

**An Experiment on Political Talk Radio:
The Consequences of Exposure to Liberal, Conservative, and Two-sided Talk**

A Report of

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by

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and

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SUMMARY OF FINDINGS

During the week of May 12-18, 1996, more than 400 people in the Philadelphia metropolitan area were recruited to participate in research evaluating radio programs. They were randomly assigned to six different listening groups. A Control group heard non-political call-in shows (including NPR's "Car Talk"); another heard NPR's TOTN; a third, only Rush Limbaugh; a fourth, conservative hosts other than Limbaugh; a fifth liberal hosts; and a sixth a combination of liberal hosts and conservative hosts (including Limbaugh). Everyone listened to five hours of programming, one hour per day for a week. The five types of political talk radio (PTR) each treated the same five topics in the same order: the Muslim religion and the case of Abdul Mahmoud Rauf; the flat tax; race and especially affirmative action; problems in public education; doctor-assisted suicide. Participants were surveyed before and after on a variety of issues related to social attitudes, perceptions of the programs and hosts, participation in political matters, and knowledge of politics and social issues.

Each listening group had equal numbers of liberals, conservatives and moderates, and had people with and without prior experience listening to PTR. However, the sample was more democratic, more liberal, more educated, and heavier consumers of PTR than a random sample would have been. The subjects were like the Philadelphia metropolitan area in terms of political party and like heavy consumers of PTR in terms of education.

Although PTR has become one of the most common programming formats in radio and one of the more controversial, little is known about its consequences. Much of our information is either anecdotal or based on survey results where the directions of causality are impossible to know. By randomly assigning liberals and conservatives to types of PTR, our study helps untangle what people bring with them to PTR from the consequences PTR may have on its listeners.

1. **PREFERENCE FOR SIMILAR VIEWS.** In general, people evaluate programs with ideologies different from their own as disliked and dishonest. This is especially true of those with the most experience with PTR. Those with less experience are less likely to react as negatively to ideologically different shows. Because everyone recognizes Rush Limbaugh's name and has an opinion about his show, liberals find it dishonest and do not like it regardless of their previous experience with talk radio.
2. **NEW LISTENERS ARE MORE OPEN.** Those with little experience listening to PTR and little knowledge of hosts are more likely to offer positive evaluations of ideologically dissimilar content.
3. **LISTENERS EVALUATE PROGRAMS SEPARATELY FROM HOSTS.** Listeners separate their evaluations of programs from their evaluations of hosts. People listening to Limbaugh and Liddy gave more favorable evaluations to those hosts than people hearing programs with other hosts. Liberals and conservatives were alike in separating their judgments of hosts and programs.
4. Conservatives hearing Limbaugh for the first time had the most positive reactions to him. Liberals with some prior PTR experience evaluated Limbaugh more positively after hearing him than other liberals who heard other hosts.
5. **TALK RADIO DOES NOT JUST REINFORCE, BUT CAN CHANGE ATTITUDES AS WELL.** Direct persuasion implies that a given message on a topic affects all listeners equally rather than affecting one group differently from another. The arguments presented by PTR hosts and their callers can affect attitudes of various listener groups. The size of the effects varies. Attitudes toward affirmative action and black responsibility for economic conditions were not affected at all while messages from partisan hosts influenced changes in liberals and conservatives on a variety of other issues from education to assisted suicide to the flat tax. The sizes of these changes were not large ranging from roughly 1% to about 8% at the highest. At the same time, these apparently small effects result from only one hour of discussion culled from five hours of exposure over a week's time on a variety of topics. The directions of changes induced by PTR persuasion are generally in line with the ideologies and arguments the hosts typically make. Hosts with more conservative positions tend to induce conservative positions and liberal hosts more liberal positions.

6. In addition to direct persuasion, people also exhibited biased processing and boomerang reactions. Biased processing refers to the appeal certain arguments will have for certain audiences. For example, an argument that the flat tax will reduce the overall size of a government bureaucracy such as the IRS should appeal to conservatives, increasing the likelihood they will favor the flat tax. It may not move liberals one way or the other. The result would be a change in conservatives who attend to and accept this argument and no change in liberals who essentially ignore it.
7. Boomerang effects refer to the active rejection and counter-arguing that some arguments could create. For example, liberals hearing that the flat tax could lead to a dismantling of the IRS might conclude that this would lead to cuts in federal government services that are socially important. The result may be that liberals would become even more unfavorable toward the flat tax, boomeranging away from the initial message. Attitudes exhibiting biased processing, boomerang, or both include Black leaders and institutions, Goals 2000, evaluations of Dr. Kevorkian as “Dr. Death vs. St. Jack,” and capital gains. The conditions promoting biased processing and boomerang versus direct persuasion remain unclear.
8. **UNDER SOME CONDITIONS, TALK RADIO CAN POLARIZE AUDIENCES.** Biased processing alone can produce polarization among groups but in combination with boomerang, the polarization will be more pronounced. Polarization is part of the basis for social separation and intergroup conflict. We have little understanding of the conditions under which polarization will occur and when uniform change will result instead. As partisan sources continue to exert influence on social values and attitudes and the sources continue to proliferate, we need to understand the conditions promoting polarization and consensus.
9. Discussion of affirmative action, Black responsibility, and the condition of African-Americans by PTR hosts produced no changes in audiences’ attitudes. However, the priority of racial issues on the national agenda was affected by PTR exposure but not in simple ways. Program credibility and program content determined changes in priority – not just exposure to the topic. Those rating conservative programs low in credibility raised the priority they attributed to racial issues (contrary to the hosts’ message) while those rating the programs high in credibility lowered the issue’s importance.
10. **POLITICAL INVOLVEMENT WAS NEITHER CREATED NOR SUPPRESSED.** There was no consistent or strong evidence in this study that PTR energized its listeners to action on issues discussed. Liberals were not spurred to action after hearing Limbaugh’s messages against their favored positions nor were conservatives after hearing liberal counterpoint. If anything, ideological groups maintained levels of projected involvement or declined some.
11. **CONSERVATIVES AND REGULAR TALK RADIO LISTENERS ARE CYNICAL ABOUT MAIN STREAM NEWS.** Conservatives evaluate main stream newspapers and television news unfavorably and as unfair and unbalanced in comparison to liberals. The same is true of regular listeners to PTR compared those who listen occasionally or never. Conservatives and regular listeners are more cynical about the main stream media.
12. **CONSERVATIVES WERE MORE CYNICAL ABOUT GOVERNMENT BUT EXPOSURE TO LIMBAUGH TEMPERED THAT.** Conservatives in the control group were more cynical about government than liberals and moderates. After listening to Limbaugh, conservatives’ cynicism was less and liberals’ more than those in the control. After listening to liberal PTR, liberals and conservatives were as cynical as their counterparts in the control.
13. **REGULAR TALK RADIO LISTENERS KNOW MORE ABOUT POLITICS AND FOLLOW IT MORE CLOSELY THAN THOSE WHO LISTEN LITTLE.** At every level of education, participants who listened to PTR three or more times per week had higher levels of civics knowledge, more knowledge about social and political issues, more ideologically-based political knowledge, and were closer followers of specific and general issues related to politics and social affairs than those who listened less frequently. However, radio listening was not linked to the quality or depth of arguments made about the fairness doctrine or the minimum wage debate.

14. Listeners to PTR were not impressed with the quality of information they received, feeling no better informed than those who listened to non-political talk shows. The exception was the topic of affirmative action where conservatives felt better informed in the control than the PTR groups while liberals had the reversed impressions.
15. TALK RADIO INTERFERED WITH RECALL OF SURROUNDING POLITICAL NEWS AND ADS. PTR did not help listeners recall information from news stories occurring during the programs. In fact, it may have interfered. When the news stories were on topics discussed during the week's programming, the interference was less pronounced than for non-redundant topics. Only those who heard Limbaugh's show had better recall of news items than was the case for the control.
16. For political ads, recall accuracy is depressed for those exposed to political as opposed to non-political PTR. Yet, conservatives recalled more political ads after listening to Limbaugh than other conservatives did from other PTR while liberals recalled fewer.
17. LISTENERS MISREMEMBER WHAT THEY HEAR DEPENDING ON THEIR OWN IDEOLOGY AND THAT OF THE SURROUNDING SHOW. Personal ideology and program ideology may influence the interpretations people make of political messages. Liberals who listened to Limbaugh produced interpretations of a Republican substitute for the minimum wage (the Earned Income Tax Credit) differently from that adopted by other liberals seeing it as unnecessary big government. Liberals also behaved like moderates and conservatives in incorrectly recalling more conservative ads during Limbaugh's show than other shows. Liberals tended to assume (incorrectly) that liberal ads would not be occurring during Limbaugh's show even though they did not tend to make the same error when listening to conservative shows. People may interpret what they hear in PTR differently depending on their own ideologies and the ideologies they impute to hosts and programs. Because Rush Limbaugh is so well known, his program and its partisan attitudes and conservative ideology are confidently assumed by the audience.

During the week of May 12-18, 1996, more than 400 people in the Philadelphia metropolitan area participated in research evaluating radio programs. They were offered a cash payment for their participation. Involvement required them to listen to five hours of political talk radio taken off the air. People were randomly assigned to listen to one or another type of PTR ranging from non-political talk (such as NPR's "Car Talk" to the highly partisan Rush Limbaugh). They were surveyed before and after on a variety of issues related to social attitudes, perceptions of the programs and hosts, participation in political matters, and knowledge of politics and social issues.

Although PTR has become one of the most common programming formats in radio today, and one of the most controversial, little is known about its consequences. Much of our information is either anecdotal or based solely on survey results where the directions of causality are impossible to know. Is PTR a polarizing force for social attitudes in modern political media or is it little more than entertainment, easily ignored? Does the audience of PTR add to its political knowledge base because of its listening or is listening a typical behavior of an already knowledgeable audience? Is the message and attitude of PTR hosts an attractive one to those with no prior exposure or do they contain the seeds of their own rejection? Does PTR influence by altering the audience's interpretation or by directly manipulating attitudes?

To answer these and other questions an experiment was undertaken. In the experiment, people listened to five hours of audio tapes --one each day -- which we gave them. The tapes had been pre-recorded with various types of political talk radio content spanning the spectrum from liberal to conservative. Our intent was to simulate exposure to political talk radio of different types for people who had had experience with PTR and for people who had not. We were especially interested in the effects of different types of PTR on people of different political stripes and with differential experience with the format. One of the problems with survey studies of PTR is that the audience that listens to a particular host self selects the program on the basis of content, whether the content is actually sampled by the listener or just presumed. One cannot easily know if the audience is affected by the content or is already disposed toward the host's views and chooses to become a regular member of the listening audience.

An experiment allows us to see if people who would not normally listen to a particular host -- whether liberals listening to Rush Limbaugh or conservatives listening to Mario Cuomo -- are repulsed by or attracted to the contrary voice. The experimental context also allows the possibility of studying change, -- toward the host, issues, and change in the sense of sense of acquiring information. In many surveys, attempts to study the effects of information are stymied either by the fact that the data are cross-sectional and so no real change is observed or when the data are temporal the issues simply are too stable to exhibit actual change. Experiments offer the opportunity to raise and answer questions that can only be approximated in the survey context.

At the same time experiments create other methodological problems. Most experiments suffer from problems with generalizability. This means that their participants are often unlike the general population or the conditions of the experimental are unnatural or the stimuli used are atypical and so on. We discuss these problems below.

Participants

People were recruited to participate for pay (\$70) in a study purportedly about the evaluation of radio formats. We solicited participants in a variety of ways including newspaper advertisements, ads on radio stations (both news and weather only and talk radio stations), and at a booth at a health fair sponsored by a local talk radio station. Interested parties called an 800 number and were interviewed electronically to get basic information about radio usage (all types), education, party affiliation, race, ideological leanings, and gender. People were selected from those who called in to maximize generalizability of the sample. The Philadelphia area is heavily African American and democratic. We tried to create a sample that included both heavy listeners and non-listeners at all points on the political continuum. It was less important to us to make sure that the sample was nationally representative and more important that it represented the full range of listeners and the full range of political ideology.

Over 400 people agreed initially to be in our study (N=442). They were to be paid \$70 upon completion. Some 19 people only completed the first questionnaire and then dropped out. The drop-outs

were distributed roughly equally across the six conditions (χ^2 (df=5, N=442) = 6.18, $p = .29$). The remaining 423 became our experimental sample. Their average age was 41 years; 41.4 % were male; 46.8 % had never been married; modal income was 30 to 50,000 dollars per year for the household; 3.8 % were Hispanic or Latino, 11.3 % African-American, 83.2 % Caucasian, and 5.2 % Asian and other. The group was predominantly democrat (43 %) with 20.6 % Republican, and 34 % independents. Those identifying themselves as ideologically moderate dominated the group (44.9 %) with liberals next (37.8 %), and conservatives fewest (15.9 %). The sample was highly educated with 41.8 % having at least a college degree and 28.8 % some college; 19.2 % had a high school degree or less. Both heavy and light consumers of PTR were represented with 46.8 % listening at least 3 times per week, 42.7 % participating two or fewer days per week.

Our sample shows the biases of the Philadelphia area being more democratic and liberal than national norms. It also shows the biases of PTR listeners who tend to be better educated and have somewhat higher incomes.

Design and Procedure

The design of the experiment was simple. Participants were randomly assigned to one of six conditions. The conditions were created to try to span the ideological spectrum of PTR from liberal to conservative. Each person received five one hour tapes and an initial questionnaire. After filling out the survey and mailing it back to us, they were to listen to one tape a day for five consecutive days. Anyone needing a tape player was provided one to keep and their payment was reduced by 20 dollars. On Saturday at the week's end, everyone came to the Annenberg School for a final session. They filled out a questionnaire, watched a brief debate taken from C-SPAN on the minimum wage (then being debated in Congress), and read a brief two-sided op-ed on school vouchers taken from USA Today. There were two versions of the final questionnaire – one which used a pro-con order on the school voucher op-eds and the other which used the con-pro order. Everyone was de-briefed, joined our staff for refreshments, and conversed about the study and PTR in general.

Six conditions were created on the basis of the kind of PTR talk radio people received. The six groups were:

- Group 1: Control (talk radio which was not political)
- Group 2: Conservative PTR (not including Rush Limbaugh)
- Group 3: Liberal PTR
- Group 4: Rush Limbaugh
- Group 5: Conservative and Liberal Mix (taken from groups 2, 3, and 4)
- Group 6: Talk of the Nation (NPR's political talk radio show).

The design then is a 1 X 6 factorial with pre and post measures and a control group.

People were led to believe that this was a study of radio formats and that we were interested in their evaluations of various types of radio. To encourage this perception, we asked a variety of questions in the initial electronic interviews about their familiarity with different kinds of radio including music, weather and traffic, politics, and news. These questions were reinforced in the first survey by asking about different radio formats and personalities including some local hosts.

Participants were randomly assigned to condition except that we tried to insure an equal distribution across conditions of regular and infrequent listeners and conservatives and liberals. Random assignment was successful. There were no mean differences across condition on income, age, education, or ideology ($p > .20$ in all cases); neither were there any differences in the variance of these measures across conditions. Similarly, political party, frequency of listening to news on radio, frequency of talk radio listening, strength of party identification, Latino or not, race, gender, whether there are children, and marital status were equally distributed across the six conditions (no χ^2 had a probability less than .59).

In order to determine how closely participants abided by our instructions, we asked a series of follow up questions. Of the 423, 411 listened to all five tapes with 9 others listening to 3 or 4. Everyone was kept in the sample because the 1 person listening to only 1 tape was in the control. Eighty six per cent listened to one tape per day as instructed with the remainder listening to two or more tapes per day.

People were asked to listen to each tape from beginning to end and 56.5% complied; of the remainder who started and stopped, 56% hardly ever did so. Over 99% listened to all or almost all of every tape. One person admitted to listening to some tape before filling out the first survey. For the most part people listened around the house (63.8%) with the remainder listening while driving, walking or in transit elsewhere.

The number of tapes, number of tapes per day, and so on described in the prior paragraph did not differ across condition.

The more than 2000 tapes needed for distribution were reproduced and labeled by a professional duplicating house. The participants judged the tapes to be between adequate and good in “technical quality” (3.3 on a 1 to 5 scale with 5 very good). This is less than desirable but acceptable. Unfortunately, despite spot-checking, one batch of tapes had a distracting background hum that was not evenly distributed across condition. Specifically, the conditions differed on judged technical quality ($F(5, 415) = 5.28, p < .001$) with the Limbaugh condition ($M = 2.79$) differing from the TOTN condition ($M = 3.76$) significantly by a Scheffe’s test. The poor tapes were not the result of the quality of the Limbaugh master tapes. All conditions got the full range of responses from very poor to very good suggesting that it was some problematic tapes within the condition rather than the whole batch.

The technical quality of the tapes did not affect how attentive people were to the programs. Attention was high overall ($M = 5.24$ on a 7 point scale with 7 strongly agree to “paid more attention than normal”). But attention was nearly identical across conditions ($F(5, 417) < 1, p = .92$) indicating that tape quality did not affect attention in the Limbaugh condition, neither increasing nor decreasing it.

The differences in tape quality are potentially significant in comparisons between the Limbaugh and TOTN programs. However, the magnitude of the effect is not large (less than 6 % of the variance) and does not affect reported attention. Tape quality might make learning from the Limbaugh programs more difficult or might depress enjoyment of these tapes at least relative to TOTN. To guard against problems of misinterpreting results from comparisons between Limbaugh and TOTN, we will take the precaution of controlling for judgments of tape quality whenever significant differences between these types of programs are observed.

One possible problem with our procedures was that people would be influenced during the week by other forms of political talk radio than we had given them. We asked them to reduce their radio listening significantly. People reported listening less or a lot less to other radio during the week (74.2%) with the remainder saying they listened about the same as usual. Regarding PTR programs, 71.9 % said they did not listen to any other PTR while 27.4 % did. Of those who listened to other PTR than our tapes, 11 people said they listened more than usual, 40 said about the same, and 71 said less or a lot less than usual. Outside listening was distributed equally across conditions ($p > .57$ in all cases).

