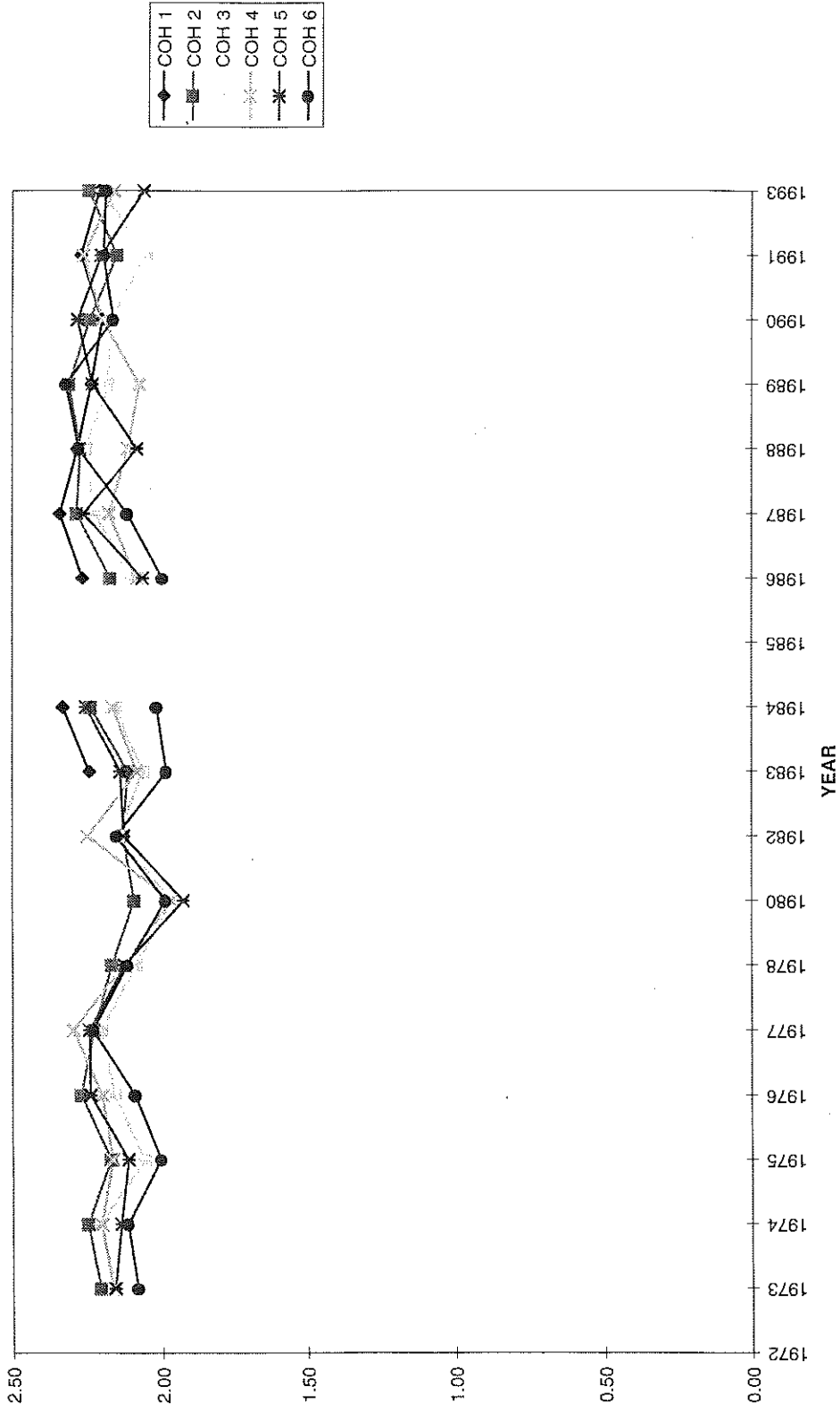


CHART 4.12

rCONJUG BY COHORT BY YEAR



From year to year, rCONJUDG fluctuates within a very narrow band of net changes, ranging from one point to fourteen points.

We suspect that most people have relatively little direct information with respect to the Supreme Court. Because of its “distance” from individual experience and the high status ascribed to it, the Supreme Court may be “pedestalled” by the public. As such, their evaluation of the institution would be based more on normative expectations than on specific system performances. If this was the case, the relationships of cohort and year with rCONJUDG should bear some resemblance to those with tolerance indicators.

The results reported in Appendix 4.8 provide partial support to our argument. First of all, birth cohort has effect on rCONJUDG above and beyond its association with year. Thus when cohort is controlled for, the year effect did not increase in strength and significance level (as was often the case with other confidence variables). Secondly, we continue to obtain discernible cohort differences in about half of the individual years. The differences are statistically significant in four of the years and at borderline in four others. These results support a modified pedestal hypothesis, arguing that the Supreme Court is occasionally brought to the forefront of public consciousness by significant events. Otherwise it stays on top of a pedestal and is evaluated normatively.

The pattern for rCONLEGI closely resembles that of rCONFED. Except for lower absolute levels, data for confidence in people running the Congress are

also characterized by sharp year to year changes, a strong year effect overall and within birth cohorts, and less strong cohort effect which diminishes when year is controlled for (Chart 4.13 and Appendix 4.9).

The Fourth Estate did not fare nearly as well as the other big businesses. Neither was there any question about the direction toward which the public opinion was headed. If we take out the last few years of data for cohort six (when the cell sizes are small), confidence in people running the press and television show clear downward trends between the years 1973 and 1993 (Charts 4.14 and 4.15).

The effect of year is slightly greater on rCONPRES (eta square = 0.03,  $p < 0.0005$ ) than on rCONTV (eta square = 0.01%,  $p < 0.00005$ ). Cohort membership, on the other hand, produced slightly larger effect on rCONTV than on rCONPRES. But in neither case can we conclude cohort to be an important contributing factor (with eta square of 0.001 for rCONPRES and 0.003 for rCONTV).

### **C. Year-Cohort Matrix for Strength of Party Identification**

In our conception, the strength of party affiliation represents yet another archetype of political orientation. It is conceivable that while one's basic mode of political participation is "fixed" by formative experiences, he/she is only incited