Stimuli

The content of the programming in each condition was selected from PTR shows appearing in the period January 15, 1996 to April 30, 1996. We attempted to control content across conditions by choosing topics that had been treated across the ideological spectrum. Five topics were found: affirmative action (more generally, the role of government in assisting minorities because of past discrimination); assisted suicide; problems in the educational system; the proposal for a flat income tax; the Muslim religion (specifically Minister Louis Farrakahn and NBA player and Muslim Mahmoud Abdul-Rauf). Each of these had been discussed in the period by liberal and conservative hosts, by Rush Limbaugh, and on TOTN. Although other topics could have been chosen, it was not easy to select topics that were the objects of discussion in all of the programming outlets important to us.

The stimulus tapes were not altered in any way that would misrepresent the host’s original intent. The stimulus tapes were faithful representations of hosts’ and callers’ comments. However, we were forced to add and delete content in various ways. For example, if Rush Limbaugh spent twenty minutes discussing the controversy surrounding Abdul-Rauf and then turned to a substantive discussion of Clinton’s Middle East policies, we would add discussion about Abdul-Rauf from a different Limbaugh program. Alternately, we would delete the Middle East discussion in favor of PTR “fluff” such as

Limbaugh's cat and its eating habits. In effect, a one-hour tape devoted to affirmative action did not include any other substantive material even though the entire hour may not have been on topic.

The liberal and conservative points of view were represented through the programming of several different hosts including G. Gordon Liddy, Ken Hamblin, Mario Cuomo, and Tom Leykis. Unnatural breaks were avoided. If two different hosts appeared on the same one hour tape, the "bottom of the hour" break was used as the transition. The table below describes the content of the tapes which people received along with the hosts who were covered.

Table 1. Summary of PTR programs, topics, hosts, and dominant message.

	TOTN ^b	Liberal/Conse rvative	Liberal	Rush Limbaugh	Conservative	Control
Day 1 Host	Suarez	Leykis Hamblin	Leykis	Limbaugh	Hamblin	Tom & Ray Magliozzi
Topic	Muslims, Islam, & Farrakahn	Rauf	Rauf	Rauf, Muslim, Farrakahn	Rauf	Cars
POV ^a	Democracy & Islam; Farrakahn; pro & con	See cols 3 & 5	Not standing is religious freedom issue	Condemns each	Not a race issue but a character issue	
Day 2 Host	Suarez	Limbaugh Leykis	Leykis	Limbaugh	Liddy	Dr. Dan
Topic	Flat Tax	Flat Tax	Flat Tax	Flat Tax	Flat Tax	Psychologic al health
POV	Who wins & loses	See cols 3 & 4	Opposes flat tax	Strongly favors	Favors	
Day 3 Host	Suarez	Leykis Hamblin	Leykis	Limbaugh	Hamblin	Steve Freedman
Topic	Race & affirm action	Race	Race & affirmative action	Race & Farrakahn	Race & Farrakahn	Movies
POV	AA & education; Jesse Jackson & son	See cols 3 & 5	Subtle racism continues; opposes changes in AA	Liberals & conservatives treated differently in rel'ps to Black leaders	US Blacks are free; Farrakahn denounced	
Day 4 Host	Suarez	Limbaugh Cuomo	Cuomo	Limbaugh	Liddy	Dr. Jim Gorry
Topic	Education	Education	Education	Education	Education	Personal Health
POV	Education problems solved thru unifying stories; not skills	See cols 3 & 4	Do more and pay more for better education	Clinton a hypocrite on education	Denounces public schools & teachers	
Day 5 Host	Suarez	Leykis Limbaugh	Leykis	Limbaugh	Liddy	Dr. Laura Schleslinger
Topic	Assisted Suicide	Assisted Suicide	Assisted suicide	Assisted suicide	Assisted suicide	Relationship s
POV	Dialogue on assisted suicide nec'y	See cols 3 & 4	Right to die is freedom issue; religious right is evil	Gov't should not decide who lives and dies	Bad court decision to allow assisted suicide	

The liberal-conservative condition was created as a balanced (two-sided) condition in which each tape had both liberal and conservative points of view on the topic. Balance was introduced in the court room sense: two strong positions of opposite voice. TOTN was used because it represents a different kind of balance attempting to provide even-handed treatment of a topic through the host's and guest's comments along with a balanced selection of listeners' questions. This format is closer to standard journalistic practice in the main stream press. The liberal-conservative and TOTN conditions provide two types of two-sided messages: balanced and partisan. The Control condition was also a talk radio condition but the talk was not about politics or social affairs. Instead, cars, mental health, movies and sports were the focus.

^b TOTN is NPR's "Talk of the Nation".

^a POV is dominant point of view during the program.

One way of looking at our experimental conditions is in terms of sidedness and balance. TOTN and the liberal-conservative mix are both balanced programming in the sense of representing both sides of the ideological continuum. The liberal, conservative, and Limbaugh programs are one-sided with Limbaugh clearly politically partisan as well as conservative.

For a given day's tape, all six conditions had the same news and one political ad edited into the top of the hour.¹ Neither the ads nor the news were altered in any way. The news was chosen to be timely. The ads included: one for a conservative politician running in a local primary; an ad for the Libertarian Party of Illinois; an ad for Tom Lingenfelder running in a Congressional primary which is not identified as either Republican or Democratic, conservative or liberal; a public service announcement for the NEA about teachers and parents working together; and a PSA from the US Civil Rights Commission discouraging illegal discrimination.

In the follow-up survey, we asked if the content of the programs was balanced, giving both sides of issues. They were not seen as equally balanced ($F(5,417) = 16.6, p < .0001$). Limbaugh ($M=2.68$), conservative ($M=3.21$), and liberal programming ($M=3.62$) were judged to be least balanced and no different from one another (by a Scheffe's test) while TOTN was seen as most balanced ($M=5.34$) differing from all other conditions. The control ($M=3.97$) and conservative-liberal conditions ($M=4.14$) were intermediate.² These results generally confirm our assumptions about the programming our participants heard – balanced discussion from TOTN and one-sided commentary from the left, the right, and from Limbaugh.

Summary. The design and procedures of our experiment in PTR were successful for the most part. People were randomly assigned to condition and generally followed the instructions. Conditions had equal numbers of liberals, conservatives and moderates, had both heavy and light listeners of PTR in each group, and perceived the program types as intended in terms of partisan versus balanced treatment of issues. In general the group was representative of a cross section of citizens. However, it was more democrat, more liberal, more educated, and included heavier consumers of PTR than a random sample would. However, the group was like the Philadelphia metropolitan area in terms of ideology and like heavy consumers of PTR in terms of education.

Analysis of Results

Statistical analysis of results will in general be quite straight forward. The design is a simple one-way factorial with a control group. Because the effects of PTR are mostly unknown, we are investigating research questions more than testing hypotheses. A conservative approach to analysis is warranted. To this end, we will try to control error rates by using multivariate testing where appropriate and controlling for the appropriate pre-test measures where necessary.³

Credibility and Attitude Change

One of the abiding concerns about PTR has been its assumed influence. Critics of the medium and its content have argued that it is a demagogic source of influence leading its uncritical audience from one position to another through lies, distortions, half truths, and emotional outrage. Researchers have been more conservative about the effects of PTR. Some have argued that PTR has no demonstrable effects on attitudes and opinions, at a maximum reinforcing existing attitudes. On this view, the apparent differences between audiences of PTR and non-listeners are nothing more than pre-existing differences in ideology, partisanship, and social and political attitudes. Even when these factors are controlled out they cannot be dismissed as potential contributors to differences nor can unmeasured causes be ruled out.

In our experiment, we were interested in examining how persuasive various hosts and formats were. To assess possible persuasion, measures on issues discussed during the five days of exposure were taken before people listened and afterwards. The issues measured included racial matters, assisted suicide, education, the flat tax, and the Muslim religion and the nation of Islam.

We expect these five issues to be more and less changeable as a function of the audience's prior experience with and information about the topics. Education and race should be relatively well anchored

while the other three issues should be more susceptible to influence. In pre-test ranking of “important problems facing our country” education and race were ranked as the most important of the issues discussed while assisted suicide was the least important of the 5 issues discussed.

The hosts’ messages were their own and were unaltered by us. So if change occurs and the experiment is internally valid, change can be attributed to the host’s messages not to what the audience brings with it. The audience itself is not the typical audience that a particular host might draw. It is more ideologically diverse and with less experience with the host’s views and style. By having comparable groups across conditions, topics which vary in attitude strength, and both pre-test measures and a control group, we can carry out some direct tests of just how persuasive people find various PTR sources to be and just who it is that is persuaded, if anyone.

In the typical attitude change experiment, evidence for persuasive effect is found in change in the experimental group’s mean from prior to subsequent test or from experimental to control group. These changes in the mean score for the group indicate a shift in reported position for the group. The shift can be for everyone or for some appreciative (or susceptible) subgroup. We will investigate these mean changes for each of the topics studied controlling for pre-test measures of attitude and assessing change relative to the control group. We will also be concerned about who changes in response to the PTR messages. Is everyone changing equally? Or are there identifiable subgroups most responsible for the changes?

When subgroups change but not the entire group, two patterns are of interest: biased processing and polarization. Biased processed means that a particular argument appeals to one group persuading it but not affecting another group. For example, an argument about capital gains in the context of discussing the flat tax may appeal to wealthier conservatives but be ignored by lower income liberals. Boomerang refers to change away from that intended by the host. For example, while arguing for dismantling the IRS, a host may persuade conservative listeners of the value of the flat tax but move liberal listeners in an opposite direction as they anticipate dismantling of other, more important federal agencies. Persuasion by partisan spokespersons, biased processing, and boomerang are central to our understanding of the role of partisan messages in a cohesive or fragmented society.

By investigating these questions we will be able to determine something about the potential reach of PTR. Are the knowledgeable more or less changeable? Do those who find the source credible change but not others? Are liberals persuaded by Limbaugh or do they boomerang away from his goals?

Program Credibility

In studies of attitude change and persuasion, credibility is an important moderator. This should especially be the case for the PTR experiment where persons within condition have ideologies and values inconsistent with those of the host. The audience’s evaluations of programs may moderate message effects on attitudes either promoting, or hindering change, or producing biased processing and boomerang.

Most analyses of source credibility, whether of individual speakers or news sources, focus on two and sometimes three broad factors: expertise, trustworthiness, and dynamism. Trustworthiness can include liking the source and honesty.

The assessment of source credibility involved 26 questions about program judgments. Eight were 7-point agree disagree measures (e.g. “I really enjoyed listening to these programs”) and 18 were single adjectives (e.g. dangerous, deceptive, stimulating, informative, confusing, honest). People responded on a 6 point scale from “describes not at all”(0) to “describes very well”(5).

Based on factor analysis, scale reliability, and face validity, several subscales were devised. A program liking scale consisted of three items (enjoyed listening; would encourage others to listen; and would avoid listening in the future). It has an alpha reliability of .84 and is additive. A dishonesty measure consisted of seven items (unfair; dangerous; biased; deceptive; cynical; trustworthy; honest) with an alpha of .89 and additive. A measure of excitement was based on four adjectives (stimulating, boring

(reversed), energizing; entertaining) with an alpha of .85 and additive. A fourth index of weakness and uncertainty was obtained (confusing; depressing; weak) with an alpha of .63 and additive.

The key measures of credibility are program liking and dishonesty. Program liking is related to several other programming perceptions as indicated in the regression analysis below. The regression explains 68% of the variance (adjusted) and is very highly significant.⁴ Several relationships are of interest in the regression. Program liking is strongly related to judged excitement and entertainment value of the programs but is unrelated to judged dishonesty or judged weakness. In addition to entertainment and stimulation, people liked the programs that were similar to what they had heard before, expressed views that were similar to their own (reversed item), were perceived to give both sides of an issue, and were informative.

Table 2. Regression of program liking on various program judgments.

Model ^c	Unstandardized Coefficients		Stand Coeffs	t
	B	Std. Error	Beta	
(Constant)	.650	1.121		.580
EXCITING	.492	.038	.474	12.968
WEAK	-5.9E-02	.055	-.038	-1.068
DISHONEST	5.8E-04	.030	.001	.020
Diff Views (R)	.462	.105	.150	4.387
Unlike Others (R)	.151	.092	.055	1.642
INFORMATIVE	.474	.141	.130	3.366
BALANCED	.537	.093	.202	5.786
Similar to Others	.251	.085	.103	2.947

c. Footnote. (R) is reversed scoring. Unlike Others means programs were different from those heard before; Similar to others means programs liked heard before; Diff views means views expressed are different from one's

Especially surprising is the absence of any relationship between perceived dishonesty and liking. Even though the zero order correlation is -0.58, the association between the two is absorbed in other factors. These factors are typical in judgments of credibility. Familiarity, similarity of position, balance rather than one-sidedness, and carrying information are aspects of what makes messages credible.

But what about perceptions of dishonesty? What accounts for these judgments? Table 3 below shows a regression for dishonesty judgments explaining 67% of the variance (adjusted). How exciting the programs are and their similarity to others heard previously are unrelated to dishonesty judgments. Instead, PTR programs perceived to be dishonest are those judged to be confusing and weak, expressing views different from the audience, uninformative, and one-sided.

Three predictors are common to the two indices of credibility: similarity of expressed opinion; informativeness; and similarity to prior programming. The directions for liking are opposite to those for dishonesty, as they should be. Liked and honest programming is seen as informative, familiar (similar to past programming), and providing views similar to those of the audience.

Table 3. Regression of judged program dishonesty on other programming judgments.

Model ^b	Unstandardized Coefficients		Stand Coeff s	t	Sig.
	B	Std. Error	Beta		
(Constant)	27.342	1.294		21.121	.000
EXCITING	-7.232E-02	.063	-.043	-1.147	.252
WEAK	.794	.084	.316	9.487	.000
Diff Views (R)	-1.334	.163	-.265	-8.198	.000
Unlike Others Heard before(R)	-6.637E-02	.153	-.015	-.433	.665
INFORMATIVE	-1.424	.224	-.240	-6.358	.000
BALANCED	-1.240	.142	-.286	-8.731	.000
Similar to Others Heard before	.168	.141	.042	1.190	.235

b. Footnote. (R) is reversed scoring. Unlike Others means programs were different from those heard before; Similar to others means programs like ones heard before; Diff views means views expressed are different from one's own.

But the key questions about program credibility are how it differs across types of programming and for whom. To assess this question, an analysis of variance was conducted on program liking and program honesty (a reversal of the dishonesty measure above) across experimental conditions. A second factor was investigated simultaneously – an index of conservative ideology based on race, reported conservatism, and Republican party leaning. This index of conservative ideology was employed because it is generally true that Blacks and other minority groups are not as heavy consumers of PTR as whites.

Program liking differed across type of program but depended on the similarity between one's own ideology and that of the host. This was especially true for liberals' reactions to Limbaugh and to conservative hosts. It was not the case for conservatives' judgments of liberal hosts or of any of the two-sided or control conditions. The high liking for TOTN in comparison to Limbaugh and to the conservative programs is due primarily to the negative judgments by liberals in response to the conservative shows while the judgments of TOTN from all ideological groups was approximately the same. Post hoc t-tests show that TOTN is more liked than all other programs except the non-political programming. Rush is less liked than the liberal, conservative/liberal, and control programming. Conservative programming is less liked than the control.

Explanations for the strong reactions by the liberals to conservative programs and the less negative reactions to liberal programming by the conservatives are just speculations. One is that the liberal programming was insufficiently intense ideologically to engage the enmity of the conservatives while the conservative programming did activate emotional responses from the liberals. In short, there may have been differences in intensity between the program types. A second explanation is a tolerance for alternative positions by the conservatives but not the liberals.

A third explanation is this. Most talk radio listeners self-identify as conservatives and consider main stream media liberal. All talk radio listeners are more likely than non-listeners to read newspapers and as likely to watch television news. Grant the premise of the conservative listener, for a moment. If the main stream media are liberal, then the exposure the conservative listener had to liberal talk radio did not provide an unusual experience. The conservative has already been exposed to these points of view

and counter-argued against them. By contrast, the liberal listener exposed to conservative talk for the first time reacts to it as new and counter-attitudinal information, counter argues against it, and rejects it.

At this point it is impossible to decide among these competing explanations.

Table 4. Analysis of variance for program liking by type of program and conservative ideology.

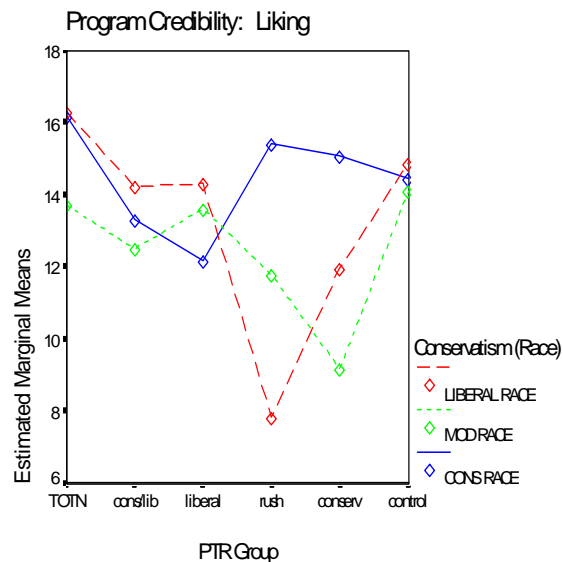
Program liking for PTR Group and Conservatism Index

Dependent Variable: PROGRAM LIKING						
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
Corrected Model	1980.47 ^b	17	116.498	4.630	.000	.163
Intercept	72308.8	1	72308.8	2873.872	.000	.877
PTR Group	661.378	5	132.276	5.257	.000	.061
Conservatism (Racial)	243.324	2	121.662	4.835	.008	.023
PTR Group X Conserv	978.605	10	97.860	3.889	.000	.088
Error	10139.8	403	25.161			
Total	87892.0	421				
Corrected Total	12120.3	420				

a.

b. R Squared = .163 (Adjusted R Squared = .128)

Figure 1. Mean program liking for PTR group and conservatism index.



Audience judgments of the honesty of PTR programs show similar patterns. Table 4 below indicates that a strong interaction between program type and conservative ideology characterizes these data. How honest people perceived the programs to be depended on the similarity between their own ideological dispositions and those expressed on the program. The graph of Figure 2 shows that liberals

evaluated the Limbaugh and other conservative shows as dishonest while conservatives did the same to the liberal hosts, although the liberals saw the conservative shows as more dishonest than the conservatives did the liberal shows. Ideological differences did not play much of a role in the responses to TOTN, the non-political talk programs, the liberal-conservative programs, or to the liberal programs. As with program liking, the liberals reacted more negatively to opposing shows than conservatives did.

TOTN is viewed as more honest than the other programs save the non-political control; similarly for the control. The liberal and conservative programs are evaluated as more honest than Limbaugh⁵ These credibility findings suggest that conservative programs will have a difficult time attracting a liberal audience. Liberals evaluate Limbaugh and other conservative hosts as dishonest and disliked. This means that they will avoid similar programs in the future and would discourage others from listening. But what about the moderates? Are they any more reachable than the liberals? It does not appear so. They are about as negative toward Limbaugh and the conservatives as the liberals are. The conservatives on the other hand are less put off by liberal programs and so might be attracted to them should good options be available.

Judgments of credibility –both perceived liking and honesty – depend on perceived similarity of position, perceived balance in discussion, and informativeness among other things. These elements are perceived to be missing from the conservative programs liberals judged in our experiment; the conservatives are less likely to see these desirable features as absent from liberal programs.⁶ Assessments of how exciting, stimulating and entertaining the programs are are also instructive. We know from national survey data that one of the motivations for listening to PTR is entertainment. Like other judgments, what is entertaining is in the eye of the beholder. Figure 4 below represents these differences starkly with only Limbaugh and the conservative programs differing in entertainment value across ideological groups while liberal and other forms of programming are seen as similar by liberals and conservatives alike. If we were to average across ideological groups, Limbaugh would be no more or less exciting than other programming. In fact, it is heard as much more exciting by conservative listeners.

Liberal PTR is similar for all ideological groups and is on average no different from TOTN. If liberal programming is seen as no more entertaining than TOTN, it is not a likely motivation for an audience to tune in.

Table 4. Analysis of variance for program honesty by type of program and conservative ideology.

AOV for program honesty by PTR Group and index of conservative ideology

Dependent Variable: Program Honesty

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
Corrected Model	9,877.14 ^b	17	581.01	10.58	.000	.31
Intercept	152,546.23	1.00	152,546.23	2,778.57	.000	.87
PTR Group	6,268.22	5.00	1,253.64	22.83	.000	.22
Conservatism (Racial)	132.16	2.00	66.08	1.20	.301	.01
PTR Grp X Conservatism	2,788.53	10	278.85	5.08	.000	.11
Error	22,125.11	403	54.90			
Total	193,380.99	421				
Corrected Total	32,002.24	420				

a. Computed using alpha = .05

b. R Squared = .309 (Adjusted R Squared = .279)

Figure 2. Mean program honesty for PTR group and conservatism index.

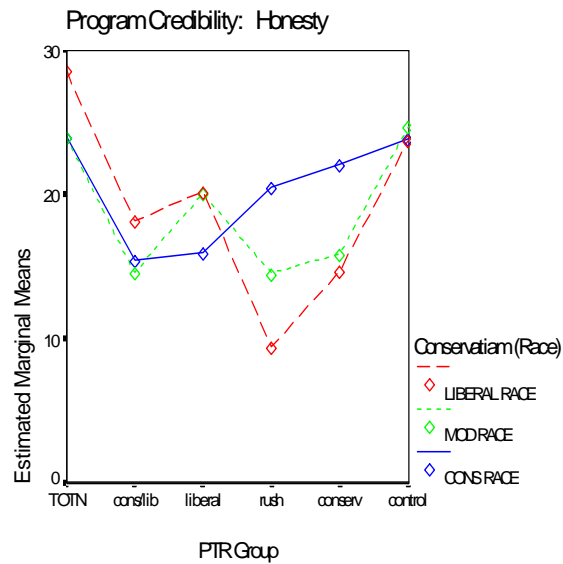
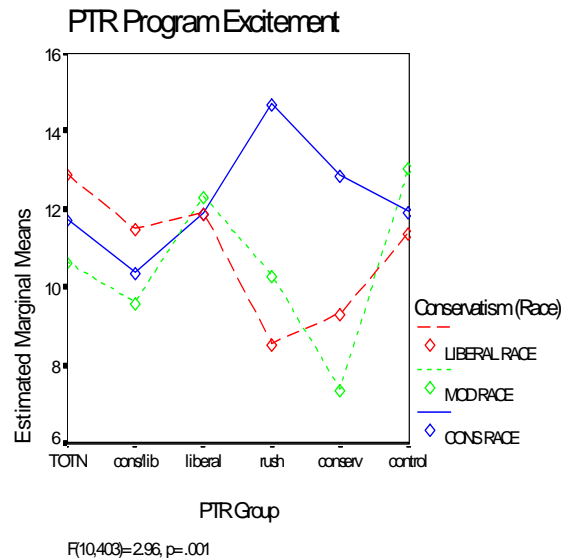


Figure 3. Program excitement: PTR groups by conservative ideology.



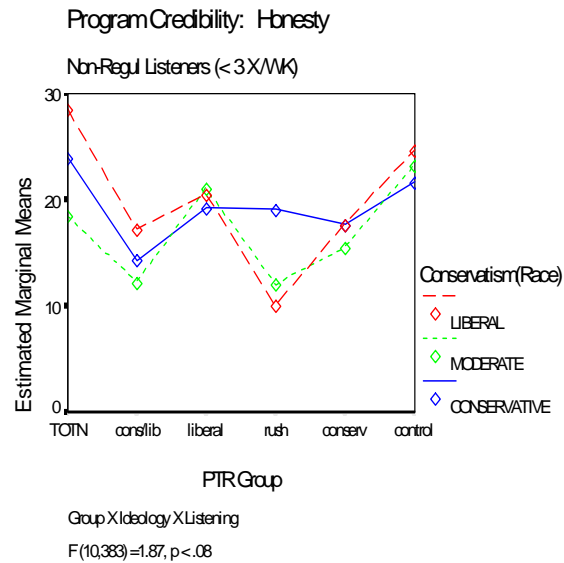
Conservative PTR is going to have a hard time drawing listeners other than those who already agree with its ideology. Liberal talk radio may have a better chance of pulling conservative listeners into its ranks. Why liberal listeners are so intense in their rejection of conservative PTR while conservative listeners appear more accepting of ideologically opposing messages is a mystery. Part of the explanation may be in the differences between the types of programs. Liberal PTR may be less extreme or less rejecting of conservative positions while conservative PTR may be more intense, emotional, or explicitly condemnatory of liberal positions.

TOTN is very highly rated by all members of the political spectrum being seen as more honest and better liked than every other form of PTR available in this study. Given that TOTN is the most traditionally journalistic in style and tone being balanced in the way it treats controversial questions, the positive reactions to it may be the result of this very balance. Also, TOTN avoids conflict and incivility focusing instead on confrontation between issue positions. It is not rated as especially exciting (except in comparison to the conservative programs) but neither is it heard as less exciting than the others.

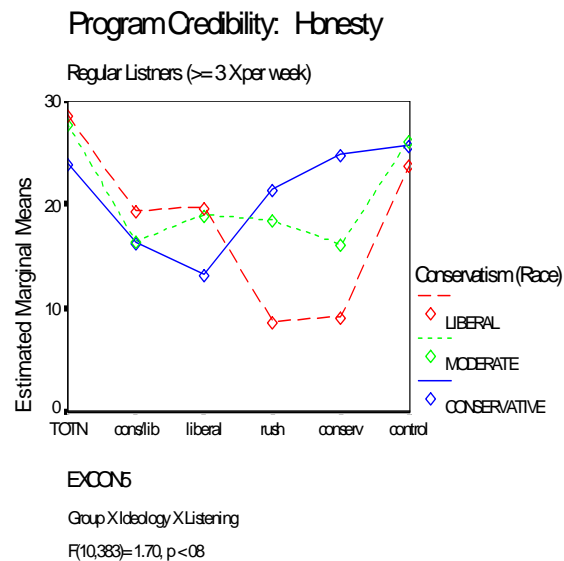
As a final check on who was attributing high and low levels of credibility to various programs, we asked if regular listeners and less regular listeners to PTR showed similar patterns of response. The regular listeners were those listening three times per week or more; non regular listeners said they tuned in twice, once, or less to PTR. Main effects and all interactions were entered as predictors of liking and honesty. The three way interactions were at or near significant ($F(10,383) = 1.70, p < .08$ for honesty and $F(10,383)=1.87, p < .05$ for liking). These complex interactions mean that the patterns of conservatism and exposure described above differed for the regular and non-regular listening groups. The relationships are graphed below.

Figure 4. Program honesty: PTR groups by conservative ideology by PTR experience.

Panel A.



Panel B.



The non-regular listeners do not show the cross-over effects as the chart moves from liberal through Limbaugh to conservative programming. The exception is with liberals evaluating Limbaugh as less honest; they do not however evaluate the conservative programs as negatively on honesty. The liberal, moderates, and conservatives with little PTR experience do not offer different judgments of the honesty of the liberal or conservative programs. This pattern changes with the next chart for the regular listeners. This group exhibits strong cross-over effects in response to the ideological programming. Conservatives evaluate the liberal hosts as less honest than liberals and moderates do; liberals evaluate Limbaugh and the other conservative programs as less honest than conservative listeners do. So with regard to program honesty, listening experience matters.

What about liking for the programs? Liberals, moderates, and conservatives show sharply different reactions to ideological programming depending on whether they are heavy or light listeners. As with judgments of honesty, liberals do not like Limbaugh's show whether they have had prior listening experience or not. Non-regular listeners have similar reactions to liberal hosts regardless of their own ideology. But most surprising, non-regular liberal listeners have relatively positive assessments of conservative programs just as conservative irregular listeners have relatively positive evaluations of liberal programs.

The regular listeners show the strong cross-over patterns we saw in the earlier charts where listenership was not separated out. Specifically, the liberals with listening experience do not like Limbaugh or the conservative programs; conservatives with listening experience do not like the liberal programs.

The bottom line is this: ideological similarity predicts positive program evaluations. Ideological similarity predicts judgments of honesty. But these patterns are only true for those with listening experience. Non-regular listeners to PTR do not show the ideological similarity effect except for liberals in the case of Limbaugh. They do respond to his show with assessments that it is dishonest and disliked. This effect for Limbaugh's show may be the result of Limbaugh's reputation coming in to the study. Non-regular listeners may not know much about other PTR hosts and their ideologies and positions – we certainly did not identify the political or ideological dispositions of the hosts they were listening to—but they probably know Limbaugh and his positions. Their minds may already be made up about Limbaugh before exposure while their views about other hosts – even conservative ones – are still uncertain and subject to influence.⁷

In support of these explanations, we found that regular and non-regular listeners of PTR were listening to hosts whose ideology was consistent with their own ($F(2,280)=30.4$, $p < .0001$) and there were no differences between groups on the basis of their listening. There was a lot of missing data here because the question was not directed to those who do not listen at all. But listeners are clearly exposing themselves to ideologically similar hosts (or at worst distorting their hosts positions to seem like their own). This means that in addition to evaluating ideologically contrary programs less favorably, people with PTR experience are choosing programs that are or are perceived to be ideologically similar.

Are people familiar with Rush Limbaugh? In this sample the answer is overwhelmingly yes. About 2% say they never heard of him. For other hosts, only Howard Stern and Oliver North have comparable levels of recognition (98 and 97% respectively). Stern, the shock jock out of New York City, is a publicity hound and not really a PTR host; Oliver North's recognition comes more from his role in the Iran Contra investigations and his run for Senate in Virginia than his fame in PTR. Other hosts have far lower recognition: Don Imus (56%); Tom Leykis (8%); Bob Grant (42%); Ray Suarez (22%); G. Gordon Liddy (82%).

Attitudes toward Limbaugh as people entered the study do account in part for the negative ratings on honesty and liking that liberals give his show even when they have little prior experience with PTR. Conservatives rated him more favorably than moderates and moderates more than liberals ($F(2,397) = 52.1$, $p < .0001$). Experienced listeners rated him more favorably than those who listened to PTR irregularly ($F(1, 397) = 13.4$, $p < .0001$). There were no differences across experimental condition and no interaction effects. Everyone had heard of Limbaugh regardless of prior experience with PTR. Conservatives rated him more favorably than anyone else; regular listeners were always more favorable regardless of their own ideologies.

Summary

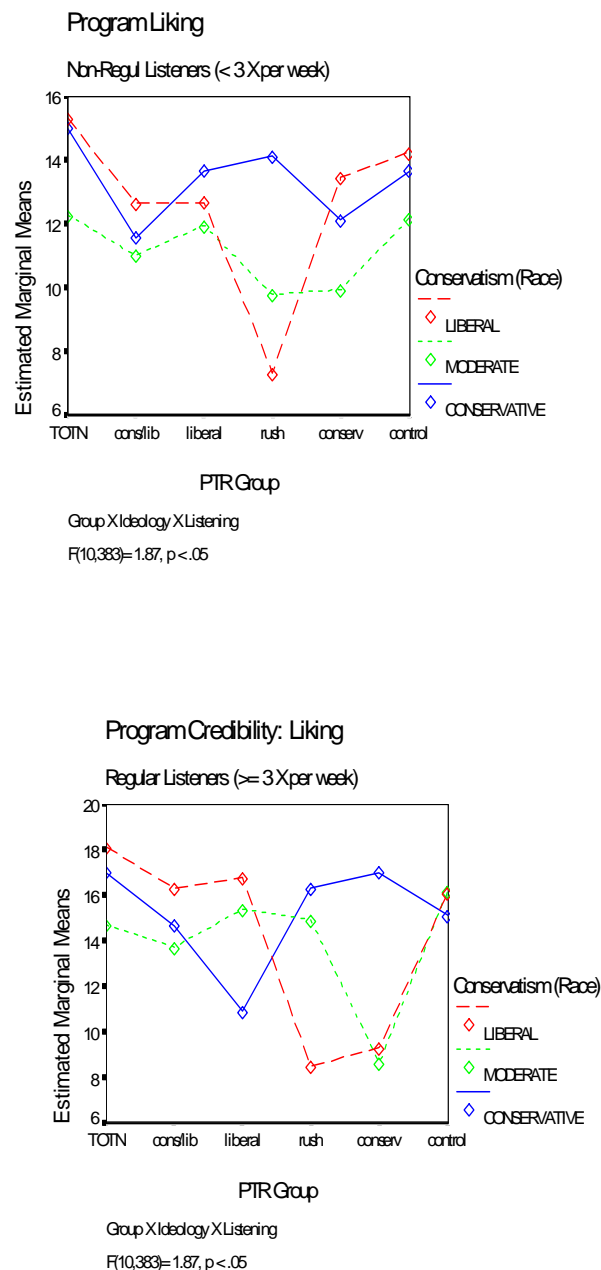
The key question in this section has been who, if anyone, can be induced to evaluate ideologically dissimilar programs favorably. The answer seems to be that it depends on prior experience. Those with the most experience with PTR evaluate ideologically dissimilar programs as disliked and dishonest. Those with less experience are less predictable except with regard to Limbaugh where everyone recognizes his name and has an opinion about his show consistent with their own ideological dispositions. So once again experience with the host's program -- or more likely in this case with his reputation --

produces negative assessments of credibility when ideologies of host and audience are dissimilar. Liberals dislike the show and find its content dishonest and conservatives respond in the opposite manner. Liberals dislike the show and find its content dishonest and conservatives respond in the opposite manner.

Where experience is more limited (for example with the liberal and conservative programs), the potential for positive credibility judgments by ideologically dissimilar groups is increased. Liberals and moderates are not immediately rejecting conservative programs and conservatives are not rejecting liberal hosts out of hand. But this potential is limited to those with only minimal prior PTR experience – those with prior experience and knowledge of particular hosts are more likely to self-select ideologically similar programs.

Given how well known Limbaugh's show and his partisan positions are, he is not likely to draw ideologically dissimilar audiences to him with an open mind. Open minded audiences are more likely to be found listening to unfamiliar host.

Figure 5. Program liking: PTR groups by conservative ideology by PTR experience.



Liking toward Specific Hosts

Our study of program credibility really confounds the message and the messenger. In the case of Rush Limbaugh's show and TOTN, there is only one host so program evaluations are also host evaluations. But some information on a few specific hosts was gathered – Rush Limbaugh, G. Gordon Liddy, and Oliver North. Evaluations of Ray Suarez, host of TOTN, were also obtained but so few people knew him before or after the study that the audience's reactions to him could not be assessed statistically.

First consider evaluations of Rush Limbaugh. People exposed to Limbaugh's program were more favorable to him than people in any other PTR group as shown in the ANCOVA table and graph below. Although conservatives were more favorable toward Limbaugh than liberals and moderates, there was no interaction with PTR Group. The two main effects imply that after listening to Limbaugh, liberals increased their evaluation of him more than liberals who did not listen to him. But this increase was no greater than the increase for conservatives who heard him versus conservatives who had not. So exposure to Limbaugh did not have the effect of depressing liberals' liking of Limbaugh. In fact, their liking was elevated in contrast to liberals' reactions to him after hearing other programming – even conservative programming. One must be careful to remember that the “increase” in favorability toward Limbaugh is scaled from very unfavorable (=1) to very favorable (=7). Only the conservatives who listened to Limbaugh reach even the mid-point of this scale.

This result is both interesting and perplexing especially in light of the program credibility judgments reported above. Liberals disliked Limbaugh's program and found it dishonest. At the same time, they are reacting less negatively toward Limbaugh than liberals exposed to other hosts. They seem to be reacting differently to the host and the programming. Do their reactions depend on prior experience with Limbaugh's show?

Table 6. Analysis of covariance for favorability toward Rush Limbaugh by PTR group and conservative ideology.