CHART 4.13

rCONLEGI BY COHORT BY YEAR

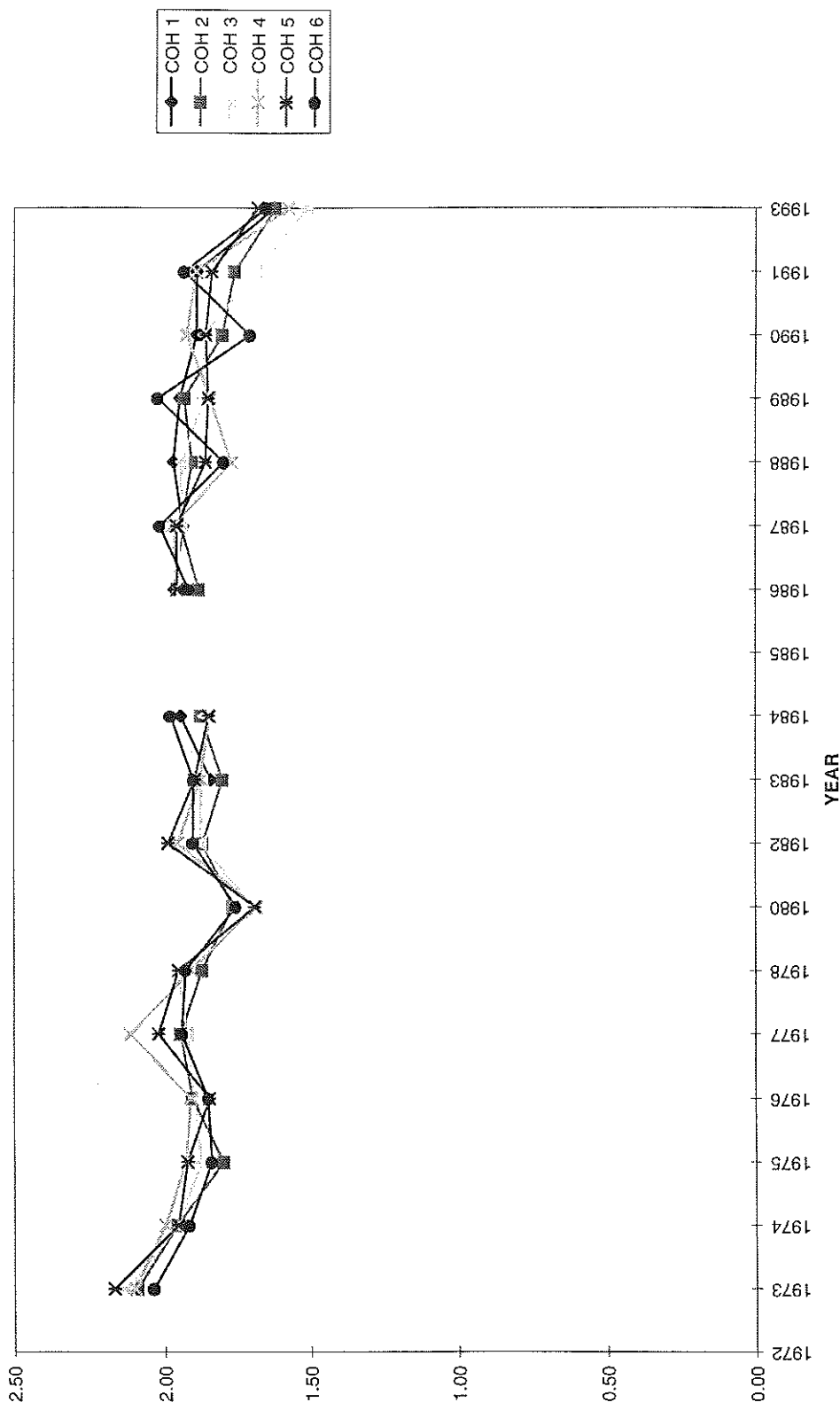




CHART 4.14

rCOMPRES BY COHORT BY YEAR

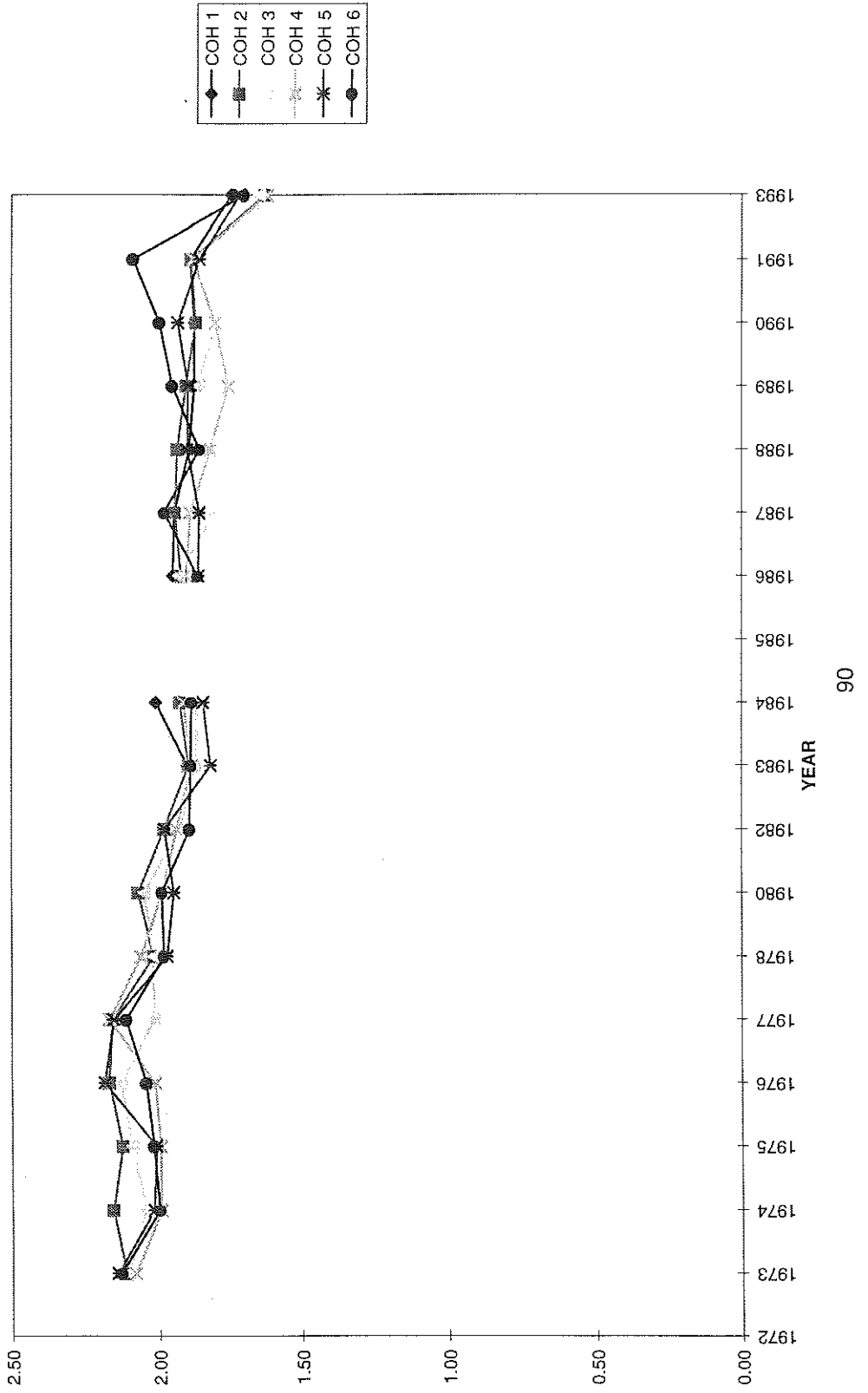
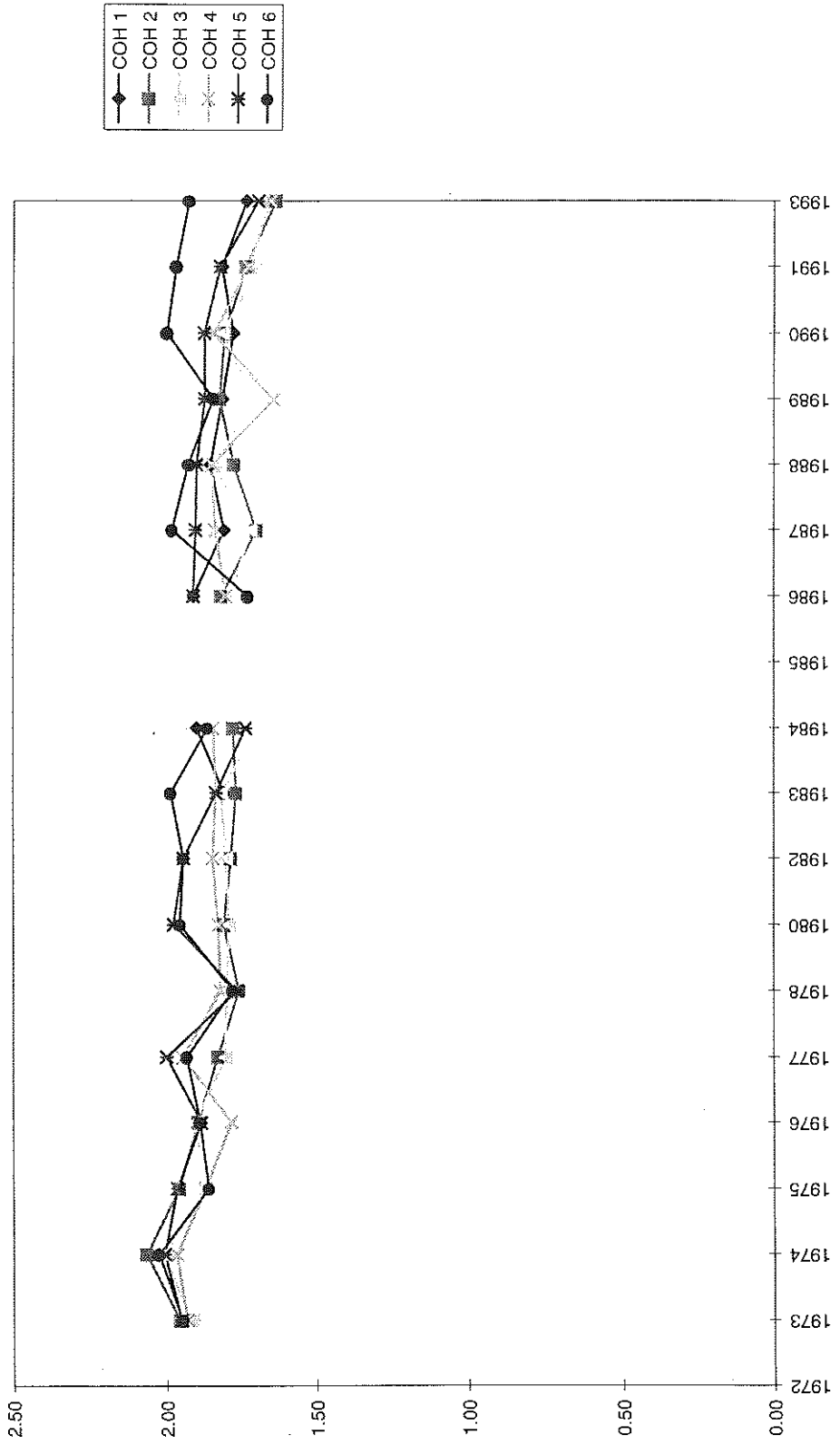


CHART 4.15

rCONTV BY COHORT BY YEAR



to act upon that basic mode by specific political environment. As such, we expect the strength of party affiliation to be affected by both the enduring force of cohort membership and the contemporaneous force of time.

Chart 4.16 captures such a picture (detailed data in Table 4.5). Unlike the confidence indicators, we find discernible inter-cohort differences in each year. Unlike the tolerance indicators, we find low intra-cohort consistencies from year to year. The resulting pattern is that of un-synchronized waves. While all cohorts move toward stronger party affiliation (as previously discussed with our life-cycle/experience hypothesis), thus gradually reducing the between-cohort gap, the change pattern for each cohort remains distinctive for the most part.

What have we learned beyond knowing these three types of variables interact with cohort and time differently? What higher level of generalizations can we make from the data? How can we better describe the obtained associations? Let us expand on these questions next.

#### **D. Exploring Enduring Versus Contemporaneous Effects**

When we compare the strength of party affiliation with tolerance and confidence indicators, we find it very useful to summarize their individual patterns using two dimensions: inter-cohort difference and intra-cohort difference. Inter-cohort difference relates to the extent to which different

CHART 4.16

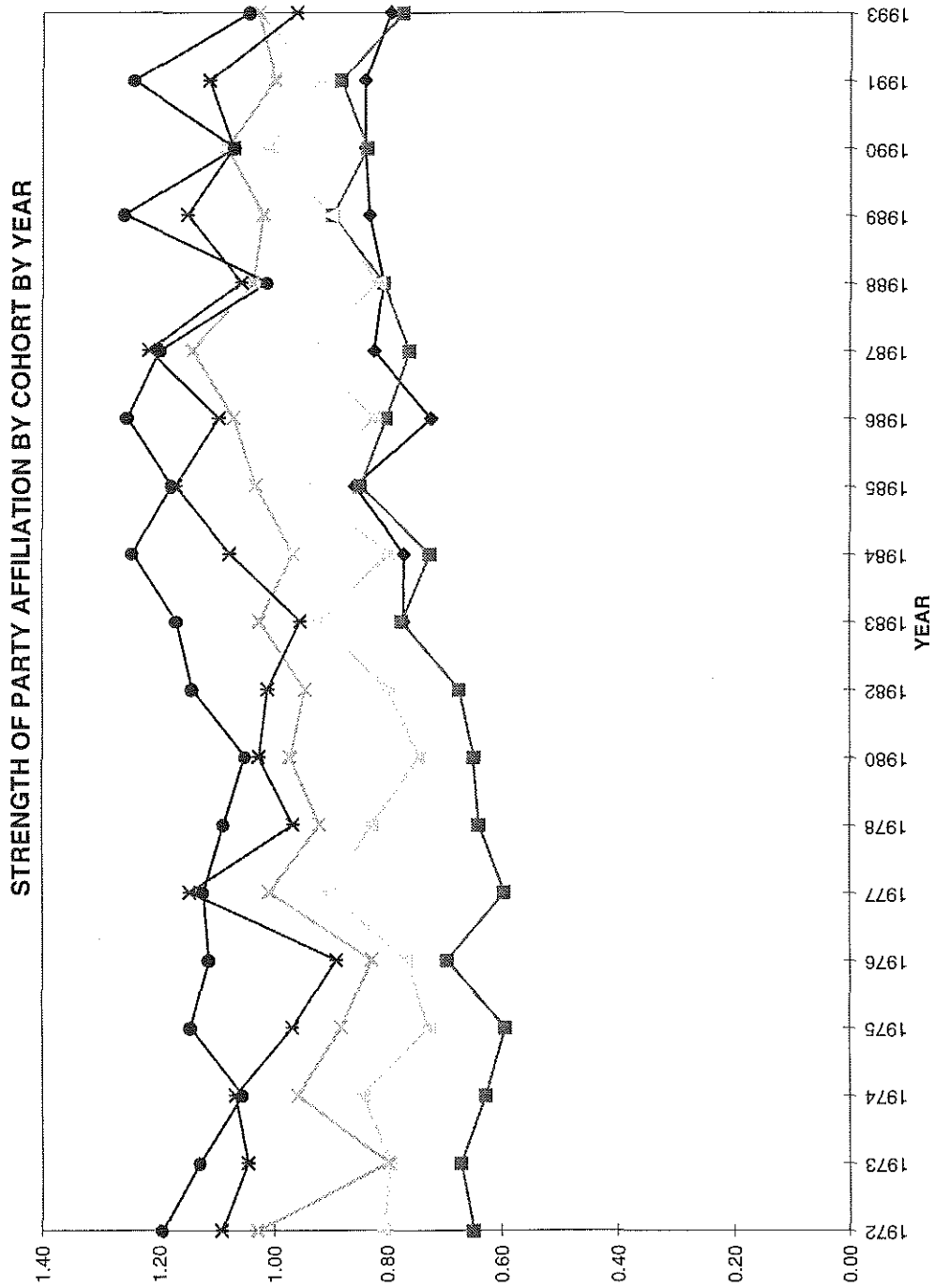


TABLE 4.5  
rPARTY3 BY COHORT BY YEAR

COHORT	1972	1973	1974	1975	1976	1977	1978	1980	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1993	N	Mean	s.d.	YEAR EFFECT	
																							Eta Sqr	Sig.
COH 0										0.44	0.51	0.85	0.81	0.73	0.74	0.92	0.75	0.82	0.74	1,135	0.78	0.73		
COH 1		0.65	0.58	0.50	0.61	0.67	0.67	0.56	0.67	0.77	0.77	0.86	0.72	0.82	0.81	0.83	0.84	0.84	0.80	3,926	0.76	0.72		
COH 2	0.65	0.67	0.63	0.59	0.70	0.60	0.64	0.65	0.67	0.77	0.72	0.85	0.80	0.76	0.81	0.90	0.84	0.88	0.77	5,102	0.72	0.72	0.017	***
COH 3	0.81	0.79	0.84	0.73	0.77	0.90	0.83	0.74	0.80	0.92	0.80	0.95	0.82	0.94	0.82	0.90	1.01	0.92	1.03	3,397	0.85	0.74	0.012	*
COH 4	1.03	0.80	0.96	0.88	0.83	1.01	0.92	0.97	0.95	1.03	0.97	1.03	1.07	1.14	1.04	1.02	1.08	1.00	1.03	3,305	0.98	0.76	0.012	?
COH 5	1.09	1.05	1.07	0.97	0.89	1.15	0.97	1.03	1.01	0.95	1.08	1.17	1.10	1.22	1.06	1.15	1.07	1.12	0.96	3,151	1.05	0.76	0.012	?
COH 6	1.20	1.13	1.06	1.15	1.11	1.12	1.09	1.05	1.14	1.17	1.25	1.18	1.26	1.20	1.01	1.26	1.07	1.25	1.05	1,945	1.14	0.76	0.008	ns
COH 7	1.33	1.14	1.30	1.10	1.02	0.97	1.12	1.05	1.05	1.08	0.93	1.30	1.21	1.22	1.18	1.31	0.83	1.00		528	1.14	0.75		
N	1,195	1,184	1,166	1,214	1,250	1,197	1,212	1,171	1,191	1,270	1,132	1,228	1,131	1,131	1,145	1,208	1,060	1,177	1,227	22,489	0.88	0.75	0.004	***
Mean	0.94	0.87	0.89	0.81	0.82	0.90	0.83	0.80	0.83	0.88	0.85	0.97	0.90	0.93	0.88	0.95	0.91	0.92	0.86	0.88				
s.d.	0.74	0.75	0.75	0.75	0.74	0.75	0.74	0.74	0.76	0.75	0.77	0.76	0.77	0.77	0.75	0.74	0.74	0.76	0.77	0.75				
<b>COHORT EFFECT</b>																								
Eta Sqr	0.083	0.055	0.070	0.076	0.040	0.079	0.049	0.068	0.048	0.031	0.050	0.031	0.051	0.056	0.026	0.031	0.028	0.023	0.024	0.039				
Sig.	***	***	***	***	***	***	***	***	***	***	***	***	***	***	**	***	**	*	***	***				