Tests of Between-Subjects Effects

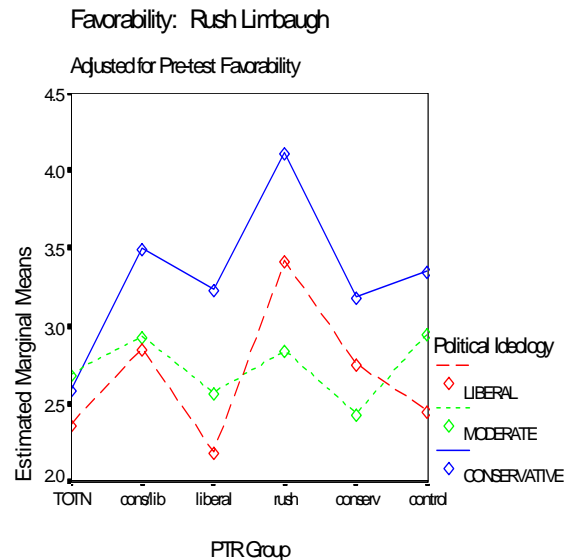
Dependent Variable: Favorability Rush

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
Corrected Model	921.919 ^b	18	51.218	26.414	.000	.556
Intercept	1552.483	1	1552.483	800.648	.000	.678
PTR Group	29.715	5	5.943	3.065	.010	.039
PreRUSH	501.480	1	501.480	258.623	.000	.405
Ideology	15.458	2	7.729	3.986	.019	.021
PTR Grp * Ideology	16.655	10	1.665	.859	.572	.022
Error	736.833	380	1.939			
Total	4797.000	399				
Corrected Total	1658.752	398				

a. Computed using alpha = .05

b. R Squared = .556 (Adjusted R Squared = .535)

Figure 6. Favorability toward Rush Limbaugh: PTR group by conservative ideology.



Regular PTR listeners (more than 3 X per week) are no different from non-regular listeners in their evaluations of Limbaugh but when those who have had some experience with Limbaugh's show are separated from those who have not, a partial explanation for host effects emerges. The three-way interaction among PTR Group, Ideology, and prior exposure to Rush does not meet conventional significance levels ($F(10,356)=1.46$, $p=.15$, $\eta^2=.039$) but it does explain as much variance as any significant factor in the regression except for pre-test evaluations of Limbaugh.

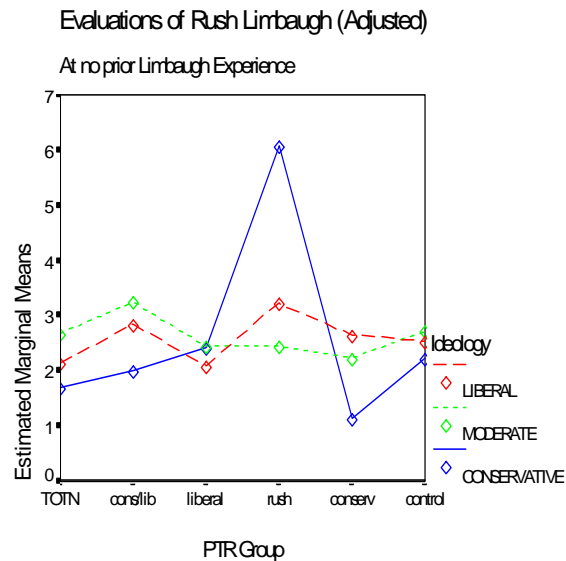
Conservatives hearing Limbaugh for the first time evaluate him more positively than any other conservative group. Liberals with no prior experience do not denigrate Limbaugh as a host evaluating him no more negatively than other liberals.

Those with at least some experience with Limbaugh's show judge differently. Conservatives see Limbaugh about as positively after having listened to him as when they listen to another type of programming. Liberals evaluate him more positively than liberals hearing other shows although TOTN presents an oddity.

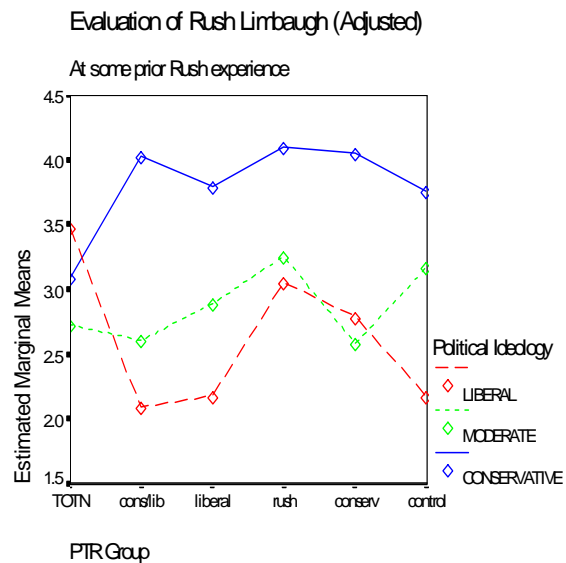
In sum, the sharp increment in more positive judgments of Limbaugh after hearing him are due to conservatives listening for the first time and liberals with experience of Rush who -- unlike their in their credibility judgments -- evaluate Limbaugh no worse and, in fact, slightly better than other liberals do.

Figure 7. Favorability toward Rush Limbaugh: PTR groups by conservative ideology by PTR experience
Panels A & B).

Panel A.



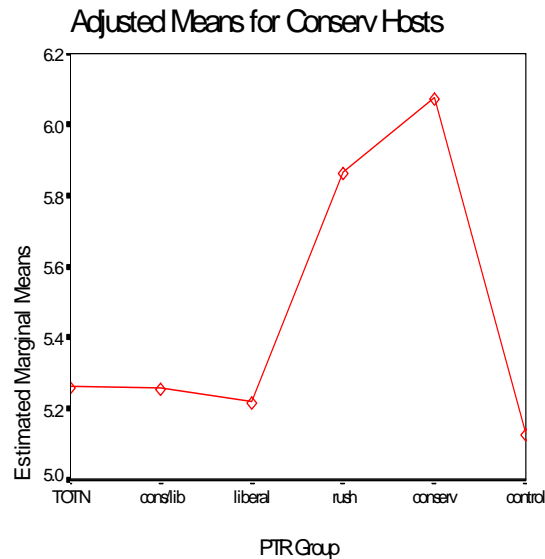
Panel B.



The two conservative hosts – North and Liddy – were also evaluated in the pre-test and after the completion of the experiment. An index of their two evaluations was created from the sum of their evaluation scores. A borderline significant effect for PTR group was obtained ($F(5,401) = 2.05, p = .07$) which is described in the graph below. Pre-test levels of favorability were controlled but no interactions or main effects with ideology or prior talk radio experience were obtained. Those exposed to conservative and Limbaugh PTR held more positive evaluations of the two conservative hosts. And these evaluations did not differ by ideology or prior PTR experience. One possibility is that the effects are due almost completely to evaluations of Oliver North by Republicans in the sample. But tests involving party identification, party ID with leaners, both as continuous and categorical variables produced no effects.

Exposure to conservative programming appears to activate more positive evaluations of conservative hosts (at least Liddy and North) than exposure to other programming.

Figure 8. Evaluations of conservative hosts by PTR group.



Summary

People in our study seemed to judge programming differently from the hosts delivering the message. The messages were often rejected as unacceptable especially when they were dissimilar from the audience's own opinions. But the messengers were less likely to be rejected in quite the same way. For example, reactions to Limbaugh were not especially favorable but they did not seem to get worse for liberals who listened to him. Similarly, evaluations of Liddy and North were much more favorable after listening to other conservative programs than when listening to liberal, control or balanced programming. Perhaps, the conservative messengers were not so despicable after hearing them as people had anticipated, even though the messages were often rejected.

Too, people seemed to be making judgments of messages and messengers independently. The correlations support such a claim. Judged liking and honesty of Limbaugh's programs was correlated at .25 and .19 with favorability toward Limbaugh; for the two conservatives, the correlation's were .11 and .01 respectively. The audience is behaving in a sophisticated way by separating the host from the host's message.

Credibility is part of the basis for attitude change. The differences in judged liking and honesty suggest that attitude change could vary by type of program and by ideology of the audience. Even if the issues under consideration are not obviously dependent on one's ideology, the differences in credibility resulting from differences in ideology require that tests of attitude change in response to PTR control for audience ideology. We turn next to a study of the persuasive effect of types of PTR.

Racial Attitudes

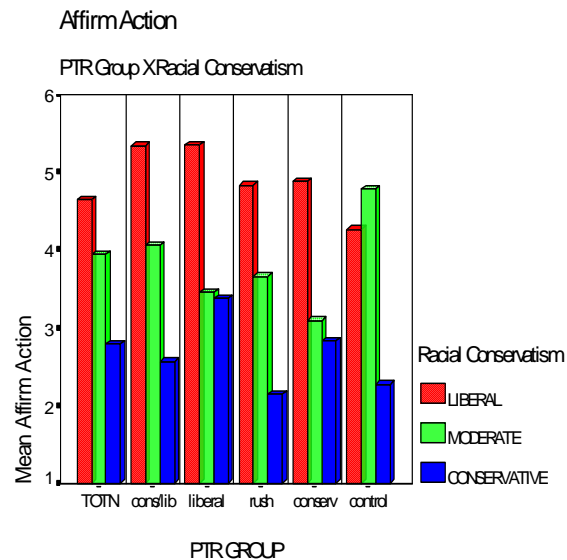
Four measures of racial attitudes were employed to assess the direct effects of hosts' messages about affirmative action and the indirect effects of those messages on other racial issues. Based on factor analysis, three indices were created. "Black Progress" was assessed with two seven point scales asking whether there has been real progress for Blacks in recent years ($r=.66$). "Black Responsibility" was determined by four questions with seven point agree-disagree ($\alpha = .84$) format.⁸ A third, single item asked how strongly people favored or opposed the elimination of affirmative action preferences for women and minorities in job hiring and promotion. The three scales correlated from .31 to .50.⁹ The

indices were constructed so that higher scores indicate favorable attitudes toward affirmative action, and toward government help for Blacks; high scores on progress indicated little progress for African-Americans in recent years.

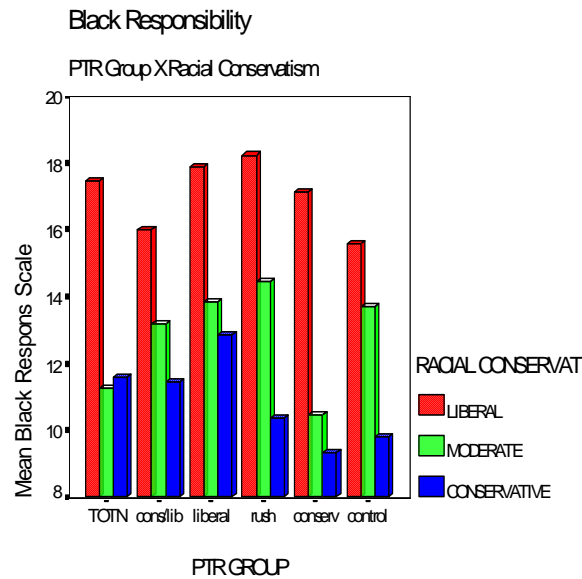
The fourth measure included six items evaluating Black leaders and African-American groups: Jesse Jackson; Abdul Mahmoud Rauf; Louis Farrakahn; the NAACP; the Muslim religion; the Nation of Islam. These six were reliable in both the pre-test ($\alpha = .81$) and the post-test ($\alpha = .86$) and had a nice normal distribution. This index was scaled so that higher scores showed more favorable attitudes toward the persons and groups.

Affirmative action. There was no evidence that the discussions of racial issues during the week's exposure had any direct effects on audience's racial attitudes. All the tests conducted were conservative ones. A multivariate test for the three measures relating to affirmative action (that is Black Progress; Black Responsibility; and Affirmative Action) was not significant ($F(3,371) = 1.26$, $p = .22$) where pre-test attitudes toward affirmative action were controlled.¹⁰ The means are presented in the charts below.

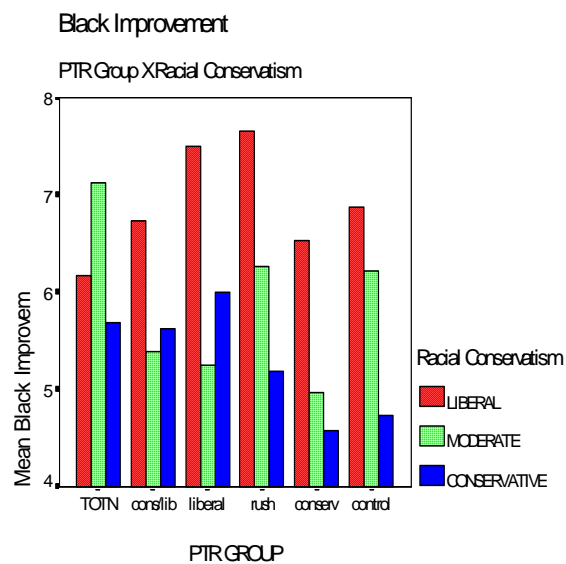
Figure . Mean racial attitudes by PTR group and index of conservative ideology (racial): Affirmative Action(panel A); Black Responsibility (panel B); Black Improvement (panel C).



Panel B



Panel C



The absence of systematic changes in group racial attitudes persists even when we control for political ideology, racial conservatism (white, conservative, republican), and previous exposure to political talk radio. Careful evaluation of interaction effects across groups involving racial conservatism and message groups and pre-test attitudes and message groups did not reveal reliable differences. This means that the (partial) correlation between racial conservatism and racial attitudes remains the same across PTR exposure. Groups are not changing their mean levels of racial attitudes nor relying more or less strongly on their prior attitudes or ideologies differentially across groups in determining their racial attitudinal responses.

Two explanations of the lack of change in racial attitudes come readily to mind. The messages from the PTR hosts were weak or unpersuasive; or racial attitudes are strong ones in the sense of Krosnick (Krosnick & Petty, 1995). Strong attitudes should exhibit four broad characteristics: durability; resistance to change; bias in processing related information; and a strong correlation to behavior.

In the absence of any persuasion directed at racial attitudes, the control group shows strong levels of stability between pre-test and post-test attitudes (betas range from .56 to .77 all highly significant at $p < .0001$). As the three bar charts above show, racial attitudes within condition are strongly related to indicators of racial conservatism and these patterns do not change in response to messages about race. Those receiving persuasive messages do not change their racial attitudes in mean nor in partial slopes in response to messages about race. Racial attitudes may not have changed because of their strength.

If racial attitudes are difficult to change even in response to unchallenged messages from PTR hosts, then we cannot expect PTR to be capable of changing strongly held attitudes easily. This is not to say that a consistent campaign over a long period might not be successful especially if competing persuasive messages are minimized. But it is to say that we cannot expect quick, easy change of strongly held attitudes even in experimental settings where counter persuasion is not available.

Black leaders and institutions. Attitudes toward Black leaders and groups did not differ across program exposure after control for previous levels (change $F(5,390) = 1.84, p = .10$). However, attitudes toward Black leaders and institutions did correlate with racial conservatism differently in different experimental groups. Regression analysis was employed to test this hypothesis. Three groups of predictors of racial attitudes were entered in order. First, dummy variables for experimental group and pretest attitudes; next, racial conservatism; and third, interactions of dummy variables for experimental group with racial conservatism.¹¹ The three groups add significantly to the overall explained variance (.571 adjusted) with the pre-test measures of attitude and the measure of racial conservatism strongest. However, the significant interaction means that attitudes toward Black leaders are different for different ideological groups depending on what PTR they heard during the week. To explore what is happening we divided the continuous measure of racial conservatism into three levels and graphed the results.

Table 7. Step regression of attitudes toward Black Leaders and institutions: PTR group, pre-test attitude, racial conservatism, and PTR group by Racial Conservatism.

Regression of Attitudes toward Black Leaders on Experimental groups, Racial conservatism, and their interaction

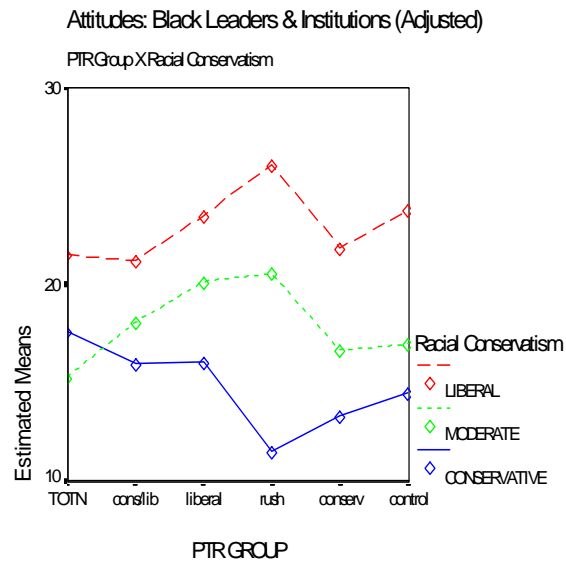
Model	Variables	R Square	Adjusted R Square	Change Statistics				
	Entered			R Square Change	F Change	df1	df2	Sig. F Change
1	Expt Group, pre-attitude	.545	.538	.545	77.718	6	390	.000
2	Racial Conserv	.572	.564	.027	24.461	1	389	.000
3	Racial Conserv X Expt Group	.584	.571	.012	2.287	5	384	.046

Based on the pattern of sub group means and tests of their significance, we can say that the two key comparisons are between the Limbaugh group and the control and the TOTN group and the control. In response to Limbaugh's show, liberals, and conservatives become more separated in their views in contrast to the control group. This can be seen in the figure by the spread between liberal and conservative attitudes in comparison to the control. The liberal and conservative groups who hear TOTN in contrast show a narrowing of difference in racial attitudes. Limbaugh makes prior differences among groups larger while TOTN makes prior differences smaller. One is tempted to identify this effect as a polarization phenomenon for the Limbaugh show and an accommodation effect for TOTN.¹²

Note that the liberal group which listened to Limbaugh actually exhibits more positive attitudes toward Black leaders than might be expected if no message had been received (control) while the

conservative group has more negative attitudes. This polarization can be described as a boomerang effect for the liberal listeners and a persuasion effect for the conservative listeners. These results show that Limbaugh not only has no power to convert liberal listeners in general but actually may have the opposite effect with those who oppose him, at least on some issues with some messages. Shows like TOTN however may reduce polarization under some conditions ameliorating the a priori differences in racial attitudes.

Figure 10. Attitudes toward Black Leaders and groups (adjusted): PTR group, Racial conservatism, and PTR by conservatism.