\* indicates p<0.001, \*\* indicates p<0.0001, \*\*\* indicates p<0.00005, ns indicates p>0.05, ? indicates 0.05>p>0.001

cohorts are “bunched together” by the forces of time. Intra-cohort difference refers to the extent to which each cohort changes from year to year. Dichotomizing each dimension and juxtaposing the two will yield a two-by-two table with the following cells:

1. Low Inter-Cohort Difference/Low Intra-Cohort Difference
2. Low Inter-Cohort Difference/High Intra-Cohort Difference
3. High Inter-Cohort Difference/Low Intra-Cohort Difference
4. High Inter-Cohort Difference/High Intra-Cohort Difference

All tolerance indicators, subject to strong enduring effects of formative experiences, fall into cell three. Most confidence indicators, dictated by contemporaneous influences, fall into cell two. The variables whose over time change patterns are mixed fall into cells in the opposite diagonal (see table below).

**TABLE 4.6**  
**DESCRIPTIVE MATRIX OF OVER TIME CHANGE PATTERNS**

<u>Intra-Cohort Difference</u>	<u>Inter-Cohort Difference</u>	
	Low	High
Low	rCONBUS rCONJUDG rCONTV	rTOLSUM rTOLSUM3 rSPKATH rSPKCOM rSPKHOMO rSPKMIL rSPKRAC
High	rCONSUM rCONSUM4 rCONFED rCONLEGI rCONPRES	rPARTY3

When employed properly, we believe this scheme can help researchers clarify their own assumptions about competing effects as well as the expected associations.

While eta statistics with individual level data have provided us the wherewithal to test the null hypothesis and the spuriousness of the obtained associations, they are poor descriptors of the shape of the data illustrated in Charts 4.1 through 4.15. Specifically, the very small eta squares for year on confidence indicators (see Appendix 4.12) do not accurately describe the sweeping changes produced by time on these indicators.

To find a better way to describe the year effect, we experimented with a procedure using aggregate level data. We first created a separate data file by aggregating individual level data into cohort-year groups, incorporating the mean for each outcome variable for each cohort-year subgroup. The relationships between cohort, year and the mean outcome variables are analyzed with ANOVA.

The underlying variance (sum of squares) for each outcome variable can be expressed as the summation of individual predictor's sum of squares plus those of the residual:

$$\text{Total (SS)} = \text{Cohort (SS)} + \text{Year (SS)} + \text{Residual (SS)}$$

Because of this quality, we can calculate the R square for each predictor variable by dividing its sum of squares by total sum of squares. (For example,

the cohort effect of year on rCONSUM = 12.01/16.15 = 0.74.) Table 4.7 summarizes our exploratory results.

These R squares show that about 90% of the over time changes in tolerance scales is attributable to cohort membership. The influence of cohort is universally strong on all tolerance indicators, with  $R^2$  of .81 to .92.

For the two confidence scales, three fourths of the over time changes are produced by the effect of year, only less than 1% by cohort. However, year does not affect all confidence indicators equally. It is the singular decisive force for confidence in federal government, the Congress, and the press, accounting for 80% of the variances. It is a lesser (albeit still dominant) contributor for confidence in big businesses, the Supreme Court, and television, accounting for about 50% of the variances.

Aided with the R square distribution in Table 4.7, we can expand our two-by-two table which describes the basic shapes of the over time change patterns into a three-by-three model which sheds additional insights into our hypotheses about effects (see Table 4.6).<sup>33</sup> Using  $R^2 = 0.10$  and 0.70 as cut off points for both cohort and year effects, we assign each variable in Table 4.6 into one of the nine cells in the enduring versus contemporaneous effect model in Table 4.8.

---

<sup>33</sup> To allow easy cross reference with the two-by-two table, we have reverted the direction of both column and row variables to go from high to low.



TABLE 4.7

EFFECTS OF COHORT AND YEAR ON TOLERANCE INDICATORS, CONFIDENCE INDICATORS, AND STRENGTH OF PARTY AFFILIATION

AGGREGATE DATA

	DF	SUM OF SQUARES				COHORT EFFECT		YEAR EFFECT	
		TOTAL	COHORT	YEAR	RESIDUAL	R Sqr	Sig.	R Sqr	Sig.
rTOLSUM	59	23.78	21.60	0.67	1.51	0.91	**	0.09	**
rTOLSUM3	64	10.11	9.05	0.45	0.61	0.89	**	0.04	?
rSPKATH	74	1.53	1.39	0.05	0.09	0.91	**	0.03	?
rSPKCOM	74	1.35	1.15	0.09	0.02	0.85	**	0.07	*
rSPKHOMO	69	1.14	0.96	0.08	0.11	0.84	**	0.07	?
rSPKMIL	59	1.42	1.31	0.04	0.07	0.92	**	0.03	n
rSPKRAC	59	0.70	0.57	0.03	0.11	0.81	**	0.04	n
rCONSUM	64	16.15	1.14	12.01	2.99	0.07	?	0.74	**
rCONSUM4	64	8.09	0.34	5.95	1.80	0.04	n	0.74	**
rCONBUS	84	0.79	0.13	0.38	0.28	0.17	**	0.48	**
rCONFED	84	1.57	0.04	1.27	0.27	0.02	n	0.81	**
rCONJUDG	84	0.65	0.07	0.33	0.24	0.11	*	0.52	**
rCONLEGI	84	1.16	0.02	0.93	0.21	0.01	n	0.80	**
rCONPRES	84	1.43	0.05	1.15	0.24	0.03	?	0.80	**
rCONTV	84	0.81	0.16	0.40	0.26	0.19	**	0.49	**
rPARTY3	94	2.71	2.03	0.36	0.31	0.75	**	0.13	**

\* indicates p<0.001, \*\* indicates p<0.0005, "n" indicates p>0.05, "?" indicates 0.05>p>0.001

**TABLE 4.8**  
**EXPANDED EFFECT MODEL**

<u>Effect of Enduring Forces</u>	<u>Effect of Contemporaneous Forces</u>		
	High	Medium	Low
High		rPARTY3	rTOLSUM rTOLSUM3 rSPKATH rSPKCOM rSPKHOMO rSPKMIL rSPKRAC
Medium		rCONBUS rCONJUDG rCONTV	
Low	rCONSUM rCONSUM4 rCONFED rCONLEGI rCONPRES		

What have we gained by using this three-by-three matrix? First of all, we gain increased clarity in our understanding of enduring versus contemporaneous effects and their interactions. Initially focusing on the two corners (left-bottom, right-top), our effect model did not necessarily allow us to account for the patterns seen in the other seven cells.<sup>34</sup> Secondly, it provides a useful scheme for researchers to specify the associations expected between nine types of outcome variables and two types of influencing forces.<sup>35</sup>

<sup>34</sup> In this particular scheme the high-high cell will be empty because we used two equally high demarcations (.70). We believe it is still a valid cell, useful when researchers investigate measurements less "archetypal" than the ones in this study.

<sup>35</sup> To test the utility of this framework we conducted a round of ANOVA using data aggregated by education and year. The results are reported in Appendix 4.13.

## CHAPTER FIVE

### DISCUSSION AND SUMMARY

Our original question was about long term social change. Conceptually, we argued that fundamental values are formed early in life and remain relatively stable through life. Changes in these indicators are slow, resulting primarily from generational replacement. Situation specific indicators, on the other hand, ought to be sensitive to the Zeitgeist. They could demonstrate rapid changes from year to year. Through comparing mean scores of cohorts over time for three types of variables, we found evidence that formative forces have enduring effects on deep seated values and that contemporaneous forces have immediate impact on specific attitudes toward the system and its players.

To satisfy our own curiosity, as well as the requirement of good scholarship, we must better understand what makes up the collective cohort experience which in turn produces lasting effect on fundamental values. One major component, as argued by Stouffer, is education. We use subsample means and regression procedures to examine the contribution of education in section A.

How do our "rational individuals" perceive the environmental cues and consequently be influenced by them? A logical hypothesis would be through mass media which organize and interpret "realities" of the time for these

individuals. Therefore we expect to find an interaction effect of media use and time. Though the media measurements in GSS are imperfect, as discussed in Chapter Two, the idea is put to test in Section B.

Aided by results of the aforementioned analyses, we constructed a set of regression models to summarize our understanding of the two types of forces on political orientations. They are discussed in section C.

#### **A. Education as a Component of Cohort Experience**

The relationships between cohort membership and tolerance indicators reported in Chapter Four are astonishing to us. Though we began this journey expecting to find strong inter-cohort differences, we did not expect such stable and consistent patterns. Neither could we find simple historical explanations for why each cohort should be more tolerant than the cohorts born before it, except perhaps the Stouffer thesis. It is argued that education is a large component of the experiences which make up the cohort differences and the corresponding value differences.

We begin examining this component hypothesis by running subsample means for education on tolerance scales. The results show that education has large effects on  $rTOLSUM$  (eta square = 0.1593,  $p < 0.00005$ ) and  $rTOLSUM3$  (eta square = 0.1744,  $p < 0.00005$ ). Within each cohort, people with different levels of education are distinctive from one another in their overall tolerance levels.

Knowing that the relationships among cohort, education, and tolerance indicators are largely linear, we chose regression procedures for the decomposition. Due to missing observations, cohorts zero, one, and seven are excluded from all analyses. Five cohort dummy variables and the original interval education variable are used. For each outcome variable, we run two regressions: one with cohort entered in step one and education in step two, the other vice versa.<sup>36</sup>

Table 5.1 summarizes the results of these regression analyses. On the top-line level, cohort is the weaker predictor of the two, accounting for about 5% of the underlying variances in rTOLSUM and rTOLSUM3.<sup>37</sup> Education effect, direct and indirect, accounts for 8% of the underlying variances for rTOLSUM and 11% for rTOLSUM3.

But we are also interested in knowing how much of the observed cohort effect is independent of education. Take rTOLSUM for example. How much of the 5% can be attributed to cohort differences other than educational? Stepwise regression allows us to estimate that. We first enter education in the equation,

---

<sup>36</sup> R square can be interpreted as the proportion of the underlying variances explained by the predictor variable. When a variable is entered in step one, the R square reflects its total effect, direct or indirect.

<sup>37</sup> It is important to note that the R squares for the cohort variable are artificially compressed in this chapter. The main reason is that cohorts zero, one, and seven are not entered into multivariate analyses due to missing observations. Without the extremes, these multivariate procedures tend to under-estimate the influence of cohort membership.

TABLE 5.1

EFFECTS OF COHORT AND EDUCATION ON rTOLSUM AND rTOLSUM3

SUMMARY OF REGRESSION RESULTS

	STEP	VARIABLE	Multiple R	R Sqr Change	Sig. of F Change
rTOLSUM	1	COHORT	0.212	0.045	***
	2	EDUC	0.316	0.055	***
	1	EDUC	0.289	0.084	***
	2	COHORT	0.316	0.016	***
rTOLSUM3	1	COHORT	0.232	0.054	***
	2	EDUC	0.361	0.077	***
	1	EDUC	0.336	0.113	***
	2	COHORT	0.361	0.018	***

\* indicates  $p < 0.001$ , \*\* indicates  $p < 0.0001$ , \*\*\* indicates  $< 0.00005$ ; "ns" indicates  $p > 0.05$ , "?" indicates  $0.05 > p > 0.001$

thus “take away” all of its direct and indirect effects. When cohort is entered next, the R square change represents how much incremental information it provides on the underlying variance. In this case, we obtain an R square change of .02 ( $p < 0.00005$ ); meaning 2% of the variation in rTOLSUM is attributable to cohort differences other than their differential education levels.

When we extend the data to include more years by using the three-item scale, we observe even stronger education effect. When entered first, education accounts for 11% of the underlying variances ( $p < 0.00005$ ). When entered second, its effect net of that through cohort, contributes to 8% of the underlying variance. However, after the effect of education is taken into account, cohort membership continues to provide incremental information on rTOLSUM3 with an R square change of .02 ( $p < 0.00005$ ).

The results suggest that education is a key component of cohort differences in rTOLSUM and rTOLSUM3. However, when we “take away” the effect of education, we do not see the already-reduced cohort effect diminish completely.<sup>38</sup> Something above and beyond education will have to explain the remainder of the cohort effect with respect to tolerance.

We looked into other third variables (e.g., gender, occupational prestige, social class) to further decompose the cohort effect. However, none of the apparent ones seem to be strongly associated with cohort membership.

---

<sup>38</sup> The cohort effect is already reduced due to the exclusion of extreme ends (cohorts zero, one, and seven). Nevertheless, the effect of (already-reduced) cohort net of education, at R square change of .02, is still larger than most total year effects obtained for this level data.

## B. The Interaction of Media Use and Time

In our conception, mass media provide the linkages necessary for the social/political environment to affect private individuals. Therefore we ought to find heavy media users more affected by contemporary events, as reflected by the year of survey, than light users.

Let us first note that this line of inquiry is pursued with caution. First of all, the media measurements are imperfect for our purpose. Ideally we would want to have measurements of use for all media and all content types, especially news sources. What GSS provides are two questions asking television viewing hours per day and times reading a newspaper per week. Secondly, media questions are only asked in some years, and sometimes only of a subset of the sample, reducing the number of valid cases by about half. However, the concept is intriguing, and one which can only be tested with long term large sample databases such as GSS.

To examine the specification hypothesis, we created a media use variable by dichotomizing the newspaper and television measurements and combining the two.<sup>39</sup> Since we do not assume the relationship to be linear, we chose ANOVA to test our interaction hypothesis.

---

<sup>39</sup> Based on the frequency distribution, television use was recoded to "high" (three hours or more daily) and "low" (one to two hours); newspaper to "high" (every day) and "low" (never to a couple of times a week). The combined rMEDIA variable has three values: "high on both media," "high on either media," or "low on both media."



Overall we find “year” to account for 3% of the underlying variances in confidence in people running political and social institutions (rCONSUM and rCONSUM4). Comparing the R squares for different media usage levels, we find the effect of “year” on confidence to be the strongest among low media users (R squares of .035 for rCONSUM and .034 for rCONSUM4, both  $p < 0.0005$ ). This is a complete reversal from our expectation.

There appears to be some support for our hypothesis insofar as the effect of “year” on rCONSUM seems greater among the high users of media than among the medium users. However, the result is due to the association between media use and confidence in media. When confidence in people running the press and television (rCONPRES and rCONTV) are excluded from the scale, in rCONSUM4, there is no longer any difference in the effect of year between high and medium users of the media. (Please see Table 5.2 for details.) Furthermore, there is no significant interaction effect of media use and the time of survey on either confidence scale (Table 5.3).

This round of analyses is reported to illustrate our logic and analytical approach. Though the results do not support our hypothesis, we would like to reserve judgment about refuting it on the grounds of the aforementioned measurement problems.

**TABLE 5.2**  
**INTERACTION EFFECT OF MEDIA**

**SUMMARY OF ANOVA RESULTS**

	DF	SUM OF SQUARES				YEAR EFFECT		COHORT EFFECT	
		TOTAL	YEAR	COHORT	RESIDUAL	R Sqr	Sig.	R Sqr	Sig.
<b>rCONSUM</b>									
TOTAL	12329	68117.80	1834.02	115.17	66168.61	0.027	**	0.002	**
<b>rMEDIA</b>									
High	1938	10160.77	308.72	33.57	9818.48	0.030	**	0.003	ns
Med	3143	16947.86	418.56	58.59	16470.71	0.025	**	0.003	?
Low	1106	5907.53	209.59	14.77	5683.17	0.035	**	0.003	ns
<hr/>									
<b>rCONSUM4</b>									
TOTAL	12329	39765.76	1033.52	87.45	38644.79	0.026	**	0.002	**
<b>rMEDIA</b>									
High	1938	5934.97	142.77	26.50	5765.69	0.024	**	0.004	ns
Med	3143	9715.18	223.65	51.29	9440.25	0.023	**	0.005	?
Low	1106	3349.87	113.93	6.94	3229.00	0.034	**	0.002	ns

\* indicates  $p < 0.001$ , \*\* indicates  $p < 0.0005$ , "ns" indicates  $p > 0.05$ , "?" indicates  $0.05 > p > 0.001$

TABLE 5.3

EFFECTS OF YEAR AND MEDIA ON rSONCUM rCONSUM4

SUMMARY OF ANOVA RESULTS

	DF	SUM OF SQUARES				YEAR EFFECT		MEDIA EFFECT		YEAR * MEDIA	
		TOTAL	YEAR	MEDIA	YEAR*MEDIA	R Sqr	Sig.	R Sqr	Sig.	R Sqr	Sig.
rCONSUM	6141	32782.17	842.75	60.84	105.438	0.026	**	0.002	?	0.003	ns
rCONSUM4	6141	18379.45	446.79	19.42	43.417	0.024	**	0.001	?	0.002	ns

\* indicates  $p < 0.001$ , \*\* indicates  $p < 0.0005$ , "ns" indicates  $p > 0.05$ , "?" indicates  $0.05 > p > 0.001$

### **C. Summary**

Our travel has brought us to many places. Let us try to pull the information gathered along the way into a map for future research.

We have found two distinctive patterns for tolerance and confidence indicators in Chapter Four. The former is overwhelmingly affected by one's formative experiences and the later by contemporaneous forces. We found a third archetype in the strength of party affiliation. There we see each cohort, set apart by its formative experiences from the others, go through its unique process of modification through life. The resulting change pattern is that of unsynchronized waves. To our surprise, we found a fourth type in confidence in the Supreme Court, where enduring forces (especially education) dictate the responses in the absence of significant contemporaneous forces.

Through multivariate analyses in this chapter, we learned that education contributes significantly to the cohort effect on tolerance. Education is a large part of the formative experiences differentiating cohorts, but there is something else operating to set cohorts apart. It is plausible that a cohort which grew up under specific social-historical conditions may hold common values and perspectives.

This investigation also established education as a quintessential force to be reckoned with when one studies political orientations. We found large effects of education on all four types of variables discussed above.

Let us present our best attempt to understand the interrelationships of these variables with a set of regressions (see Table 5.4). Here are our interpretations:

The two tolerance scales measure one's fundamental values. As such, they are first and foremost affected by education which is a key institution for the inculcation of values from generation to generation. These values, from books and formal learning, are modified by personal experiences during formative years. The effects of education and other formative experiences are strong and enduring, "fixing" how one approaches the world through life.

The confidence scales primarily measure the public's opinions about the performances of social institutions at specific times. We therefore expect and do find them to demonstrate significant year-to-year changes. These year-to-year changes may be associated with people's general awareness of events of their time, via direct experiences or vicarious learning through mass media. We have tested whether the effect of current events (as represented by the year of survey) on confidence in political and social institutions is greater among people who use the mass media heavily. Though our data do not support the hypothesis, we reserve final judgment because of our concern over the available measurements of media use.

We think one's views of social conditions (such as how institutions perform) may be affected by education in two ways. Education may supply the predispositions through which realities are being selectively perceived.

TABLE 5.4

EFFECTS OF COHORT, EDUCATION, YEAR AND MEDIA

SUMMARY OF REGRESSION RESULTS

	STEP	VARIABLE	Multiple R	R Sqr Change	Sig. of F Change
rTOLSUM	1	EDUC	0.289	0.084	***
	2	COHORT	0.316	0.016	***
	3	YEAR	0.319	0.002	**
	4	rMEDIA	0.319	0.000	ns
rTOLSUM:	1	EDUC	0.336	0.113	***
	2	COHORT	0.361	0.018	***
	3	YEAR	0.364	0.002	***
	4	rMEDIA	0.364	0.000	ns
<hr/>					
rCONSUM	1	YEAR	0.130	0.017	***
	2	rMEDIA	0.132	0.001	*
	3	EDUC	0.139	0.001	***
	4	COHORT	0.141	0.001	*
rCONSUM	1	YEAR	0.135	0.018	***
	2	rMEDIA	0.136	0.000	ns
	3	EDUC	0.159	0.007	***
	4	COHORT	0.164	0.002	***
<hr/>					
rPARTY3	1	COHORT	0.194	0.038	***
	2	YEAR	0.212	0.007	***
	3	EDUC	0.214	0.001	*
	4	rMEDIA	0.216	0.001	***

\* indicates  $p < 0.001$ , \*\* indicates  $p < 0.0001$ , \*\*\* indicates  $< 0.00005$ ; "ns" indicates  $p > 0.05$ , "?" indicates  $0.05 > p > 0.001$

Or, theoretically, as an enduring force which allows “deutero learning,” *the learning to learn*, education may be directly associated with a respondent’s up-to-dateness.<sup>40</sup>

The strength of party affiliation measures both normative and evaluative dimensions. One’s basic orientation toward partisanship may be formed and fixed by formative experiences. One’s specific action in affiliating with either party may be incited by the environment. We think education has large effects on both dimensions. Through direct conveyance of values, education influences one’s partisanship. (Part of this effect has already been captured by the cohort variable in step one.) To the extent education also affects perception of current events, it may provide incremental influence on one’s specific action of affiliating with a party. The public agenda, especially during high political sensitivity era, is brought to individuals through mass media. It is due to this correlation activity that we expect media to produce incremental effect on the strength of party affiliation.

When exploring the continuity and discontinuity of political orientations, most prior research did not make explicit distinctions between outcome variables which are more susceptible to formative forces and those more susceptible to contemporaneous influences. To investigate a conceptual structure among

---

<sup>40</sup> This concept of learning was first proposed by Bateson. In the conclusion of their 1975 study, Hyman and Wright used the concept to account for education’s lasting effect on acquisition of knowledge. However, our preliminary analysis using ANOVA did not find significant interaction of year and education on confidence. Future research would be required to draw a conclusion.

various types of outcome variables, we grouped GSS respondents by their year of birth into eight birth cohorts. Tracking these cohorts across twenty-two years (1972-1993) for a total of sixteen political orientation indicators, we discerned four distinctive change patterns, each representing a unique combination of enduring and contemporaneous effects.

The findings of this research argue convincingly for the need of a clear conceptualization of outcome variables in terms of how fundamental or situation-specific they are. Such a conceptualization is imperative when one investigates questions concerning inter-generational continuity or long-term social change.



## EPILOGUE

Robert Fulgham wrote in *All I Really Need to Know I Learned in Kindergarten* the following advice: “When you go out into the world, watch out for traffic, hold hands, and stick together. Be aware of wonders.”

What does this have to do with a dissertation about social change?

Let us assume his kindergarten kids, who form a cohort, follow his advice and embark on a field trip holding hands. (Though dangerously falsifiable, analogies are wonderful storytelling devices.) From the outset members of this cohort stick rather closely together, all conforming to (limited) shared experiences. Along the way they watch closely for traffic patterns and forks in the road. Each turn is a specific decision made with all the a priori information and the best intelligence or guesstimate for the road ahead.

Now let us multiply the cohort by six and introduce the terrain into the analogy. In the low plains, each cohort may follow its own charted course without deviation. Since they started out from different places, they may remain spread out across the landscape. When the terrain changes, however, each cohort must adapt its planned course to the new environment. In the low hills, there is some discretionary room for each cohort to maneuver independently. In the high mountains, all cohorts must congregate and follow a singular passage. They are thus “bunched together” by environmental forces.