Attitudes toward Education

A wide variety of questions about public education were asked. Based on factor analysis and reliability scale construction eight separate measures were retained. Four items were single scales and based on 7 point agree-disagree statement. These included: Discipline (Schools need more discipline); funding (More money won't help improve schools); Unions (unions are a big part of what's wrong with schools); political correctness (political correctness is a big part of what's wrong with public schools).¹³

A fifth item assessed the "Goals 2000 campaign" for public schools. A sixth question asked whether public schools have gotten worse in recent years (7 point agree-disagree). Two other pairs of questions were summed into scales: one (called Schools and Teachers) asked how favorable or unfavorable people were toward public schools and public school teachers ($r = .58$). The other ("Vouchers") focused on vouchers (described as "government financial aid to help parents pay for private or church-run schools). Two items constituted this scale: a 7 point favor-oppose question and a 5 point sign-a-petition question favoring or opposing vouchers ($r = .86$).¹⁴

The questions were ordered so that more favorable attitudes toward public schools had higher and less favorable lower values. The correlations among the 8 questions and scales ranged from near zero to .40, all positive.

The eight educational attitude items were tested against experimental group in a multivariate analysis of covariance. The covariates were four pre-test attitudes including vouchers, attitudes towards schools and teachers, and a forced choice question on discipline versus money to improve schools. There was a significant multivariate effect for PTR group, (Pillai's trace=.185, $F(40,1745)=1.67$, $p < .005$). The multivariate significance allowed us to explore the individual effects. Six of the 8 attitudes toward education either differed significantly across PTR groups, exhibited a trend in that direction, or resulted from a complex interaction between PTR message and ideology. Two of the eight measures showed no

significant differences across condition or any interactions with prior exposure to PTR, ideology or party identification. These are the Discipline and Money questions and are not analyzed further.

First, consider those attitudes that changed in response to PTR but did so consistently across subgroups. The adjusted means for these five significant or near significant effects are presented in the table below. These results are no different for those who differ in ideology, party identification, or prior experience with political talk radio. Also, no correlation between educational attitudes and gender, prior education, income, or age were observed.

Those listening to Limbaugh and to conservative PTR shows have more negative attitudes toward Schools & Teachers than those listening to the control tapes. Limbaugh listeners are more favorable toward vouchers than the control and than those listening to two-sided PTR. Public schools are seen as doing worse in recent years by those listening to conservative PTR. Unions get blamed for problems in the schools by those hearing conservative PTR (in contrast to TOTN and to two-sided messages). Those hearing TOTN and two-sided messages are less likely to blame unions than those in the control. Political correctness is seen as part of the public education problem by those exposed to Limbaugh (in contrast to those hearing TOTN and liberal PTR). In general, TOTN fostered more liberal attitudes toward the problems of public education in the United States while conservative and Limbaugh shows evoked more conservative attitudes. Except for issues of political correctness liberal shows produced no effects on educational issues. TOTN did tend to activate more liberal positions however.

It is important to keep clear that these effects are consistent across ideological groups. The activation of more liberal positions by TOTN and more conservative positions by Limbaugh and the conservative hosts on this issue is not being filtered by the audiences' own ideological stances.

Table 8. Means and standard errors for attitudes toward public education (adjusted) by PTR listening group.

Attitudes toward Public education for five PTR Groups: Means, SEs

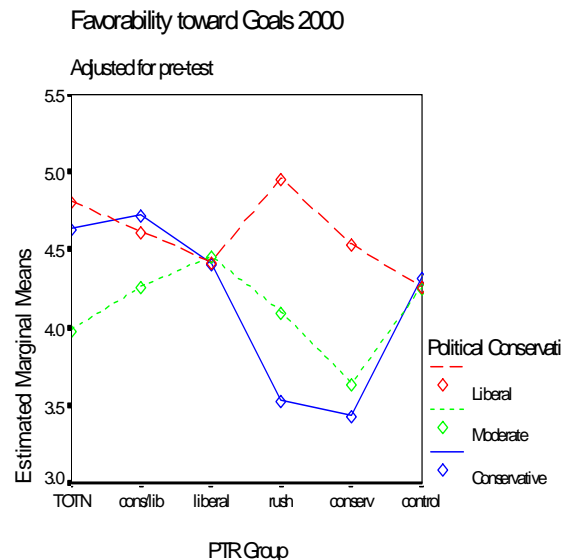
PTR Group	Dependent Variable									
	Condition of Schools F(5,352)=2.2 3, p=.05		Unions F(5,353)=2.7 3, p=.02		Political Correctness F(5,352)=2.8 7, p=.015		Schools & Teachers F(5,373)= 1.94, p<.10		Voucher F(5,372)=1.9 4, p<.10	
	Mean	Std. Error	Mean	Std. Error	Mean	Std. Error	Mean	Std. Error	Mean	Std. Error
TOTN	2.28	.17	4.85	.25	4.23	.24	8.14	.28	1.15	.05
Cons/Lib	2.26	.18	4.78	.26	3.94	.24	8.16	.29	1.22	.05
Liberal	2.33	.16	4.35	.23	4.58	.22	8.31	.26	1.16	.04
Limbaugh	2.44	.17	4.18	.24	3.55	.23	7.98	.27	1.07	.05
Conservative	1.97	.15	3.80	.22	3.83	.21	7.83	.25	1.13	.04
Control	2.70	.17	4.19	.25	3.65	.24	8.81	.28	1.23	.05

However, on the issue of Goals 2000 campaign, ideology does play a role. As in the analysis of racial attitudes, Goals 2000 was regressed on three groups of predictors in the following order: dummies for experimental group and pre-test education attitudes; an index of conservatism (including both ideology and party identification)¹⁵ interaction terms involving dummies for experimental group and conservatism. The last block was borderline statistically significant (change in $R^2 = .025$, $F(5,348) = 2.07$, $p < .07$). The interaction was such that the negative relationship between political conservatism and attitudes toward Goals 2000 was stronger in the Limbaugh and conservative PTR groups than in the other groups. Those who are liberal in these PTR groups had more positive attitudes than those who were conservative and this differentiation (or polarization as we called it before) was unique to these two groups.

To see this effect most clearly, we graphed the relationship for three levels of conservatism and 6 experimental conditions. The results are displayed in the figure below. Clearly, there is little or no differentiation by ideology in either the control or liberal PTR groups. However, sharp separations occur in the conservative and Limbaugh groups.

Ideology is an active filter in both groups leading conservatives to activate their conservative values and liberals to do the same with opposite effect. It is not clear why this issue should activate the ideological filter while the same filtering does not occur with other education attitudes. Perhaps the Goals 2000 plan is closely identified with president Clinton and the reaction is more a response to the President filtered ideologically than a reaction to a substantive plan about the country's educational needs. However, even though attitudes toward the president correlate about .30 with attitudes toward his Goals 2000 plan, using attitudes toward the president as a covariate does not alter the findings that ideology and partisan messages interact. Attitudes toward President Clinton fail to explain the polarization that occurred about Goals 2000. What explains polarization on this issue and the absence of polarization on the other issues remains a mystery.

Figure 11. Mean attitudes toward Goals 2000 program (adjusted): PTR group and political conservatism.



Assisted Suicide

The question of assisted suicide has received a great deal of attention in political talk radio as well as the main stream news media. When Dr. Jack Kevorkian is arrested or assists a person in committing suicide there is comment in both the main stream and PTR. This topic received considerable treatment during the period we monitored PTR.

Attitudes toward assisted suicide and Dr. Kevorkian were measured in a variety of ways. Based on factor analysis and scale reliability, seven measures were adopted. These are summarized in the following table. Although a more parsimonious set could have been generated, we adhered to the requirement of reliable, additive scales. Although we retained all the items in our analysis, the item about jury beliefs seemed to be perceived more as an item about whether people on juries should be able to be questioned about their religious beliefs than as an item about Dr. Kevorkian. It correlated negatively with the other assisted suicide measures. The question about medical doctors was inserted because people might have negative attitudes toward doctors in general as a result of Dr. Kevorkian's assisted suicides or doctor's disagreements with Kevorkian. It showed no relationship at all to any of the other assisted suicide items.

Table 9. Attitudes toward Assisted Suicide: Label, Items, Reliability.

Label	Wordings (Approx)	Correlation
Vote Suicide	Voting yes on doctor assisted suicide God alone decides life & death	.70
Favor Kevorkian	1-7 Favorable-Unfavorable toward Kevorkian; Kevorkian work to change law	.74
Dr. Assisted	Terminally ill have right Favor-oppose doctor assisted	.65
St. Jack	curious about death vs. help Labeled as Dr. Death vs. St. Jack	Forced choice count
Personal Choice	Person responsible for life-death	1-7 agree-disagree
Jury beliefs	Question juries about religious beliefs in Kevorkian trials	1-7 agree-disagree
Doctors	Favorable-unfavorable	1-7 agree-disagree

The seven items were subjected to a multivariate analysis of covariance using four pre-test measures of attitude toward assisted suicide (medical doctors, Dr. Kevorkian, the policy of assisted suicide, and personal choice) and experimental group as predictors. The effects for experimental group were multivariate significant (Wilks' Lambda = .837, $F(35, 1997) = 1.97$, $p < .001$). The individual scales were explored for differences across PTR group. Attitudes toward medical doctors and jury beliefs were not significantly different across condition nor were there any significant interactions with prior experience with PTR, with political ideology, or with an index of conservative attitudes toward assisted suicide. The latter scale was made up from measures of conservative ideology, being catholic versus not, or identifying oneself as a born-again Christian or not.

Of the remaining 5 measures, four exhibited significant effects for experimental condition and the fifth an interaction with conservatism toward assisted suicide. The means across condition are presented in the table below. The variation across conditions is captured primarily by the differences between the conservative messages and those having some liberal content (TOTN, the two-sided liberal-conservative, and the liberal programs). The conservative PTR message on assisted suicide is to oppose it and this shows up as less favorable views toward assisted suicide among the listeners of this programming. The Limbaugh show does not seem to operate like conservative PTR does on this issue except with regard to the measure on voting for assisted suicide which includes a question asking if God is the only one allowed to make life and death decisions. Here, Limbaugh audience is like the conservative audience and less favorable than the audiences getting liberal messages. The reader is reminded that these effects are similar across ideological and religious groups. The effects are not large ranging between 2.5 and 7.1 % of the variance in attitudes. However, this amount of change occurred in a single hour of exposure for a range of people who are both ideologically disposed and opposed to the host's positions. Although no messages compete with those of the host, the small changes result from relatively modest amounts of influence.

Table 10. Attitudes related to assisted suicide by PTR group (adjusted): Significant effects only.

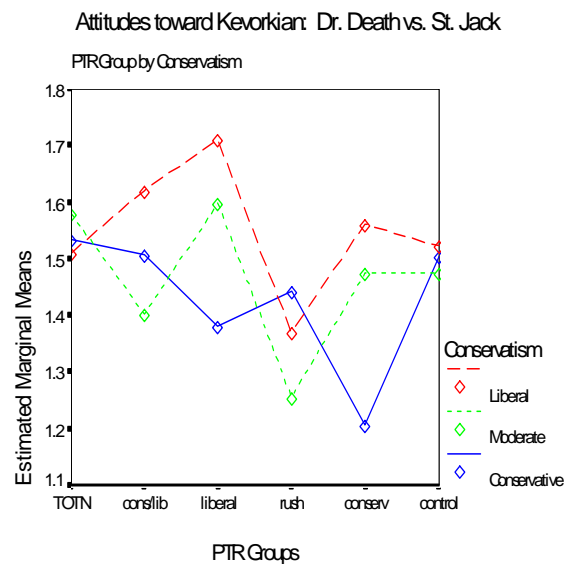
Assisted Suicide by PTR Group (adjusted means): Significant effects only

PTR Group	Dependent Variable							
	Personal Choice F(3,385)=2.81, p=.016		Dr. Assisted F(5,385)= 4.41, p < .001		Vote Suicide F(5,385)= 5.84, p < .0001		Favor Kevorkian F(5,385)= 2.19, p =.055	
	Mean	Std. Error	Mean	Std. Error	Mean	Std. Error	Mean	Std. Error
TOTN	6.16	.16	10.57	.27	1.58	.03	8.04	.29
cons/lib	6.29	.16	11.21	.28	1.59	.04	8.59	.31
liberal	6.10	.15	10.68	.25	1.62	.03	8.63	.28
rush	6.30	.15	10.00	.27	1.42	.03	8.16	.29
conserv	5.64	.14	9.64	.25	1.46	.03	7.51	.27
control	5.94	.15	10.06	.26	1.48	.03	8.16	.28

One measure of attitudes toward Dr. Kevorkian asked two forced choice questions about labeling the doctor and – implicitly -- his motives. This did not exhibit differences across condition but there was a nearly significant interaction with a measure of conservatism toward suicide (change in $R^2 = .014$, $F(5,379)= 1.98$, $p = .08$). The interaction indicates that those in the liberal and conservative PTR groups aligned their attitudes toward Kevorkian consistent with their prior ideological and religious positions while those in other groups were less ideologically motivated.

The graph below shows the pattern that by now should be a familiar one. The lines show that liberals, moderates and conservatives line up from more favorable to less favorable in the liberal group and in the conservative group. And the three groups are spread apart. In the other groups either the rank order of conservatism is different from the rank of attitude or the spread is not as great. In effect, there is polarization among the ideological groups within PTR audiences. And the groups likely to activate ideological thinking do so. In this case, the Limbaugh group is not implicated in attitudinal polarization.

Figure 12. Mean attitudes toward Dr. Kevorkian (adjusted): PTR group and conservatism (suicide).



Attitudes toward Flat Tax

The issue of a flatter income tax was a hot topic in the presidential primaries of January through April. Steve Forbes made it the central – indeed the only -- issue in his bid for the nomination. It became a topic of intense scrutiny in the news media including PTR. We were able to include it as a topic.

Six measures of attitudes toward a flat income tax were used. Based on factor analysis and scale reliability, 5 of the items were kept as single item measures. These were:

Capital gains: (1-7 agree-disagree: eliminating the capital gains tax would increase investment)

Deficit: (1-7 agree-disagree: flat tax will increase deficit spending unless there are cuts)

Rich favored: (1-7 agree-disagree: rich will pay less with a flat tax)

Loopholes: (1-7 agree-disagree: flat tax will close loopholes)

Forbes: (1-7 favorable-unfavorable).

The sixth measure was a weighted sum of two items correlating at .73: How much do you favor or oppose the flat tax? And second, “In a scenario about an election for Congress where the candidate is campaigning on a flat tax platform: would you favor, oppose such a candidate or are you not sure?”

A multivariate analysis of covariance on the six measures controlling for two pretest measures of attitudes toward Forbes and toward the flat tax proposal was highly significant ($F(30, 1494)=2.68$, $p<.0001$). Four of the six measures of attitude also showed significant effects for PTR group in separate tests. Of these all were also tested for interactions with ideology, party, income, and other factors to no avail. Forbes showed no effects for exposure to PTR or any interactions with ideology or other factors. The effect of PTR groups on the measure about capital gains depended on audience ideology.

The table below presents the means for the four measures that were significant in univariate tests for PTR exposure along with means, standard errors, and significance levels. The flat tax as a proposal was evaluated less favorably by those hearing TOTN, liberal PTR, and liberal-conservative PTR and more favorably by the control, conservative, and Limbaugh sources. The liberal voices seemed stronger in that the attitudes of their audiences were below the control group's attitudes while the conservative voices had little effect in comparison to the control. Also, when liberal and conservative positions were in the same message, the liberal arguments clearly predominated. On questions about the indirect impact of the flat tax on the deficit, tax loopholes, and benefits for the rich, once again the arguments of TOTN and liberal PTR produced attitudes less favorable to the flat tax proposal than were evident in the control and less favorable than those reported by the audience of conservative PTR. The size of these effects ranges from a small variance explained of .024 (eta squared) for deficit to a substantial .087 for the flat tax proposal itself.

The Capital gains question did not show main effects for PTR group but did exhibit an interaction with political conservatism (see end note 13) (change in $R^2=.022$, $F(5,379)=2.03$, $p=.07$). Those listening to Rush Limbaugh tended to have stronger ideological responses to the capital gains question than did the control group and the liberal group. To see the nature of this interaction, a graph for three levels of conservatism was created.

Table 11. Adjusted means and SEs for PTR group for four attitudes toward taxation issues

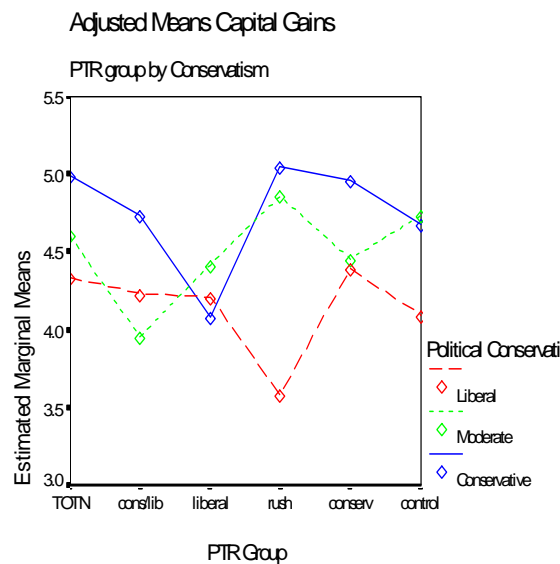
Adjusted means for attitudes toward the flatter income tax by PTR group

PTR Group	Dependent Variable ^a							
	Loopholes F(5,386)=4.60, p<.0001		Rich Favored (R) F(5,385)=6.43, p < .0001 ^b		Deficit (R) F(5,386)=1.94, p<.09		Flat Tax F(5,386)=7.37, p<.0001	
	Mean	Std. Error	Mean	Std. Error	Mean	Std. Error	Mean	Std. Error
TOTN	3.22	.24	2.32	.21	3.24	.20	.93	.05
Cons/lib	3.63	.26	3.60	.23	3.66	.21	.98	.05
Liberal	3.41	.23	2.53	.20	3.39	.18	.94	.04
Limbaug	4.04	.24	3.38	.20	3.71	.19	1.20	.04
Conserv	4.31	.22	3.39	.19	3.92	.18	1.17	.04
Control	4.34	.23	3.27	.20	3.89	.19	1.11	.04

a. Footnote. All measures are scored so that higher scores indicate more support of the flat tax and its impact.

b. Footnote. (R) indicates rversed item.

Figure 13. Mean attitudes toward capital gains (adjusted): PTR group by political conservatism.