If we chart the journey of these six cohorts for the three types of terrain separately, across about twenty-two years, we would see patterns identical to those reported in this study. The chart of the cohorts traveling in the plains would resemble that of rTOLSUM3, the one for low hills would resemble that of rPARTY3, and the one for mountains rCONSUM4.

We find this picture of continuity and change wondrous.

## APPENDIX 2.1

### QUESTION WORDING

<u>Variable</u>	<u>Wording as Appeared in the GSS 1972-93 Cumulative Codebook</u>
	I am going to name some institutions in this country. As far as the people running these institutions are concerned, would you say you have a great deal of confidence, only some confidence, or hardly any confidence at all in them? READ EACH ITEM; CODE ONE FOR EACH.
CONBUS	B. Major companies
CONFED	E. Executive branch of the federal government
CONPRESS	G. Press
CONTV	I. TV
CONJUDG	J. U.S. Supreme Court
CONLEGI	L. Congress
EDUC	What is the highest grade in elementary school or high school that you finished and got credit for?  <u>IF FINISHED 9th-12th GRADE OR DK:</u> Did you ever get a high school diploma or GED certificate?  Did you complete one or more years of college for credit--not including schooling such as business college, technical, or vocational school?  <u>IF YES:</u> How many years did you complete?  Do you have any college degrees? ( <u>IF YES:</u> What degree or degrees?)
NEWS	How often do you read the newspaper--every day a few times a week, once a week, less than once a week, or never?
PARTYID	Generally speaking, do you usually think of yourself as a Republican, Democrat, Independent, or what?
SPKATH	There are always some people whose ideas are considered bad or dangerous by other people. For instance, somebody who is against all churches and religion...  If such a person wanted to make a speech in your (city/town/community) against churches and religion, should he be allowed to speak, or not?

- SPKCOM Now, I should like to ask you some questions about a man who admits he is a Communist.
- Suppose this admitted Communist wanted to make a speech in your community. Should he be allowed to speak, or not?
- SPKHOMO And what about a man who admits that he is a homosexual?
- Suppose this admitted homosexual wanted to make a speech in your community. Should he be allowed to speak, or not?
- SPKMIL Consider a person who advocates doing away with elections and letting the military run the country.
- If such a person wanted to make a speech in your community, should he be allowed to speak, or not?
- SPKRAC Or consider a person who believes that Blacks are genetically inferior.
- If such a person wanted to make a speech in your community claiming the Blacks are inferior, should he be allowed to speak, or not?
- TVHOURS On the average day, about how many hours do you personally watch television?

APPENDIX 2.2

YEARS IN WHICH DATA WERE AVIALBEL FOR KEY MERSURMENTS

	1972	1973	1974	1975	1976	1977	1978	1980	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1993
rSPKATH	X	X	X		X	X		X	X		X	X		X	X	X	X	X	X
rSPKCOM	X	X	X		X	X		X	X		X	X		X	X	X	X	X	X
rSPKHOMO		X	X		X	X		X	X		X	X		X	X	X	X	X	X
rSPKMIL					X	X		X	X		X	X		X	X	X	X	X	X
rSPKRAC					X	X		X	X		X	X		X	X	X	X	X	X
rTOLSUM					X	X		X	X		X	X		X	X	X	X	X	X
rTOLSUM3		X	X		X	X		X	X		X	X		X	X	X	X	X	X
<hr/>																			
rCONBUS		X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
rCONFED		X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
rCONJUDG		X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
rCONLEGI		X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
rCONPRES		X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
rCONTV		X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
rCONSUM		X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
rCONSUM4		X	X	X	X	X	X	X	X	X	X		X	X	X	X	X	X	X
<hr/>																			
rPARTY3	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<hr/>																			
EDUC	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<hr/>																			
TVHOURS				X		X	X	X	X			X	X		X	X	X	X	X
NEWS		X		X		X	X		X	X		X	X	X	X	X	X	X	X
rMEDIA				X		X	X		X	X		X	X		X	X	X	X	X

**APPENDIX 4.1  
rSPKATH BY COHORT BY YEAR**

COHORT	1972	1973	1974	1975	1976	1977	1978	1980	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1993	N	Mean	s.d.	YEAR EFFECT	
																							Eta Sqr	Sig.
COH 0					0.82	0.82		0.80	0.78		0.76	0.63		0.78	0.79	0.86	0.82	0.79	0.79	771	0.79	0.41		
COH 1		0.96	0.74		0.82	0.83		0.82	0.85		0.78	0.78		0.85	0.84	0.84	0.81	0.85	0.85	2,556	0.81	0.39		
COH 2	0.86	0.87	0.81		0.82	0.83		0.82	0.85		0.82	0.79		0.82	0.84	0.85	0.85	0.85	0.80	3,598	0.83	0.37	0.004	ns
COH 3	0.78	0.76	0.72		0.71	0.67		0.73	0.72		0.75	0.78		0.68	0.66	0.77	0.71	0.75	0.79	2,469	0.73	0.44	0.007	ns
COH 4	0.72	0.71	0.70		0.61	0.58		0.66	0.65		0.62	0.56		0.61	0.63	0.64	0.72	0.63	0.62	2,349	0.65	0.48	0.011	?
COH 5	0.65	0.52	0.53		0.55	0.52		0.49	0.45		0.57	0.53		0.55	0.45	0.56	0.55	0.60	0.51	2,287	0.54	0.50	0.011	?
COH 6	0.46	0.46	0.44		0.49	0.37		0.46	0.38		0.51	0.41		0.46	0.50	0.47	0.54	0.35	0.44	1,395	0.45	0.50	0.008	ns
COH 7	0.36	0.43	0.31		0.37	0.24		0.35	0.40		0.53	0.57		0.29	0.45	0.45	0.30	0.50		368	0.38	0.49		
N	1,222	1,229	1,216		1,249	1,199		1,168	1,192		1,149	1,238		1,135	731	804	709	762	816	15,819	0.70	0.46	0.005	***
Mean	0.70	0.68	0.65		0.66	0.64		0.68	0.68		0.72	0.68		0.72	0.71	0.75	0.74	0.75	0.75	0.70				
s.d.	0.46	0.47	0.48		0.47	0.48		0.47	0.47		0.45	0.47		0.45	0.45	0.43	0.44	0.43	0.44	0.46				
<b>COHORT EFFECT</b>																								
Eta Sqr	0.100	0.120	0.097		0.080	0.117		0.092	0.118		0.054	0.074		0.087	0.102	0.088	0.072	0.086	0.078	0.089				
Sig.	***	***	***		***	***		***	***		***	***		***	***	***	***	***	***	***				

\* indicates p<0.001, \*\* indicates p<0.0001, \*\*\* indicates p<0.00005, ns indicates p>0.05, ? indicates 0.05>p>0.001

**APPENDIX 4.2  
rSPKCOM BY COHORT BY YEAR**

COHORT	1972	1973	1974	1975	1976	1977	1978	1980	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1993	N	Mean	s.d.	YEAR EFFECT	
																							Eta Sqr	Sig.
COH 0					0.73	0.68		0.66	0.65		0.66	0.68		0.72	0.71	0.74	0.77	0.84	0.84	766	0.72	0.45		
COH 1		0.73	0.67		0.73	0.68		0.66	0.65		0.66	0.68		0.72	0.71	0.74	0.77	0.84	0.84	2,534	0.72	0.45		
COH 2	0.70	0.76	0.77		0.69	0.72		0.66	0.75		0.77	0.71		0.70	0.71	0.81	0.75	0.76	0.78	3,578	0.73	0.44	0.008	?
COH 3	0.58	0.67	0.65		0.61	0.59		0.64	0.66		0.64	0.66		0.53	0.57	0.70	0.59	0.68	0.78	2,446	0.63	0.48	0.013	?
COH 4	0.52	0.66	0.63		0.51	0.59		0.54	0.52		0.54	0.45		0.56	0.54	0.52	0.69	0.55	0.63	2,332	0.56	0.50	0.015	*
COH 5	0.53	0.46	0.49		0.51	0.51		0.44	0.42		0.53	0.47		0.45	0.49	0.59	0.51	0.56	0.52	2,255	0.49	0.50	0.007	ns
COH 6	0.32	0.43	0.42		0.35	0.29		0.35	0.36		0.39	0.35		0.35	0.39	0.37	0.44	0.31	0.44	1,367	0.37	0.48	0.008	ns
COH 7	0.29	0.36	0.33		0.27	0.35		0.32	0.44		0.36	0.30		0.28	0.40	0.20	0.33	0.75		379	0.33	0.47		
N	1,219	1,212	1,196		1,235	1,182		1,158	1,178		1,135	1,219		1,129	727	795	702	756	814	15,657	0.61	0.49	0.011	***
Mean	0.54	0.61	0.61		0.56	0.58		0.57	0.59		0.63	0.59		0.60	0.63	0.69	0.68	0.70	0.73	0.61				
s.d.	0.50	0.49	0.49		0.50	0.49		0.50	0.49		0.48	0.492		0.49	0.48	0.46	0.47	0.46	0.44	0.49				
<b>COHORT EFFECT</b>																								
Eta Sqr	0.065	0.078	0.075		0.072	0.067		0.053	0.070		0.054	0.064		0.061	0.052	0.089	0.056	0.080	0.062	0.065				
Sig.	***	***	***		***	***		***	***		***	***		***	***	***	***	***	***	***				

\* indicates p<0.001, \*\* indicates p<0.0001, \*\*\* indicates p<0.00005, ns indicates p>0.05, ? indicates 0.05>p>0.001

**APPENDIX 4.3  
rSPKHOMO BY COHORT BY YEAR**

COHORT	1972	1973	1974	1975	1976	1977	1978	1980	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1993	N	Mean	s.d.	YEAR EFFECT	
																							Eta Sqr	Sig.
COH 0											0.74	0.74		0.76	0.79	0.85	0.78	0.83	0.89	771	0.81	0.39		
COH 1		0.77	0.71		0.78	0.74		0.79	0.74		0.80	0.78		0.83	0.85	0.88	0.85	0.89	0.91	2,539	0.81	0.39		
COH 2		0.84	0.82		0.76	0.79		0.75	0.83		0.85	0.78		0.83	0.84	0.87	0.81	0.83	0.84	3,258	0.81	0.39	0.008	?
COH 3		0.67	0.72		0.73	0.67		0.76	0.73		0.77	0.77		0.69	0.67	0.87	0.80	0.75	0.84	2,201	0.73	0.44	0.015	?
COH 4		0.71	0.69		0.62	0.64		0.68	0.70		0.69	0.63		0.71	0.65	0.70	0.78	0.69	0.69	2,049	0.68	0.47	0.006	ns
COH 5		0.52	0.60		0.60	0.62		0.59	0.53		0.59	0.61		0.52	0.64	0.64	0.67	0.63	0.57	1,971	0.59	0.49	0.007	ns
COH 6		0.46	0.50		0.46	0.36		0.43	0.42		0.43	0.52		0.46	0.48	0.63	0.54	0.44	0.62	1,157	0.46	0.50	0.014	ns
COH 7		0.27	0.20		0.35	0.47		0.33	0.39		0.57	0.41		0.12	0.38	0.30	0.38	0.33		300	0.32	0.47		
N		1,187	1,173		1,223	1,169		1,142	1,159		1,114	1,206		1,112	714	792	697	753	805	14,246	0.71	0.45	0.013	***
Mean		0.65	0.67		0.66	0.65		0.69	0.69		0.74	0.71		0.72	0.74	0.80	0.77	0.78	0.81	0.71				
s.d.		0.48	0.47		0.48	0.48		0.47	0.46		0.44	0.45		0.45	0.44	0.40	0.42	0.42	0.39	0.45				
<b>COHORT EFFECT</b>																								
Eta Sqr		0.100	0.090		0.061	0.066		0.061	0.076		0.073	0.043		0.096	0.071	0.078	0.045	0.077	0.082	0.074				
Sig.		***	***		***	***		***	***		***	***		***	***	***	***	***	***	***	***			

\* indicates p<0.001, \*\* indicates p<0.0001, \*\*\* indicates p<0.00005, ns indicates p>0.05, ? indicates 0.05>p>0.001

**APPENDIX 4.4  
rSPKMIL BY COHORT BY YEAR**

COHORT	1972	1973	1974	1975	1976	1977	1978	1980	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1993	N	Mean	s.d.	YEAR EFFECT	
																							Eta Sqr	Sig.
COH 0											0.67	0.62		0.64	0.71	0.74	0.71	0.72	0.77	768	0.71	0.45		
COH 1					0.75	0.73		0.68	0.65		0.67	0.72		0.72	0.68	0.76	0.66	0.73	0.82	2,464	0.71	0.45		
COH 2					0.71	0.68		0.73	0.77		0.75	0.71		0.72	0.74	0.76	0.75	0.77	0.71	2,667	0.73	0.44	0.004	ns
COH 3					0.59	0.56		0.66	0.64		0.61	0.64		0.55	0.57	0.69	0.56	0.64	0.69	1,747	0.61	0.49	0.009	ns
COH 4					0.53	0.51		0.52	0.49		0.57	0.45		0.49	0.49	0.44	0.54	0.51	0.53	1,656	0.50	0.50	0.005	ns
COH 5					0.47	0.41		0.38	0.42		0.40	0.30		0.41	0.38	0.43	0.41	0.48	0.42	1,617	0.41	0.49	0.009	ns
COH 6					0.34	0.27		0.38	0.31		0.38	0.22		0.26	0.36	0.29	0.26	0.34	0.32	898	0.32	0.47	0.012	ns
COH 7					0.37	0.28		0.30	0.00		0.33	0.15		0.17	0.40	0.27	0.20	0.75		210	0.27	0.45		
N					1,239	1,189		1,159	1,175		1,140	1,221		1,114	717	800	702	759	812	12,027	0.59	0.49	0.006	***
Mean					0.57	0.53		0.58	0.58		0.61	0.57		0.59	0.60	0.63	0.60	0.65	0.68	0.59				
s.d.					0.50	0.50		0.49	0.50		0.49	0.565		0.49	0.49	0.48	0.49	0.48	0.47	0.49				
<b>COHORT EFFECT</b>																								
Eta Sqr					0.070	0.082		0.083	0.101		0.066	0.134		0.091	0.079	0.113	0.085	0.064	0.092	0.087				
Sig.					***	***		***	***		***	***		***	***	***	***	***	***	***	***			

\* indicates p<0.001, \*\* indicates p<0.0001, \*\*\* indicates p<0.00005, ns indicates p>0.05, ? indicates 0.05>p>0.001

**APPENDIX 4.5  
rSPKRAC BY COHORT BY YEAR**

COHORT	1972	1973	1974	1975	1976	1977	1978	1980	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1993	N	Mean	s.d.	YEAR EFFECT	
																							Eta Sqr	Sig.
COH 0											0.61	0.45		0.53	0.57	0.67	0.62	0.61	0.63	762	0.59	0.49		
COH 1					0.75	0.65		0.70	0.65		0.61	0.64		0.71	0.74	0.73	0.69	0.74	0.71	2,469	0.68	0.46		
COH 2					0.77	0.73		0.74	0.78		0.75	0.70		0.73	0.77	0.72	0.76	0.76	0.69	2,666	0.74	0.44	0.004	ns
COH 3					0.71	0.68		0.68	0.75		0.62	0.71		0.65	0.55	0.71	0.64	0.66	0.73	1,730	0.68	0.47	0.009	ns
COH 4					0.58	0.61		0.64	0.64		0.56	0.48		0.55	0.59	0.55	0.59	0.51	0.55	1,647	0.58	0.49	0.010	ns
COH 5					0.54	0.51		0.52	0.47		0.49	0.47		0.58	0.51	0.55	0.55	0.55	0.47	1,600	0.52	0.50	0.005	ns
COH 6					0.47	0.41		0.47	0.44		0.48	0.35		0.51	0.61	0.48	0.56	0.52	0.46	895	0.46	0.50	0.015	ns
COH 7					0.37	0.58		0.39	0.44		0.47	0.52		0.39	0.70	0.50	0.55	0.75	211	0.47	0.50			
N					1,230	1,180		1,140	1,171		1,134	1,220		1,118	722	795	706	754	810	11,980	0.63	0.48	0.002	***
Mean					0.64	0.62		0.64	0.64		0.61	0.59		0.64	0.65	0.66	0.65	0.65	0.64	0.63				
s.d.					0.48	0.49		0.48	0.48		0.49	0.493		0.48	0.48	0.48	0.48	0.48	0.48	0.48				
<b>COHORT EFFECT</b>																								
Eta Sqr					0.064	0.044		0.041	0.060		0.033	0.055		0.031	0.042	0.032	0.023	0.040	0.032	0.036				
Sig.					***	***		***	***		***	***		***	**	*	?	*	*	***				

\* indicates p<0.001, \*\* indicates p<0.0001, \*\*\* indicates p<0.00005, ns indicates p>0.05, ? indicates 0.05>p>0.001



**APPENDIX 4.6  
rCONBUS BY COHORT BY YEAR**

COHORT	1972	1973	1974	1975	1976	1977	1978	1980	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1993	N	Mean	s.d.	YEAR EFFECT	
																							Eta Sqr	Sig.
COH 0										1.89	2.37		2.21	2.29	2.30	2.20	2.33	2.13	2.14	747	2.22	0.56		
COH 1		2.19	2.14	1.93	1.93	2.06	1.99	2.05	2.02	2.07	2.30		2.21	2.26	2.14	2.13	2.12	2.07	2.10	3,081	2.11	0.58		
COH 2		2.08	2.05	1.86	1.98	2.07	2.02	2.11	2.13	2.10	2.27		2.18	2.23	2.20	2.18	2.09	2.11	2.10	4,052	2.09	0.62	0.025	***
COH 3		2.21	2.14	2.08	2.02	2.21	2.20	2.15	2.19	2.20	2.23		2.17	2.21	2.12	2.14	2.36	1.94	2.09	2,667	2.16	0.63	0.015	*
COH 4		2.31	2.24	2.06	2.08	2.33	2.19	2.24	2.14	2.22	2.22		2.17	2.26	2.11	2.17	2.17	2.09	2.08	2,540	2.19	0.62	0.018	**
COH 5		2.42	2.36	2.06	2.11	2.28	2.17	2.24	2.22	2.12	2.30		2.19	2.44	2.18	2.19	2.26	2.12	2.17	2,375	2.23	0.64	0.030	***
COH 6		2.29	2.22	2.05	2.05	2.21	2.08	2.17	2.24	2.16	2.21		2.16	2.17	2.29	2.20	2.15	2.19	2.08	1,426	2.17	0.66	0.014	ns
COH 7		2.27	2.29	1.88	1.93	2.16	2.08	2.50	2.36	2.26	2.00		2.20	2.08	2.00	2.20	2.00	2.00		380	2.14	0.67		
N		1,165	1,187	1,161	1,199	1,162	1,175	1,130	1,148	1,234	761		1,099	1,095	747	785	670	767	783	17,268	2.15	0.62	0.014	***
Mean		2.24	2.19	2.00	2.03	2.19	2.10	2.15	2.14	2.13	2.26		2.19	2.26	2.18	2.16	2.19	2.09	2.11	2.15				
s.d.		0.62	0.67	0.66	0.68	0.62	0.62	0.65	0.60	0.62	0.60		0.56	0.59	0.60	0.58	0.59	0.58	0.56	0.62				
<b>COHORT EFFECT</b>																								
Eta Sqr		0.033	0.026	0.020	0.007	0.026	0.018	0.016	0.017	0.011	0.006		0.001	0.015	0.012	0.003	0.029	0.010	0.002	0.007				
Sig.		***	***	**	ns	***	*	?	?	ns	ns		ns	?	ns	ns	?	ns	ns	***				

\* indicates p<0.001, \*\* indicates p<0.0001, \*\*\* indicates p<0.00005, ns indicates p>0.05, ? indicates 0.05>p>0.001

**APPENDIX 4.7  
rCONFED BY COHORT BY YEAR**

COHORT	1972	1973	1974	1975	1976	1977	1978	1980	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1993	N	Mean	s.d.	YEAR EFFECT	
																							Eta Sqr	Sig.
COH 0										1.89	1.85		2.21	2.04	2.02	2.16	2.14	2.18	1.76	751	2.05	0.67		
COH 1		2.19	1.88	1.92	1.90	2.09	1.85	1.76	1.91	1.86	1.90		1.97	1.90	1.92	1.96	1.96	2.02	1.77	3,075	1.91	0.65		
COH 2		2.05	1.55	1.72	1.96	2.08	1.85	1.76	1.95	1.81	1.87		1.95	1.90	1.86	1.99	1.90	2.06	1.77	4,076	1.87	0.66	0.046	***
COH 3		2.18	1.66	1.90	1.91	2.08	1.82	1.76	1.95	1.85	1.88		2.01	1.94	1.82	1.96	2.06	1.93	1.85	2,719	1.92	0.66	0.040	***
COH 4		2.15	1.70	1.91	1.94	2.20	1.86	1.73	2.12	1.85	1.83		1.97	1.93	1.86	1.87	2.01	2.12	1.72	2,577	1.94	0.67	0.055	***
COH 5		2.24	1.81	1.84	1.89	2.15	1.90	1.68	1.98	1.83	1.97		1.99	2.06	1.87	2.06	2.05	2.01	1.73	2,454	1.95	0.70	0.048	***
COH 6		2.14	1.86	1.83	1.86	2.18	1.85	1.81	2.10	1.88	1.98		1.86	1.87	1.95	1.98	1.93	2.03	1.67	1,507	1.94	0.68	0.038	***
COH 7		2.41	1.73	1.83	1.91	2.17	1.76	2.22	2.06	1.88	1.75		2.27	1.81	2.11	1.91	2.71	2.00		408	1.99	0.73		
N		1,212	1,200	1,202	1,218	1,168	1,186	1,148	1,179	1,253	768		1,110	1,113	758	794	679	785	794	17,567	1.92	0.67	0.036	***
Mean		2.16	1.70	1.84	1.92	2.13	1.85	1.75	1.98	1.84	1.89		1.98	1.94	1.90	1.99	2.00	2.06	1.76	1.92				
s.d.		0.69	0.70	0.63	0.62	0.65	0.60	0.65	0.66	0.65	0.68		0.67	0.68	0.66	0.65	0.71	0.69	0.63	0.67				
<b>COHORT EFFECT</b>																								
Eta Sqr		0.016	0.026	0.014	0.003	0.006	0.002	0.011	0.014	0.001	0.005		0.012	0.008	0.009	0.014	0.023	0.011	0.004	0.003				
Sig.		?	***	?	ns	ns	ns	ns	?	ns	ns		ns	ns	ns	ns	?	ns	ns	***				

\* indicates p<0.001, \*\* indicates p<0.0001, \*\*\* indicates p<0.00005, ns indicates p>0.05, ? indicates 0.05>p>0.001