The spread within the Limbaugh group is the now familiar polarization effect with liberals taking the least favorable stance on this issue of any of the liberal groups and the conservatives taking the most favorable stance. Although the PTR groups do not differ on average on the question of capital gains, they do differ within ideological subgroups. The liberals boomerang away from the Limbaugh message while the conservatives are most strongly in agreement with it. In the liberal PTR group, however, conservatives do not reject the arguments of liberal hosts but instead move toward their positions contrary to the trends exhibited by conservatives in other groups. This acceptance by conservatives may reflect the greater credibility they attributed to liberal PTR in contrast to the more negative credibility liberals assigned to Limbaugh's program in general.

Summary

Whether partisan media will have a polarizing effect on society or will simply maintain existing separations depends in large measure on its effectiveness in changing attitudes and opinions. Three

effects characterize the findings on attitude change and the messages of political talk radio. They are direct persuasion; biased processing; and boomerang effects.

Direct persuasion implies that a given message on a topic affects all listeners equally and rather than affecting one group differently from another. The data presented here indicate that the arguments presented by PTR hosts and their callers can affect attitudes of various listener groups. However, the size of the effects varies. Attitudes toward affirmative action and black responsibility for economic conditions were not affected at all while messages from partisan hosts influenced changes in liberals and conservatives on a variety of other issues from education to assisted suicide to the flat tax. The size of these changes was not large ranging from roughly 1% change to about 8% at the highest. At the same time, these apparently small effects result from only one hour of discussion culled from a week of exposure on a variety of topics.

The direction of changes induced by PTR persuasion is generally in line with the ideologies and arguments the hosts typically make. Hosts with more conservative positions tend to induce conservative positions and liberal hosts more liberal positions.

Biased processing refers to the appeal certain arguments will have for certain audiences. For example, an argument that the flat tax will reduce the overall size of a government bureaucracy such as the IRS should appeal to conservatives, increasing the likelihood they will favor the flat tax. It may not move liberals one way or the other. The result would be a change in conservatives who attend to and accept this argument and no change in liberals who essentially ignore it.

Boomerang effects refer to the active rejection and counter-arguing that some arguments could create. For example, liberals hearing that the flat tax could lead to a dismantling of the IRS might conclude that this would open the floodgates to reducing other federal government agencies that are more socially important. The result may be that liberals would become even more unfavorable toward the flat tax, boomeranging away from the initial message.

Both types of effects are observed in our data but what conditions are necessary for the occurrence of one, the other or both effects is unclear. Issues that are candidates include Black leaders and institutions, Goals 2000, Dr. Death vs. St. Jack, and capital gains. Attitudes toward Black leaders are more negative than the control for conservatives listening to Rush Limbaugh (biased processing) and more favorable than the control for liberals exposed to Limbaugh (boomerang). A similar pattern occurs for Goals 2000 attitudes by liberals and conservatives in both the Limbaugh and the conservative PTR groups.

On the labeling of Jack Kevorkian as Dr. Death or St. Jack, liberals show biased processing after hearing the liberal hosts while conservatives do the same (but in a different direction) after hearing the conservative programs.

Capital gains exhibits both boomerang and biased processing in the Limbaugh condition. A variant of biased processing also occurs in the liberal condition. Here conservatives hearing a liberal message against the flat tax are less favorable toward a reduction in the capital gains tax than conservatives in the control. The message affected conservatives only but not by inducing a boomerang but rather by influencing only them. Liberals hearing the liberal hosts were no different from liberals in the control.

Biased processing alone can produce polarization among groups but in combination with boomerang, the polarization will be more pronounced. Polarization is important to understand because it is the mechanism of social separation and cohesion, intergroup conflict and cooperation. We have little understanding of the conditions under which polarization will occur and when uniform change will result instead. As partisan sources continue to exert a strong influence on social values and attitudes and continue to proliferate, we need to understand the conditions of uniform change, polarization, and the creation of consensus.

Activating Behavioral Intentions

Changing attitudes is one form of influence in PTR. Another is to activate political participation on the issues of concern to PTR hosts. The media have reported widely but in anecdotal form that PTR has had significant influence on activating the audience's participation in social and political matters. In our experiment, we tried to evaluate the impact of PTR on activating the audience's behavioral intentions and their behavior. Behavioral intention was measured in a series of four scenarios related to the topics of the week's exposure. The scenarios were the flat tax; doctor-assisted suicide; Louis Farrakahn; and educational vouchers. Affirmative action was omitted because of limitations on time.

Assisted suicide was tested as follows: "A group of elderly citizens has worked to get a referendum on the ballot to allow doctors to assist terminally ill people to commit suicide under supervision. How likely are you to vote on this referendum?" This hypothetical was followed by five alternatives from very likely to very unlikely. Similar procedures were used on the flat tax and a run-off congressional primary. In this case, arguments on both sides were summarized and the day for the vote was "rainy" to place barriers in front of people likely to say they always vote.

Behavioral intentions to attend a speech by Louis Farrakahn and attend a debate on educational vouchers with a neighbor were also evaluated in terms of likelihood. In no case was willingness to act confounded with support of or opposition to an issue.¹⁶

Behavioral intention is closer to behavioral action than attitudes are but intention is still not action (Fishbein & Ajzen, 1975). We evaluated whether the study had activated people's participation in social issue discussions. When our participants picked up their checks for helping in our study, we invited them to call us back to register oral messages about the topics of the week. An electronic phone answering and questioning system was made available for a week following the completion of the experiment. People were asked what hosts, if any, they would be interested in speaking to and what they would say. We also gave people an opportunity to request a copy of our report about the experiment and a chance to tell us anything else about our procedures they thought we should hear. These calls were transcribed and coded. Interest centered on whether a person called at all; whether they wanted to send a message to one of the hosts they had listened to; whether they talked about a topic heard during the week. These became our measures of behavioral activation.

Behavioral Intention. The four scenarios asking about behavioral intentions are basically all independent correlating from -.12 to .35. They are treated as four separate items. A multivariate analysis of covariance was conducted using PTR group as a main effect, and close following of politics and social affairs as a covariate. No main effects for PTR group emerged. However, when political ideology was entered as a covariate interacting with experimental condition significant interaction effects emerged. In fact, ideology, PTR group, close following, and the interaction of ideology and experimental condition were all highly significant (for the interaction, Wilks' Lambda = .904, $F(20, 1327.6) = 2.04$, $p = .004$). Of the four measures of behavioral intention, three were at or near significance in univariate tests.¹⁷

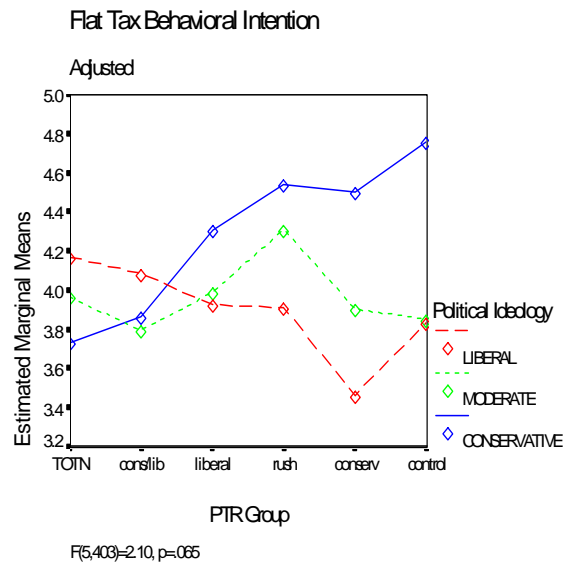
The near significant univariate effects for attending a speech by Farrakahn were ultimately found to depend on people's direct attitudes toward Farrakahn – those saying they would attend a Farrakahn speech did so because they were favorable toward Farrakahn and those not likely to attend were unfavorable. The correlation between likelihood of attending and attitude was .39. When entered as a covariate the interaction effect between PTR exposure and ideology essentially disappeared. What this finding means is that in the case of Minister Farrakahn, people view mere attendance at one of his speeches as reflecting their views. Similar tests conducted for educational vouchers and flat tax voting did not show the Farrakahn effect. Attitudes toward the flat tax did not predict voting in a Congressional election; attitudes toward educational vouchers did not account for willingness to attend a neighborhood debate on the topic. Perhaps with extreme groups or persons, mere presence is treated as a vote of support.

Two significant effects remain and they are presented in the graphs below. The figures present three levels of political ideology only for ease of presentation. The significant interaction is due to a continuous measure of ideology. The flat tax graph shows some evidence of conservatives being deactivated by exposure to liberal and balanced discussion of the flat tax. The line for conservatives has

lowered values on the left side of the graph compared to the right side where people are exposed to Limbaugh, conservative, and control radio shows. Limbaugh and conservative programming does not seem to activate conservatives over conservatives' level of activation in the control. Why not? In the control group, conservatives already show very high levels of interest in voting in an election where one of the key issues is the flat tax. Their average is 4.8 on a 5 point scale. This means there is no more activation to be done among conservatives on this issue. Conservative programming cannot activate what is already at its maximum.

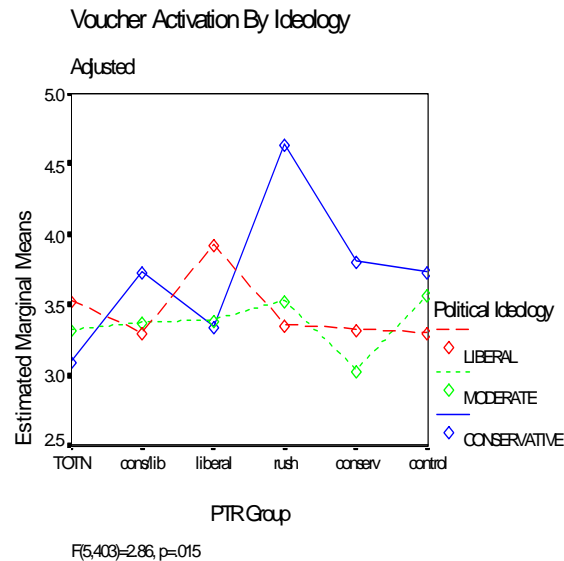
However it appears that liberal and balanced programming can have a de-activating effect. The only evidence of energizing by the conservative shows is found among the moderates listening to Limbaugh. Their levels of interest in voting in the hypothetical election are elevated after a week of Limbaugh over that of their ideological peers in the control group.

Figure14. Intention to vote on flat tax issue: PTR group by political ideology.



On educational vouchers, the intended behavior was attendance at a neighborhood forum on the issue. Conservatives hearing Limbaugh were willing to attend at higher levels than the control and than conservatives hearing liberal programming or TOTN. Liberals in turn were energized by listening to liberal programs on the vouchers and became more willing to go to a forum with their neighbors than liberals in the control group.

Figure 15. Intention to attend a forum on educational vouchers: PTR group by political ideology.



In sum there is evidence of the ability of PTR to activate its constituents to action although no evidence from this study to suggest that this effect is large or consistently the case. Unlike with attitudes that in some cases boomeranged away from the message advocated by the host, no comparable effect obtained with behavioral intention. Liberals were not spurred to action after hearing Limbaugh's messages against their favored positions nor were conservatives after hearing liberal counterpoint. If anything, ideological groups maintained levels of projected involvement or declined some (as in the case of voting in an election about the flat tax).

Agenda-Setting

One possible kind of influence that PTR could produce is altering the audience's perceptions about how important various issues are. Such an effect would be an alteration of the audience's priorities and not necessarily its attitudes, opinions, and values. Other researchers (Iyengar and Kinder, 1987) have produced short term changes in audience priorities after exposing them to topics in brief newscasts. The agenda-setting hypothesis in its simplest form is that mere exposure to topics will lead to an elevation in the importance an audience attributes to an issue. If PTR exposure produces an agenda-setting effect, then we should see that topics discussed in the 5 experimental groups should be ranked higher than those in the control group after a week's exposure.

To evaluate this possibility people were asked to rank 10 problems in terms of their "opinion on which are the most important and least important" problems facing the country. The bar charts below summarize the relative rankings of 6 issues discussed directly or indirectly in the week of the experiment. In reading the charts keep in mind that the lower the number the more important the problem.

Figure 16. Average rank of importance for six issues for PTR groups versus control: Pre-test.

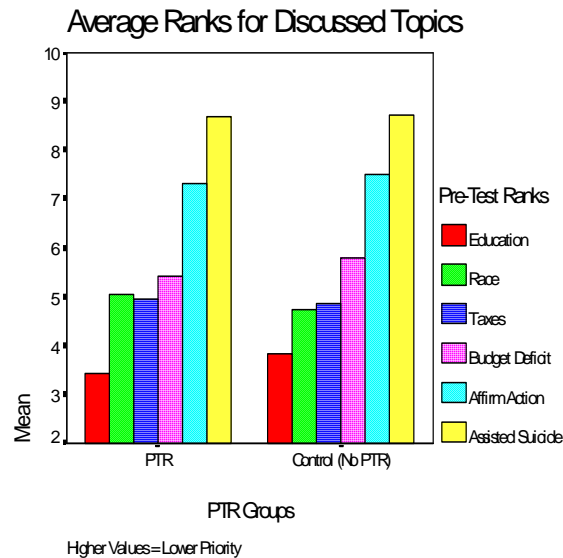
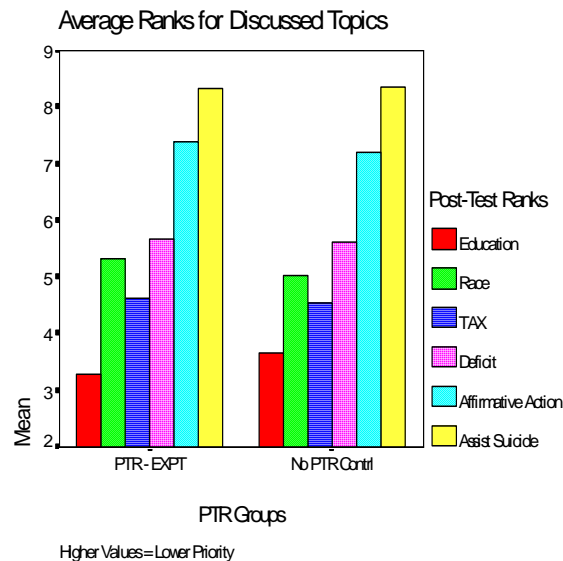


Figure 17. Average rank of importance for six issues for PTR groups versus control: Post-test.



The average ranking of the issues changes very little from pre to post test and differs little from experimental to control group. This impression from the graphs is borne out in statistical tests. Average ranks of the six issues do not differ from experimental to control after controlling for pre-test levels of average ranking ($p = .55$). Neither does any experimental group alone differ from the control group ($p = .15$ is as close to significance as we get). In effect, the simple agenda-setting effect fails in the context of talk radio.

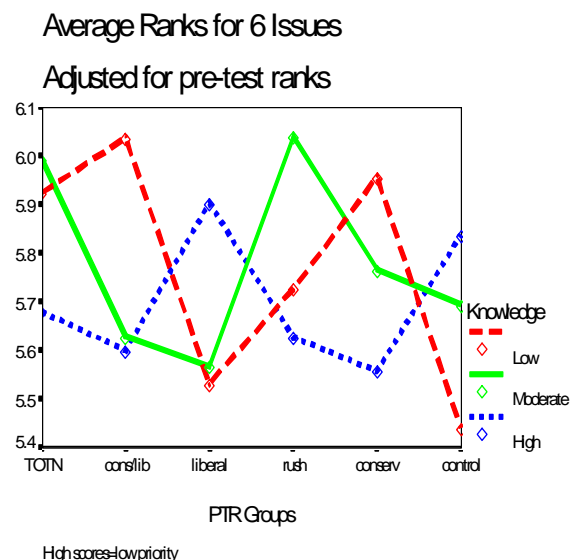
Recent research and thinking has argued that agenda-setting is not merely an automatic cognitive accessibility effect whereby mere exposure lowers the threshold of availability of a topic. Rather it is a more deliberate judgment in which an audience member evaluates the credibility of a source's story about a topic before allowing the events of the story to have an impact on the person's priorities. Credibility of the source and audience knowledge would therefore intervene in agenda-setting effects. Audiences with relatively little knowledge would be less able to evaluate the quality of the information presented and so

might be able to be moved easily by any story. A rational audience would re-arrange its priorities in accord with a news account only to the extent the audience finds the source credible and the story plausible. Do these factors intervene in audience agenda-setting with PTR hosts and contents?

We took a two-step approach to answering these questions. First, an index of average rank was created for the six topics discussed during the week's radio. A two-way analysis of covariance was carried out with experimental condition (6 levels) and credibility (3 levels) as between-subjects factors and average rank during pre-testing the covariate. This analysis produced no significant main or interaction effects for either judgments of program honesty or program liking. However, the same analysis with issue knowledge (3 levels) produced a significant interaction effect with experimental group ($F(10, 399)=2.20, p<.02$). No main effects for knowledge or experimental group were obtained. The pattern of results for the average rank adjusted for pretest average ranks is presented in the graph below.

The results are complex and not easy to interpret. Focus first on the control group where the low knowledge people give a higher rank than the other groups to this set of issues. A similar pattern is seen for those listening to liberal PTR. But every other group shows an opposite pattern with high knowledge people giving a higher priority to the set of issues discussed in PTR. It's as if the liberal shows made appeals that low knowledge people found acceptable leading to a higher priority for the issues while the other programs made appeals that

Figure 18. Average ranks for six issues (adjusted): PTR group by levels of knowledge.



the high knowledge people found acceptable. Since PTR (other than the liberal) differed from the control, it produced an agenda-setting effect but only for the high knowledge people in the audience. What's not clear is why liberal PTR functioned in the opposite manner. Why would the less knowledgeable audience in liberal PTR show the agenda-setting effect while the high knowledge groups show it in the other PTR conditions? We don't have an answer to this question but perhaps by looking more carefully at specific issues we can get a better sense of which ones are behind the aggregate changes and which are not.

The second approach then was to conduct a multivariate analysis of covariance for the six issue ranks with experimental group (6 levels) and knowledge (3 levels) as between subjects factors while the six pretest ranks functioned as covariates. The interaction between knowledge and experimental group was multivariate significant (Wilks Lambda = .810, $F(60, 2011.7)= 1.38, p = .03$). The significant univariate effects are for taxes ($F(10, 388)=1.74, p = .07$) and assisted suicide ($F(10,388)=1.86, p < .05$).