**APPENDIX 4.8  
rCONJUD BY COHORT BY YEAR**

COHORT	1972	1973	1974	1975	1976	1977	1978	1980	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1993	N	Mean	s.d.	YEAR EFFECT	
																							Eta Sqr	Sig.
COH 1		2.31	2.36	2.13	2.34	2.30	2.21	2.18	2.21	2.25	2.34		2.27	2.34	2.29	2.24	2.20	2.28	2.21	3,073	2.26	0.64		
COH 2		2.21	2.25	2.18	2.27	2.23	2.17	2.10	2.13	2.12	2.24		2.18	2.29	2.28	2.32	2.25	2.16	2.25	4,064	2.21	0.64	0.009	*
COH 3		2.16	2.21	2.06	2.16	2.21	2.09	1.97	2.15	2.07	2.16		2.10	2.23	2.26	2.19	2.18	2.06	2.21	2,679	2.14	0.67	0.011	?
COH 4		2.17	2.21	2.17	2.20	2.30	2.13	1.97	2.25	2.09	2.17		2.09	2.18	2.12	2.08	2.20	2.27	2.16	2,564	2.17	0.67	0.014	?
COH 5		2.16	2.14	2.12	2.24	2.25	2.13	1.93	2.13	2.14	2.26		2.07	2.27	2.09	2.24	2.29	2.21	2.06	2,388	2.15	0.69	0.017	*
COH 6		2.09	2.12	2.01	2.09	2.24	2.12	1.99	2.16	1.99	2.02		2.00	2.12	2.28	2.33	2.17	2.20	2.19	1,437	2.10	0.71	0.015	ns
COH 7		2.22	2.20	2.24	2.18	2.03	1.88	2.32	2.35	2.13	2.00		2.20	2.00	2.33	1.90	2.71	2.00		389	2.15	0.69		
N	1,193	1,181	1,181	1,187	1,164	1,169	1,126	1,165	1,247	764		1,100	1,098	748	793	670	771	783		17,340	2.19	0.67	0.008	***
Mean		2.17	2.20	2.12	2.22	2.25	2.14	2.04	2.18	2.32	2.23		2.17	2.28	2.25	2.26	2.24	2.26	2.20		2.19			
s.d.		0.68	0.68	0.71	0.71	0.64	0.66	0.68	0.64	0.64	0.66		0.65	0.66	0.65	0.65	0.67	0.65			0.67			
<b>COHORT EFFECT</b>																								
Eta Sqr	0.004	0.007	0.008	0.010	0.006	0.009	0.020	0.006	0.014	0.018		0.027	0.017	0.030	0.031	0.012	0.041	0.007		0.009				
Sig.	ns	ns	ns	ns	ns	ns	*	ns	?	?		**	?	?	*	ns	***	ns		***				

\* indicates p<0.001, \*\* indicates p<0.0001, \*\*\* indicates p<0.00005, ns indicates p>0.05, ? indicates 0.05>p>0.001

**APPENDIX 4.9  
rCONLEGI BY COHORT BY YEAR**

COHORT	1972	1973	1974	1975	1976	1977	1978	1980	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1993	N	Mean	s.d.	YEAR EFFECT	
																							Eta Sqr	Sig.
COH 0										2.11	2.10		2.21	2.10	2.18	2.19	2.12	2.12	1.69	752	2.06	0.63		
COH 1		2.42	2.10	1.86	1.85	2.02	1.86	1.72	1.89	1.84	1.95		1.97	1.94	1.97	1.95	1.89	1.89	1.63	3,090	1.89	0.60		
COH 2		2.09	1.96	1.80	1.91	1.95	1.87	1.77	1.87	1.80	1.88		1.88	1.94	1.91	1.93	1.81	1.76	1.62	4,068	1.88	0.59	0.027	***
COH 3		2.12	1.96	1.88	1.90	1.92	1.95	1.70	1.88	1.88	1.87		1.96	1.94	1.94	1.87	1.87	1.69	1.52	2,708	1.90	0.61	0.041	***
COH 4		2.10	2.00	1.93	1.91	2.11	1.91	1.69	1.96	1.88	1.85		1.96	1.97	1.77	1.85	1.93	1.89	1.58	2,588	1.92	0.63	0.040	***
COH 5		2.17	1.96	1.92	1.85	2.02	1.95	1.69	1.99	1.90	1.85		1.96	1.96	1.86	1.85	1.86	1.84	1.68	2,450	1.92	0.63	0.034	***
COH 6		2.04	1.92	1.84	1.85	1.94	1.93	1.76	1.90	1.90	1.98		1.92	2.02	1.80	2.02	1.71	1.94	1.66	1,515	1.90	0.64	0.019	?
COH 7		2.15	1.93	1.72	2.08	2.00	1.85	2.25	2.06	1.92	1.67		2.00	1.94	1.89	1.91	2.67	2.00		409	1.98	0.64		
N	1,206	1,193	1,194	1,227	1,174	1,184	1,148	1,179	1,254	770		1,119	1,106	762	806	674	783	801		17,580	1.91	0.62	0.027	***
Mean		2.12	1.97	1.86	1.89	1.99	1.91	1.73	1.91	1.86	1.89		1.96	1.97	1.93	1.95	1.90	1.88	1.62		1.91			
s.d.		0.62	0.63	0.61	0.62	0.61	0.59	0.62	0.59	0.56	0.59		0.60	0.60	0.60	0.63	0.62	0.66	0.59		0.62			
<b>COHORT EFFECT</b>																								
Eta Sqr	0.009	0.004	0.008	0.006	0.012	0.004	0.016	0.006	0.005	0.011		0.014	0.006	0.035	0.027	0.041	0.039	0.008		0.004				
Sig.	ns	ns	ns	ns	?	ns	?	ns	ns	ns		?	ns	*	?	*	**	ns		***				

\* indicates p<0.001, \*\* indicates p<0.0001, \*\*\* indicates p<0.00005, ns indicates p>0.05, ? indicates 0.05>p>0.001

**APPENDIX 4.10  
rCONPRES BY COHORT BY YEAR**

COHORT	1972	1973	1974	1975	1976	1977	1978	1980	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1993	N	Mean	s.d.	YEAR EFFECT	
																							Eta Sqr	Sig.
COH 0										2.11	2.28		1.99	2.03	1.97	1.88	2.02	1.85	1.75	750	1.92	0.68		
COH 1		2.08	2.20	2.08	2.08	2.06	2.03	2.09	2.02	1.90	2.01		1.95	1.95	1.90	1.88	1.88	1.89	1.75	3,094	1.96	0.64		
COH 2		2.12	2.16	2.13	2.17	2.16	2.02	2.07	1.98	1.90	1.93		1.92	1.95	1.94	1.91	1.87	1.89	1.63	4,092	2.01	0.65	0.040	***
COH 3		2.11	2.05	2.10	2.13	2.02	2.02	2.05	1.93	1.87	1.87		1.93	1.81	1.81	1.86	1.81	1.66	1.65	2,721	1.96	0.65	0.043	***
COH 4		2.08	2.00	2.00	2.02	2.17	2.06	1.99	1.94	1.89	1.91		1.91	1.89	1.82	1.76	1.80	1.88	1.62	2,607	1.96	0.64	0.034	***
COH 5		2.14	2.02	2.01	2.19	2.16	1.97	1.95	1.98	1.82	1.85		1.86	1.86	1.90	1.90	1.94	1.86	1.72	2,469	1.98	0.66	0.036	***
COH 6		2.13	2.00	2.02	2.05	2.11	1.98	1.99	1.90	1.89	1.89		1.87	1.98	1.86	1.95	2.00	2.09	1.70	1,522	1.99	0.66	0.019	?
COH 7		2.05	2.09	2.07	1.98	2.00	1.86	2.25	2.11	1.56	1.64		2.08	2.06	1.71	1.82	2.40	2.25	418	1.99	0.66			
N		1,216	1,209	1,189	1,236	1,181	1,204	1,152	1,185	1,262	770		1,121	1,124	756	808	671	787	802	17,673	1.98	0.65	0.027	***
Mean		2.11	2.06	2.06	2.11	2.11	2.01	2.04	1.97	1.88	1.93		1.92	1.92	1.89	1.87	1.90	1.86	1.69	1.98				
s.d.		0.61	0.66	0.66	0.67	0.64	0.63	0.64	0.62	0.60	0.65		0.66	0.65	0.66	0.65	0.63	0.66	0.63	0.65				
<b>COHORT EFFECT</b>																								
Eta Sqr		0.002	0.011	0.006	0.010	0.009	0.004	0.009	0.005	0.009	0.017		0.003	0.010	0.006	0.005	0.017	0.019	0.007	0.001				
Sig.		ns	?	ns	ns	ns	ns	ns	ns	ns	ns		ns	ns	ns	ns	ns	?	ns	*				

\* indicates p<0.001, \*\* indicates p<0.0001, \*\*\* indicates p<0.00005, ns indicates p>0.05, ? indicates 0.05>p>0.001

**APPENDIX 4.11  
rCONTV BY COHORT BY YEAR**

COHORT	1972	1973	1974	1975	1976	1977	1978	1980	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1993	N	Mean	s.d.	Eta Sqr	Sig.
COH 1		1.96	2.20	2.03	2.04	1.98	1.86	1.86	1.83	1.81	1.90		1.91	1.81	1.86	1.82	1.78	1.82	1.74	3,104	1.86	0.64		
COH 2		1.96	2.07	1.96	1.90	1.83	1.76	1.81	1.79	1.77	1.78		1.82	1.70	1.78	1.82	1.81	1.74	1.64	4,100	1.83	0.63	0.028	***
COH 3		1.92	2.01	1.86	1.91	1.80	1.80	1.79	1.80	1.82	1.70		1.79	1.72	1.84	1.71	1.82	1.70	1.69	2,736	1.82	0.63	0.019	***
COH 4		1.93	1.97	1.87	1.79	1.95	1.82	1.83	1.85	1.84	1.85		1.81	1.84	1.85	1.64	1.85	1.73	1.66	2,606	1.85	0.63	0.016	**
COH 5		1.95	2.01	1.97	1.89	2.00	1.77	1.98	1.95	1.84	1.74		1.91	1.91	1.90	1.88	1.88	1.82	1.70	2,482	1.90	0.65	0.017	**
COH 6		1.95	2.03	1.86	1.89	1.93	1.78	1.96	1.95	1.99	1.87		1.73	1.98	1.93	1.85	2.00	1.97	1.93	1,541	1.92	0.67	0.013	ns
COH 7		1.98	2.10	1.91	2.00	1.79	2.02	2.19	1.95	1.75	1.58		2.07	1.75	2.00	1.82	2.17	2.25	418	1.96	0.64			
N		1,218	1,210	1,199	1,237	1,188	1,192	1,160	1,194	1,260	772		1,121	1,124	767	809	690	793	806	17,740	1.86	0.64	0.012	***
Mean		1.95	2.03	1.92	1.90	1.90	1.80	1.87	1.85	1.82	1.81		1.85	1.80	1.86	1.82	1.85	1.81	1.72	1.86				
s.d.		0.64	0.63	0.64	0.67	0.65	0.64	0.65	0.62	0.62	0.62		0.64	0.61	0.63	0.63	0.63	0.64	0.63	0.64				
<b>COHORT EFFECT</b>																								
Eta Sqr		0.008	0.007	0.007	0.009	0.014	0.007	0.015	0.009	0.007	0.026		0.012	0.019	0.007	0.025	0.014	0.020	0.012	0.003				
Sig.		ns	ns	ns	ns	?	ns	?	ns	ns	?		ns	?	ns	?	ns	?	ns	***				

\* indicates p<0.001, \*\* indicates p<0.0001, \*\*\* indicates p<0.00005, ns indicates p>0.05, ? indicates 0.05>p>0.001

APPENDIX 4.12

EFFECTS OF COHORT AND YEAR ON TOLERANCE INDICATORS, CONFIDENCE INDICATORS, AND THE STRENGTH OF PARTY AFFILIATION

	BY 10-YEAR BIRTH COHORT						BY YEAR OF SURVEY					
	N	MEAN	S.D.	Eta Sqr	(R Sqr)	Sig.	N	MEAN	S.D.	Eta Sqr	(R Sqr)	Sig.
rTOLSUM	11,380	3.34	1.83	0.100	0.085	***	11,490	3.33	1.83	0.011	0.009	***
rTOLSUM3	13,969	2.05	1.17	0.101		***	14,155	2.04	1.18	0.014	0.012	***
rSPKATH	15,813	0.70	0.46	0.089	0.079	***	16,095	0.69	0.46	0.007	0.005	***
rSPKCOM	15,657	0.61	0.49	0.065	0.061	***	15,944	0.61	0.49	0.012	0.008	***
rSPKHOMO	14,246	0.71	0.45	0.074	0.068	***	14,443	0.71	0.46	0.015	0.014	***
rSPKMIL	12,027	0.59	0.49	0.087	0.080	***	12,154	0.59	0.49	0.007	0.005	***
rSPKRAC	11,980	0.63	0.48	0.036	0.026	***	12,110	0.63	0.48	0.002		***
rCONSUM	16,360	12.02	2.34	0.004		***	16,560	12.03	2.34	0.024		***
rCONSUM4	16,563	8.18	1.80	0.006		***	16,769	8.18	1.80	0.026		***
rCONBUS	17,268	2.15	0.62	0.007	0.002	***	17,507	2.15	0.62	0.014		***
rCONFED	17,567	1.92	0.67	0.003		***	17,833	1.92	0.67	0.036		***
rCONJUDG	17,340	2.19	0.67	0.009	0.006	***	17,579	2.19	0.67	0.008	0.001	***
rCONLEGI	17,580	1.91	0.62	0.004		***	17,844	1.91	0.62	0.027		***
rCONPRES	17,673	1.98	0.65	0.001		***	17,950	1.98	0.65	0.027	0.023	***
rCONTV	17,740	1.86	0.64	0.003		***	18,013	1.86	0.64	0.002	0.007	***
rPARTY3	22,489	0.88	0.75	0.039	(0.034)	***				0.004		***

\*\*\* p<0.00005

APPENDIX 4.13

EFFECTS OF EDUCATION AND YEAR ON TOLEARNCE INDICATORS, CONFIDENCE INDICATORS, AND STRENGTH OF PARTY AFFILIATION

AGGREGATE DATA

	DF	SUM OF SQUARES				rEDUC EFFECT		YEAR EFFECT	
		TOTAL	rEDUC	YEAR	RESIDUAL	R Sqr	Sig.	R Sqr	Sig.
rTOLSUM	35	21.76	21.27	0.28	0.22	0.98	**	0.01	?
rTOLSUM:	38	10.40	10.18	0.14	0.07	0.98	**	0.01	?
rSPKATH	41	1.24	1.20	0.02	0.02	0.97	**	0.02	?
rSPKCOM	41	1.51	1.47	0.03	0.01	0.97	**	0.02	*
rSPKHOM	38	1.00	0.96	0.02	0.01	0.97	**	0.02	*
rSPKMIL	35	1.03	1.00	0.02	0.01	0.97	**	0.02	?
rSPKRAC	35	0.51	0.44	0.02	0.05	0.87	**	0.04	ns
rCONSUM	50	9.28	0.36	8.01	0.91	0.04	?	0.86	**
rCONSUM:	50	6.22	1.49	4.04	0.68	0.24	**	0.65	**
rCONBUS	50	0.58	0.25	0.24	0.10	0.43	**	0.41	**
rCONFED	50	0.95	0.06	0.78	0.11	0.06	?	0.83	**
rCONJUD	50	0.66	0.41	0.17	0.07	0.63	**	0.26	**
rCONLEG	50	0.63	0.02	0.54	0.08	0.03	n	0.85	**
rCONPRE	47	0.52	0.03	0.45	0.04	0.06	**	0.86	**
rCONTV	47	0.49	0.24	0.20	0.06	0.49	**	0.40	**
rPARTY3	41	0.40	0.19	0.15	0.06	0.48	**	0.36	**

\* indicates p<0.001, \*\* indicates p<0.0005, "ns" indicates p>0.05, "?" indicates 0.05>p>0.001

## BIBLIOGRAPHY

- Abramson, Paul R. 1976. "Generational Change and the Decline of Party Identification in America: 1952-1974." *American Political Science Review* 70:469-78, 1976.
- \_\_\_\_\_. 1977. *The Political Socialization of Black Americans: A Critical Evaluation of Research on Efficacy and Trust*. N.Y.: Free Press, 1977.
- \_\_\_\_\_. 1979. "Developing Party Identification: A Further Examination of Life Cycle, Generational, and Period Effects." *American Journal of Political Science* 23:78-96.
- \_\_\_\_\_. 1990. "The Decline of Over-Time Comparability in the National Election Studies." *Public Opinion Quarterly* 54:177-190.
- Arterton, F. C. 1974. "The Impact of Watergate on Children's Attitudes Toward Political Authority." *Political Science Quarterly* 89:269-288.
- Berelson, B. R., P. F. Lazarsfeld, and W. N. McPhee. 1954. *Voting*. Chicago: University Of Chicago Press.
- Bobo, Lawrence, and Frederick C. Licari. 1989. "Education and Political Tolerance: Testing the Effects of Cognitive Sophistication and Target Group Effect." *Public Opinion Quarterly* 53:285-308.
- Bobrow, David and Neal E. Cutler. 1968. "Time-Oriented Explanations of National Security Beliefs: Cohort, Life-Stage and Situation." *Peace Research Society (International) Papers*, 8.
- Butler, D. and D. Stokes. 1969. "Patterns in Change." in *Political Change in Britain*. London: MacMillan.
- Campbell, Angus, Philip E. Converse, Warren E. Miller, and Donald E. Stokes. 1960. *The American Voter*. New York: John Wiley.
- Chaffee, Stevn H., Scott Ward, and Leonard P. Tipton. 1970. "Mass Communication and Political Socialization." *Journalism Quarterly* 47:647-659, 666.

- Chaffee, Steven H., J. M. McLeod, and D. B. Wackman. 1973. "Family Communication Patterns and Adolescent Political Participation." In Dennis, Jack (ed.) *Socialization to Politics: A Reader*. New York: J. Wiley.
- Chaffee, Steven H., Marilyn Jackson-Beek, Jean Durall, and Donna Wilson. 1977. "Mass Communication in Political Socialization." In Renshon, Stanley Allen (ed.) *Handbook of Political Socialization: Theory and Research*. New York: Free Press.
- Converse, P. E. 1964. "The Nature of Belief Systems in Mass Publics." In D. E. Apter (ed.) *Ideology and Discontent*. NY: Free Press.
- \_\_\_\_\_. 1976. *The Dynamics of Party Support: Cohort-Analyzing Party Identification*. Sage Library of Social Research, Vol. 35. Beverly Hills and London: Sage.
- Corey, S. M. 1937. "Professed Attitudes and Actual Behavior." *Journal of Educational Psychology* 28:271-280.
- Cutler, Neal E. 1968. *The Alternative Effects of Generations and Aging Upon Political Behavior: A Cohort Analysis of American Attitudes Toward Foreign Policy 1946-66*. Oak Ridge, Tennessee: Oak Ridge National Laboratory.
- \_\_\_\_\_. 1977. "Political Socialization Research as Generational Analysis: The Cohort Approach Versus the Lineage Approach." In Renshon, Stanley Allen (ed.) *Handbook of Political Socialization*. New York: Free Press.
- Cutler, Stephen J. and Robert L. Kaufman. 1975. "Cohort Changes in Political Attitudes: Tolerance of Ideological Non Conformity." *Public Opinion Quarterly* 39:69-81.
- Davis, James A. 1975. "Communism, Conformity, Cohorts, and Categories: American Tolerance in 1954 and 1972-73." *American Journal of Sociology* 81: 491-513.
- Davis, James A., and Tom W. Smith. 1989. *General Social Surveys, 1972-1989: Cumulative Codebook*. Chicago: NORC.
- Davis, James A. 1992. "Changeable Weather in a Cooling Climate Atop the Liberal Plateau: Conversion and Replacement in Forty-Two General Social Survey Items, 1972-1989." *Public Opinion Quarterly* 56:261-306.

- Dawson, R. E. and K. Prewitt. 1969. *Political Socialization*. Boston: Little Brown.
- Easton, D. and J. Dennis. 1969. *Children in the Political System: Origins of Political Legitimacy*. New York: McGraw-Hill.
- Glenn, Norval D. 1977. *Cohort Analysis*. Sage University Paper Series, Series No. 07-005. Beverly Hills and London: Sage.
- Green, Donald Philip, and Lisa Michele Waxman. 1987. "Direct Threat and Political Tolerance: An Experimental Analysis of the Tolerance of Blacks Toward Racists." *Public Opinion Quarterly* 51:149-165.
- Greenley, A. M. 1975. "A model of Ethnic Political Socialization." *American Journal of Political Science* 2:187-206.
- Greenstein, Fred, I. 1965. "The Benevolent Leader: Children's Image of Political Authority." *American Political Science Review* 54:934-43.
- Hershey, M. R. and D. B. Hill. 1975. "Watergate and Preadults' Attitudes Toward the President." *Journal of Politics* 19:703-726.
- \_\_\_\_\_. 1975. "The Benevolent Leader Revisited: Children's Images of Political Leaders in Three Democracies." *American Political Science Review* 69:1371-1398.
- Hyman, Herbert H. 1959. *Political Socialization*. Glencoe: Free Press.
- \_\_\_\_\_. 1972. *Secondary Analysis of Sample Surveys: Principles, Procedures, and Potentialities*. New York: John Wiley.
- Hyman, Herbert H. and Charles R. Wright, and John Shelton Reed. 1975. *The Enduring Effects of Education*. Chicago: University of Chicago Press.
- Hyman, Herbert H. and Charles R. Wright. 1979. *Education's Lasting Influence on Value*. Chicago: University of Chicago Press.
- Holsti, Ole R. and James N. Rosenau. 1980. "Does Where You Stand Depend on Where You Were Born? The Impact of Generation on Post-Vietnam Foreign Policy Beliefs." *Public Opinion Quarterly* 44: 1-22.
- Jaros, D., H. Hirsch, and F. J. Fleron. 1968. "The Malevolent Leader: Political Socialization in An American Subculture." *American Political Science Review* 62:564-575.



- Jennings, M. K. and R. G. Niemi. 1973. "The Transmission of Political Values from Parent to Child." In Dennis, Jack (ed.) *Socialization to Politics: A Reader*. New York: John Wiley.
- \_\_\_\_\_. 1974. *The Political Character of Adolescence: The Influence of Families and Schools*. Princeton: Princeton University Press.
- \_\_\_\_\_. 1975. "Continuity and Change in Political Orientations: A Longitudinal Study of Two Generations." *American Social Science Review* 69:1316-1335.
- Katz, E. and P. F. Lazarsfeld. 1955. *Personal Influence*. Glencoe: Free Press.
- Lang, Kurt and Gladys E. Lang. 1971. "The Mass Media and Voting." in Schramm, Wilbur and Donald F. Roberts (eds.) *Process and Effects of Mass Communication*. Revised edition. Urbana: University of Illinois Press.
- Klapper, J. 1960. *The Effects of Mass Communication*. New York: Free Press.
- Lapierre, R. T. 1934. "Attitudes Versus Actions." *Social Forces*: 230-37.
- McClosky, Herbert and Alide Brill. 1983. *Dimensions of Tolerance*. New York: Russel Sage Foundation.
- McCombs, Maxwell E. 1981. "The Agenda-Setting Approach." in Nimmo, Dan D. and Keith R. Sanders (eds.) *Handbook of Political Communication*. Beverly Hills, London: Sage.
- Marsh, David. 1971. "Political Socialization: The Implicit Assumptions Questioned." *British Journal of Political Science* 1:453-465.
- Mueller, John. 1988. "Trends in Political Tolerance." *Public Opinion Quarterly* 52:1-25.
- Niemi, R. G. and B. I. Sobieszek. 1977. "Political Socialization." *Annual Review of Sociology* 3:209-233.
- Nunn, Clyde Z., Harry J. Crockett, and J. Allen Williams. 1978. *Tolerance for Nonconformity*. San Francisco: Jossey-Bass.
- Page, Benjamin I. and Robert Y. Shapiro. 1982. "Changes in Americans' Policy Preferences, 1935-1979." *Public Opinion Quarterly* 46:24-42.

- Putnam, Robert. 1995. "Tuning In, Tuning Out: The Strange Disappearance of Social Capital in America." (Manuscript) The 1995 Ithiel de Sola Pool Lecture, American Political Science Association.
- Smith, Tom W. 1990. "Liberal and Conservative Trends in the United States Since World War II." *Public Opinion Quarterly* 54:479-507.
- Stouffer, Samuel A. 1955. *Communism, Conformity, and Civil Liberties*. New York: Doubleday.
- Sullivan, John L., James Piereson, and George E. Marcus. 1979. "An Alternative Conceptualization of Political Tolerance: Illusory Increases 1950s-1970s." *American Political Science Review* 73:781-94.
- Sullivan, John L., George E. Marcus, Stanley Feldman, and James E. Piereson. 1981. "The Sources of Political Tolerance: A Multivariate Analysis." *American Political Science Review* 75:92-106.
- Wilson, Thomas. 1994. "Trends in Tolerance Toward Rightist and Leftist Groups, 1976-1988." *Public Opinion Quarterly* 58:539-556.
- Wright, Charles R. 1986. *Mass Communication: A Sociological Perspective*. Third edition. New York: McGraw-Hill.