There was also a significant univariate main effect for PTR group on the ranking of education ($F(5, 391)=2.49, p=.03$).

Figure 19. Ranking of taxes (adjusted) by PTR group and levels of political knowledge.

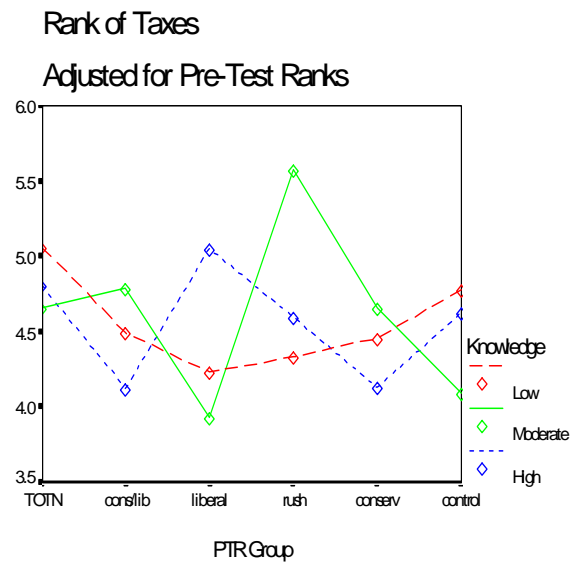


Figure 20. Rank of assisted suicide (adjusted) by PTR group and levels of knowledge.

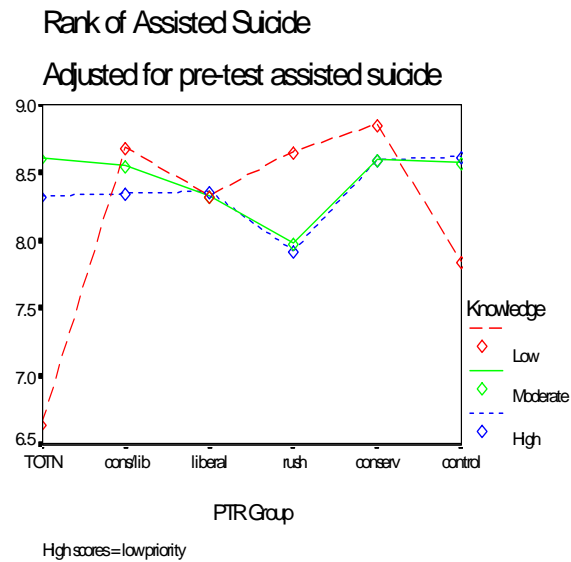
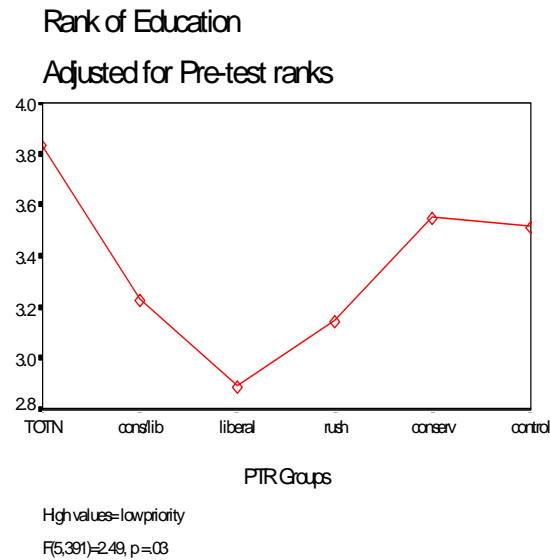


Figure 21. Rank of education (adjusted) by PTR group



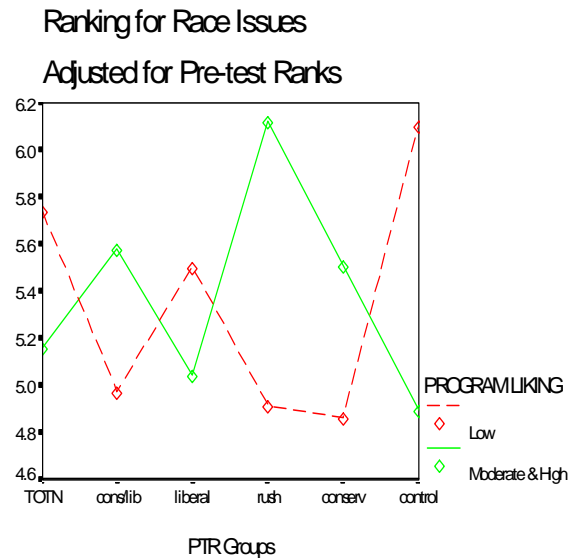
Although the story is not completely clear, the main effect for education is due to a high priority on education for those low, moderate, and high in knowledge of social and political issues. The interaction between knowledge and PTR group is not significant but when examining the means for all three levels of knowledge they have identical rankings for education with the highs and moderates giving higher priorities to this issue than their comparable groups in the control. We also see in the case of assisted suicide, the low knowledge group gives a lower priority to this issue in all PTR groups (except TOTN) than it does in the control. High and moderate knowledge groups are not particularly different from the control except for those listening to Limbaugh who raises the priority of this issue for his knowledgeable listeners.

The tax issue gets a differential reaction from high knowledge people in the liberal PTR group than it does in other PTR programs. The liberal sources then may have undermined the tax issue for the high knowledge audience (which is likely to be better educated, and have higher income) but made salient the education issue for the high and moderate groups relative to their control group counterparts.

Is it the specific messages of the liberal group or some general perception of that programming which has affected the way it influences the rankings of issues? Even though there is no effect for program credibility on the average ranking of six issues, there may still be an effect at the level of individual ranks. There is no multivariate effect for post-test rankings of issues due to PTR group, perceived honesty, or their interaction.

To test the effects of program liking, a multivariate analysis of covariance was run for 6 outcome ranks, on three levels of liking, 6 PTR programs, their interaction, and 6 pre-test issue ranks. The main effect for PTR group was multivariate significant (Wilks' lambda = .894, $F(30, 1534)=1.45, p=.06$) and the interaction between PTR group and program liking was also significant (Wilks' lambda = .823, $F(60, 2011.2)=1.27, p=.08$). The univariate effects creating most of this difference were due primarily to education ranking for the PTR group differences ($F(5,388)=3.02, p=.01$) and to race ranking for the interaction ($F(10,388)=2.29, p=.01$). These results are presented below in graphical form below for the case of low liking versus moderate and high liking. The two levels of liking were employed because the moderate liking group was statistically identical to the high liking group. Those listening to Limbaugh and liking the show even somewhat ranked racial issues of lower priority than those in the control and liberal listening audiences. By contrast those disliking Limbaugh, liberal-conservative, and conservative shows elevated the priority of race as an issue in contrast to the control.

Figure 22. Rank for racial problems (adjusted) by PTR group and program credibility (liking).



Graphical results for the effects of PTR on the ranking of education are not presented because they are presented in the earlier graph. Education gets a higher priority from those listening to liberal programming than those listening to any other type.

In results presented earlier, we saw no effects of PTR exposure on attitudes toward affirmative action, Black responsibility, or the condition of African-Americans. However, the priority of racial issues on the national agenda is affected by PTR exposure but not in simple ways. Program credibility and program content determines changes in priority – not just exposure to the topic. In some senses, our findings are perhaps more realistic representations of agenda-setting effects in a deliberative context. Whether a topic is an important one to be solved or not depends on what events transpire, the credibility of the source for the audience, and in some contexts the audience's knowledge of related issues.

Our findings on agenda-setting must be considered controversial and very much in need of replication and further study. By finding that agendas are not simply set by consideration of a topic by a source, our results fly in the face of existing agenda-setting research. At the same time, previous agenda setting findings have assumed a mostly credible source (main stream media) rather than a source whose credibility is extolled by one group and demeaned by another. When credibility is at issue what the audience knows and how the audience judges the source matters in what is assumed to be important.

Future research must evaluate our hypothesis in other contexts assessing priorities as a function of attributed credibility of programming and not just program exposure. In some ways, our findings do not conflict with those in agenda setting at all because media credibility has never been a serious variable in prior research.

Perceptions of Main Stream Media

Some hosts in PTR see themselves as antidotes to the biased and infectious influences of the main stream print and broadcast news media. Limbaugh in particular answers questions about the need for balance in his presentations with claims that he is the balance to what is otherwise an imbalanced and biased news media.

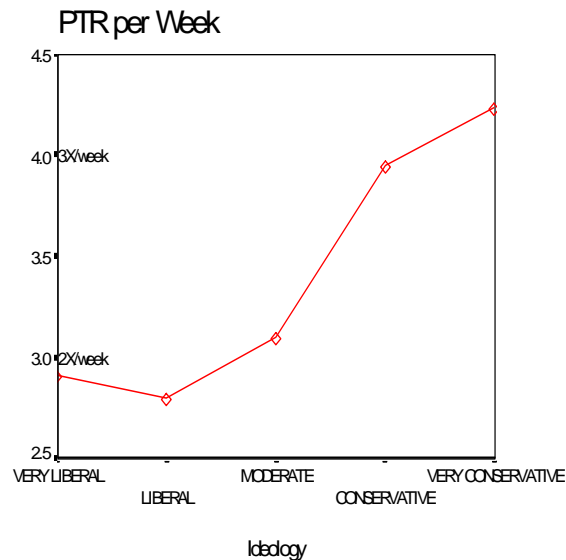
One of the issues we wanted to evaluate in our experiment was whether exposure to PTR would affect the audience's evaluations of main stream news media. To get at this question, a number of questions were asked about newspapers and national TV news in both the pre-test and final questionnaires. These items fell into several groups. In the pre-test, questions about people's favorability of newspapers and national TV news were asked as were questions about whether the news media help

society solve its problems or get in the way. The latter was a forced choice question with a “strongly” or “not so strongly” intensifier asked as a follow-up. Also, five questions about fairness and balance in five news sources evaluated were asked. The sources included the “news and editorial sections of your newspaper”; “PTR”; “programs on National Public Radio, like All Things Considered”; “national TV evening news programs on NBC, ABC, CBS, & CNN”; C-SPAN.

In the final questionnaire, there were two 7-point agree-disagree questions about media cynicism (“help solve society’s problems” and “get in the way”); two questions evaluating print and TV news favorably on 7 point scales; four favorability questions about specific sources (NYTs; Washington Times; Peter Jennings; Jim Lehrer). These sources are frequently cited in PTR discussions invoking news media.

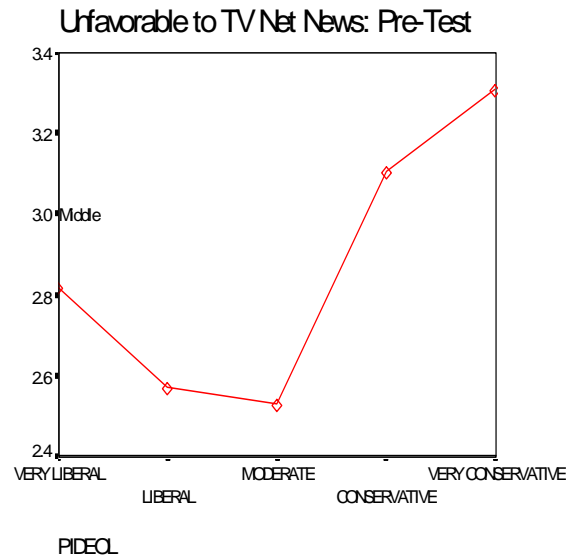
Ideology is significant in the attitudes our participants expressed toward the main stream news media. Unsurprisingly, the conservatives in our sample consumed more PTR than any other group ($F(4,429)= 6.89, p < .0001$). Post-hoc tests indicate that those reporting they are conservative and very conservative consume significantly more PTR per week than liberals, moderates, and strong liberals. The behavior of conservatives and the messages they are likely to hear from PTR about the main stream media suggest that they will evaluate these outlets less favorably than their more liberal and moderate counterparts.

Figure 23. Mean consumption of PTR per week by political ideology.



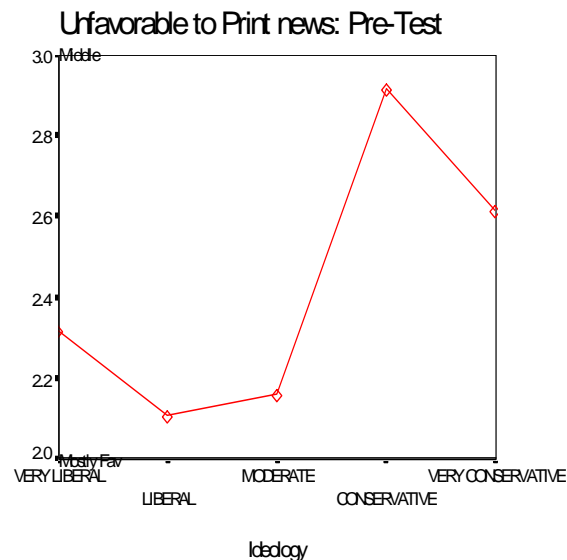
Indeed, conservatives are more unfavorable to both network evening news shows and to newspapers reporting of news than are liberals and moderates. Conservatives are more unfavorable toward TV news than are liberals and moderates ($F(4,417)=3.99, p < .003$) with the conservative and very conservative groups significantly more unfavorable than the other three groups ($p < .05$ in all cases). Conservatives locate themselves on the unfavorable side of the scale while liberals and moderates position themselves on the favorable side.

Figure 24. Mean unfavorability to TV network news by political ideology.



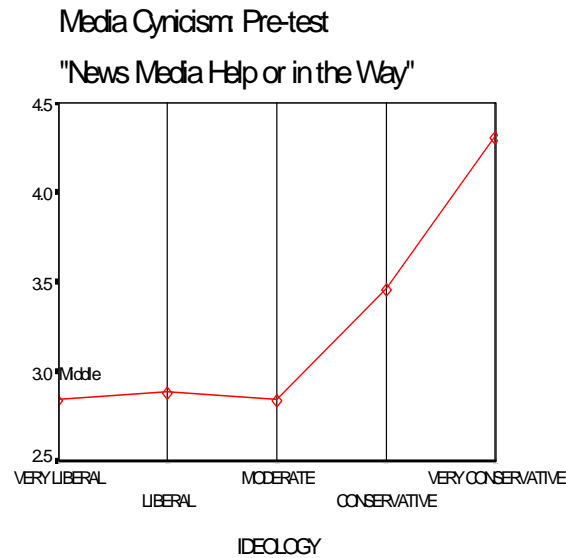
Unfavorable reactions to newspapers show similar but not identical patterns ($F(4, 417) = 7.09, p < .0001$). The means for all groups are on the “favorable” side of the scale but the liberals are much more favorable than are the conservatives. The very liberal and very conservative groups are not as extreme as their liberal and conservative counterparts. The consequence is that the significant differences are between the conservative group and the liberal and moderate groups. These are differences in favorability because the means are on the favorable side of the scale.

Figure 25. Mean unfavorability to daily newspapers by political ideology.



The five point measure of media cynicism shows results consistent with favorability judgments ($F(4,417) = 4.66, p < .001$). The conservative groups are more cynical about the media believing it to be more likely to get in the way of society solving its problems (scores above 3) while liberal and moderate groups average just below the mid-point. The differences between the two conservative and three liberal and moderate groups are significant ($p < .05$) individually.

Figure 26. Mean cynicism toward main stream news media by political ideology.



In the sample selected for the experiment self-reported ideology distinguished the degree of cynicism attributed to the main stream news media and the audience's disfavor with these groups. Conservatives are more unfavorable and more cynical about the role of the main stream news media in society. They express this in the attributions they make and in their use of alternative sources such as PTR.

Table 12. Means and standard deviations for pre-test judgments of fairness and balance by political ideology: Five news outlets.

Descriptive Statistics

Ideology		newspaper: fair&balanced? F(4,401)= 9.21, p < .0001	talk radio: fair&balanced? F(4,357)<9.65, p=.0001	NPR: fair&balanced? F(4,302)=4.58, p < .001	Natl TV news: fair&balanced? F(4,420)=9.39, p<.0001	C-SPAN: fair&balanced? F(4,200)<1, p=ns
VERY LIBERAL	Mean	4.3571	2.7059	5.3824	4.6667	4.4286
	Std. Deviation	1.5589	1.5281	1.3929	1.6479	1.5353
	N	42	34	34	42	21
LIBERAL	Mean	4.1786	2.9381	5.2000	4.4655	4.8000
	Std. Deviation	1.4533	1.5466	1.3870	1.5460	1.4983
	N	112	97	85	116	50
MODERATE	Mean	4.0000	3.0915	4.6143	4.4359	4.7368
	Std. Deviation	1.4589	1.4264	1.5940	1.6340	1.7937
	N	188	165	140	195	95
CONSERVATIVE	Mean	2.9608	4.1481	4.4250	3.3051	4.9667
	Std. Deviation	1.5743	1.8774	1.5506	1.7932	1.4259
	N	51	54	40	59	30
VERY CONSERVATIVE	Mean	2.7692	4.6923	3.8750	2.7692	4.3333
	Std. Deviation	1.4233	1.9315	1.8851	1.6909	2.5495
	N	13	13	8	13	9
Total	Mean	3.9163	3.2293	4.8176	4.2588	4.7366
	Std. Deviation	1.5405	1.6341	1.5549	1.7001	1.6800
	N	406	362	307	425	205

They also tend to find main stream media more unfair and imbalanced. In the table below five sources of news are compared in terms of fairness and balance as a function of the evaluator's ideology. Four of the five are strongly related to ideology with conservatives judging TV, print, and NPR news to be less fair and balanced than liberals and moderates do. By contrast, PTR is seen as more fair and balanced among conservatives than among liberals and moderates. Only C-SPAN is unrelated to ideology, averaging above the mid-point for all groups.

None of this is particularly surprising. Conservatives in this sample are very unhappy with television and print news seeing it as part of the problem facing society rather than part of the solution. Liberals are more favorable to the main stream media although their evaluation of it as a solution or a problem is about at the mid-point on average.

The interesting question however is whether exposure to PTR has any effects on altering these perceptions of the main stream news media, either activating or depressing cynical responses or modifying positive and negative feelings. Five questions were used to ascertain the audience's reactions to main stream media after exposure to PTR. They were:

Seven point favorable-unfavorable questions on
 The daily newspaper you are most familiar with
 Network TV News

Seven point agree-disagree responses to:

The major news media – national television news and daily newspapers – mostly help society solve its problems.

The major news media – national television news and daily newspapers – mostly get in the way of society solving its problems.

The media treat liberals and liberal causes more sympathetically than they treat conservatives and conservative causes.

In all cases, participants were given the option to indicate that they were unfamiliar with the particular medium.

The two favorability items did not show any differences across experimental conditions even with appropriate controls for pre-test levels of favorability. No interactions with ideology or with previous PTR experience were detected.¹⁸ Similarly, the positively worded media cynicism question showed no effects due to PTR group or interactions with ideology, party, or prior PTR experience. This question asks whether the major news media help society solve its problems. In our previous research on cynicism, questions inviting cynical reactions tended to be more readily altered by messages activating cynical responses than their opposite – but positively worded – counterparts.

Two significant effects emerged. The first was for media cynicism. The table and graph below summarize the effects. A significant interaction effect emerges between political ideology and PTR group explaining about 5% of the variance in media cynicism. The control group means for each ideological subgroup are essentially identical after controlling out the effects of pre-test cynicism. But as liberals and conservatives are exposed to various types of PTR their cynicism about the media is altered, sometimes in unpredictable directions. Exposure to conservative PTR leads conservatives to be more and liberals to be less cynical about main stream media. After exposure to 5 days of Rush Limbaugh, conservatives have elevated levels of media cynicism but so do liberals, contrary to their reaction to conservative PTR. Perhaps most perplexing is the conservatives' response to TOTN. Cynicism is elevated here possibly because they are reminded that TOTN is like the liberal news media despised by conservative groups.

Table 13. ANCOVA results for main stream media cynicism: PTR group, ideology, and pre-test media cynicism.

PTR group, ideology, pre-test media cynicism

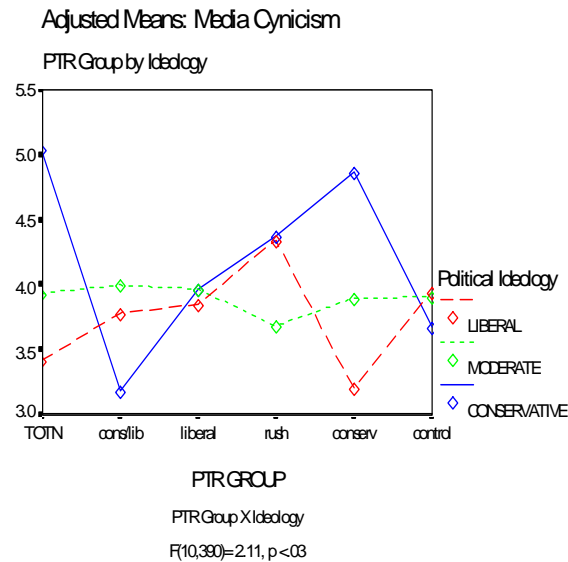
Dependent Variable: Media Cynicism

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
Corrected Model	406.595 ^b	18	22.589	10.123	.000	.318
Intercept	352.444	1	352.444	157.950	.000	.288
Ideology	8.178	2	4.089	1.832	.161	.009
PTR Group	8.544	5	1.709	.766	.575	.010
Ideol*PTR Group	47.112	10	4.711	2.111	.023	.051
Pretest Media Cyn	307.797	1	307.797	137.941	.000	.261
Error	870.232	390	2.231			
Total	7458.000	409				
Corrected Total	1276.826	408				

a. Computed using alpha = .05

b. R Squared = .318 (Adjusted R Squared = .287)

Figure 27. Mean media cynicism (adjusted) by PTR group and ideology.



The other significant effect was found with a question about liberal bias in the major news media. This is a favorite mantra of many conservative PTR hosts, especially Limbaugh. The table and graph below indicate the significance and direction of effects. Again political ideology plays a significant role in moderating the effects of PTR exposure on liberal bias. Although the interaction effect is not significant by normal standards it does explain almost 4 % of the variance in liberal bias. An effect for PTR underlies the interaction. The graph shows that the control group exhibits large differences in

perceived bias in the media depending on political ideology. This is so because we had no pre-test measure of liberal bias and unlike other analyses we conducted no control for pre-test levels was possible. Table 14. ANOVA results for attributed liberal bias: PTR group and political ideology.

Tests of Between-Subjects Effects

Dependent Variable: Liberal Bias in News

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
Corrected Model	368.301 ^b	17	21.665	8.603	.000	.269
Intercept	6427.409	1	6427.409	2552.356	.000	.865
Ideology	298.824	2	149.412	59.332	.000	.230
PTR Group	28.498	5	5.700	2.263	.048	.028
Ideol* PTR Grp	39.277	10	3.928	1.560	.116	.038
Error	1002.254	398	2.518			
Total	8375.000	416				
Corrected Total	1370.555	415				

a. Computed using alpha = .05

b. R Squared = .269 (Adjusted R Squared = .237)

The interaction effect is due solely to the conservatives. Conservatives listening to TOTN, liberal PTR, and a liberal/conservative mix were less likely to say there was a liberal bias in the mass media than was the case for those in the control (or those hearing conservative or Limbaugh programming). If we ignore the marginal interaction effect, the main effect for PTR exposure is still significant explaining almost 3 % of the variance. It is due to the TOTN, liberal, and liberal/conservative exposures having lowered levels of attributed liberal media bias.

Figure 28. Mean attributed liberal bias in main stream news by PTR group and political ideology.

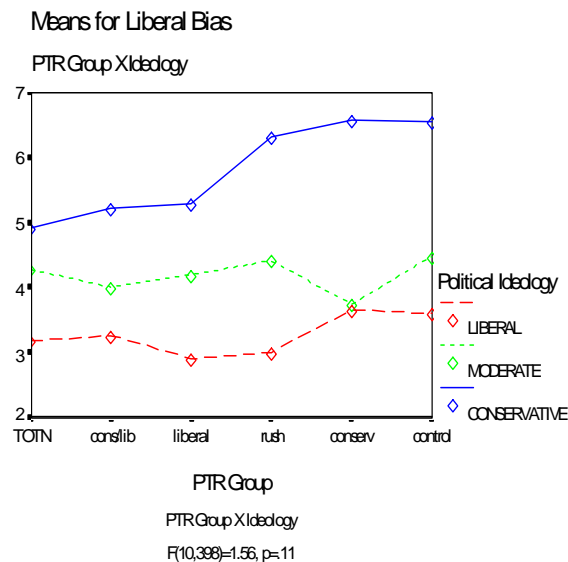
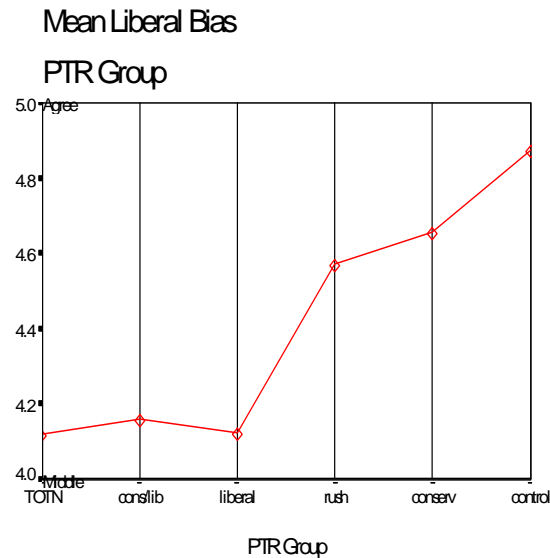


Figure 29. Mean attributed liberal bias in main stream news media by PTR group.



The PTR programs we gave our participants did not allocate much of their talk to the media per se. Despite this, two of the most important questions we asked in follow-up produced differences in response. Differences between conservatives and liberals in assumed liberal bias were reduced when audiences heard a liberal or balanced message. Differences between conservatives and liberals in media cynicism increased in response to conservative, liberal/conservative, and TOTN programs.

Cynicism about Government and Politics

The popular press has characterized listeners of PTR as cynical about government and politics. Even though some surveys have failed to find these relationships, others have observed higher levels of cynicism among regular listeners. Certainly the constant drum beat of attacks on big government, government waste, and fraud and corruption and ineptness by PTR's messengers is in accord with the more intense levels of cynicism some have observed.

But cynicism can be an amorphous construct referring to mistrust of government, of politicians, of the political (especially electoral) process, of social institutions, and of personal and system efficacy. While PTR may typically undermine people's trust of big government as ineffective, it might also increase a person's sense of personal efficacy. It is important then to keep these components of cynicism separate from one another.

We measured aspects of cynicism in both the pretest and post test questionnaires. The questions and their clusterings (based on factor analysis and scale reliability) are reported below. In the post-test, 11 questions were asked. One group of 6 was summed to create a measure of government cynicism. It was additive with an internal reliability of .77. The items were 7 point agree-disagree scales:

Most of the time you can trust the government in Washington to do what is right (rev).

Almost all of the people running the government in Washington are a little crooked.

People in Washington waste most of the money we pay in taxes.

Regardless of who is in power, money buys the votes that determine the laws that are passed.

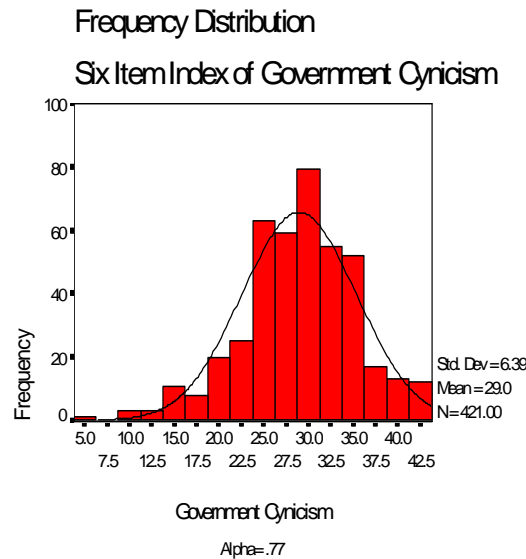
The government is pretty much run by special interests looking out for themselves.

The government is pretty much run to benefit all the people. (reversed)

Five other questions were treated as separate items. Personal inefficacy was evaluated with "People like me don't have any real say about what the government does." Political indifference was measured by "There aren't any important differences between Democrats and Republicans these days." Three other

questions about politicians and elections produced no interesting differences in the experiment and will not be discussed further.¹⁹

Figure 30. Distribution of responses on six item index of government cynicism.



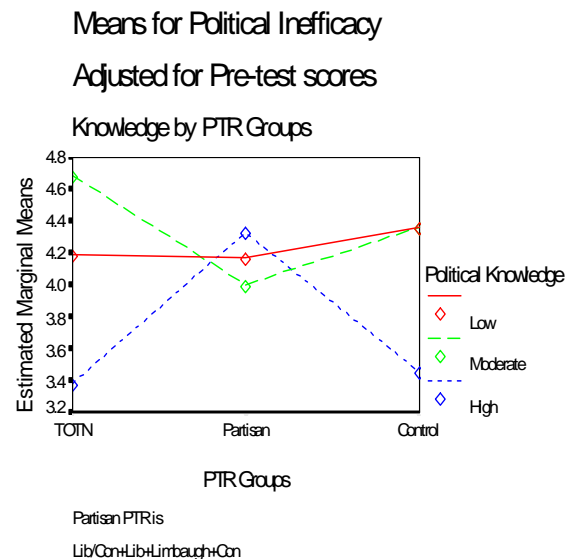
Pre-test questions paralleled the phrasing of those in the post-test except that they were either 5 point scales or forced choice with “strongly or not strongly” probes. Two measures of government cynicism were necessary because the 6 items together were not additive. The two scales correlated at .50, $p < .01$. Personal inefficacy and political indifference were single items as in the post test. One other measure of election cynicism was also obtained.

No effects for cynicism about elections, politicians, or political indifference were obtained. All of the effects due to PTR exposure are found for personal inefficacy and government cynicism. As in many of our previous findings on PTR, direct effects for PTR groups are nonexistent or hidden within effects for particular subgroups. The same is true with personal inefficacy and government cynicism.

The effects of PTR exposure on personal inefficacy depends on the political knowledge of the audience. An analysis of covariance was run on political inefficacy with PTR group (6 levels) and political knowledge (3 levels) as factors and pretest inefficacy as a covariate. The interaction was significant ($F(10, 395) = 2.06$, $p < .03$, $\eta^2 = .049$) while neither PTR group nor knowledge was. Exploration of the individual effects showed that all the PTR groups using a partisan format (that is, all except TOTN and the control) had very similar means. These 4 partisan groups were collapsed into one and the means graphed below.

Those high in political knowledge show levels of political inefficacy equivalent to those of the low and moderate knowledge groups after listening to partisan PTR, regardless of its ideology. Normally, those high in knowledge, civics knowledge, or who report they follow politics closely tend to have lower levels of cynicism and higher levels of political efficacy. Here we see that

Figure 31. Mean political inefficacy (adjusted) by PTR group and political knowledge.



exposure to PTR that is partisan elevates the otherwise lower levels of inefficacy for the high knowledge subgroup. No comparable (or reversed) effect is found for the low or moderate knowledge groups.

Perhaps the negativism about government and politics that is the mantra of partisan PTR –even liberal PTR – leads the most knowledgeable and attentive in the audience to question their ability to have an effect. Notice that the high knowledge subgroup is no more indifferent than the other two groups but the usual differences due to knowledge have been wiped out. (A similar analysis was conducted with close following of three political topics substituting for political knowledge. Similar results obtained.)

Government cynicism was evaluated through an analysis of covariance with PTR group (6 levels) and Conservatism (3 levels) as factors and pre-test government cynicism as covariates. The interaction between ideology and PTR group was not quite significant ($F(10, 399)=1.63, p < .10, \eta^2 = .039$). However, because liberal and moderate groups were very similar within PTR exposure, they were collapsed into a single group with a clearer and statistically significant pattern graphed below. The results are complex but potentially very interesting. To see what is really different from what it's necessary to examine the individual parameter estimates.

The individual parameters are dummy variables with control as the comparison group for PTR and conservatives as the comparison for the liberal/moderate group. The B coefficients for the groups labeled PTR are essentially the differences between the PTR group and the control for the conservative audience. Conservatives who listen to TOTN and to Limbaugh are nearly significantly different from the control and less cynical than conservatives in the control. In effect, TOTN and Limbaugh function similarly – lowering audience cynicism from what it might have been. The size of the differences is not quite significant in part because the number of conservatives is too small in the sample.

The effect labeled “Lib&Mod X TOTN PTR” is an interaction effect. When significant, it means that the difference between two differences is reliable. The two differences are (a) the difference between TOTN and the control for the conservative audience and (b) the difference between TOTN and the control for the liberal and moderate audience. There are three strong and one weak contributors to the interaction effect: TOTN, Lib/Con PTR, Limbaugh, and Conservative PTR. The strongest is Limbaugh and the direction of the effect is what is most surprising. Limbaugh has the effect of raising government cynicism for the liberals and moderates while lowering it for the conservatives; liberal PTR has exactly the

opposite effect, lowering cynicism for the liberals and raising it for the conservatives. Perhaps, liberal PTR's focus on

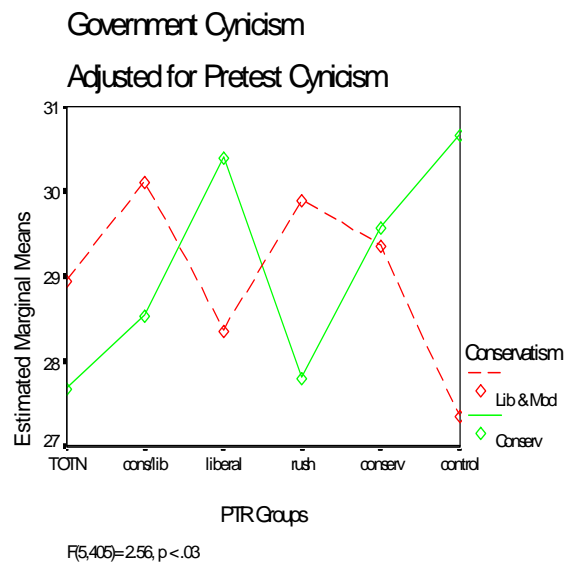
Table 15. Individual parameter estimates for government cynicism (GLM): PTR group, political conservatism, and their interaction.

Parameter Estimates for General Linear Regression: Control is Baseline

Dependent Variable	Parameter	B	Std. Error	Sig.
GOVCYN	Intercept	2.412	1.896	.204
	Lib&Mod	-3.307	1.417	.020
	PTR=TOTN	-2.972	1.795	.099
	PTR=Lib/Con	-2.120	1.799	.239
	PTR=Lib	-.275	1.710	.872
	PTR=Limbaugh	-2.863	1.688	.091
	PTR=Cons	-1.082	1.649	.512
	Lib&Mod X TOTN PTR	4.563	1.978	.022
	Lib&Mod X Lib/Con PTR	4.874	1.996	.015
	Lib&Mod X Lib PTR	1.288	1.902	.499
	Lib&Mod X Limbaugh PTR	5.401	1.892	.005
	Lib&Mod X Cons PTR	3.088	1.843	.095
	PGOVGCYN1	1.995	.177	.000
	PGOVGCYN2	.890	.099	.000

a. Computed using alpha = .05

Figure 32. Mean government cynicism (adjusted) by PTR group and political conservatism.



possible government interventions activates conservatives' concerns about government waste and corruption and energizes the liberals hopes for governments' successful social policies. A different message altogether may be operating within the framework of Limbaugh's program. With the Republicans in charge of Congress and a large majority of state houses, the possibility of a smaller, less activist government raises conservatives' trust while depressing that of liberals and moderates. So one possible explanation for the observed differences across PTR groups for audiences of different ideology is that the ideological filters color what is heard and how it is heard so that the "cross-over" interactions we have seen in other variables also operate here. Just as ideology may act as a direct interpretive filter for persuasive messages so it may act as an indirect interpretive filter for messages about government and its efficacy.

Whether PTR has the power to alter personal efficacy or cynicism about government depends in large measure on what the audience brings with it to the message. Its own prior knowledge (and interest in following political matters) and its ideology determines whether a particular message will push one way or the other. The interpretation of the message occurring as it does through ideological filters becomes the frame through which the message is seen and responded to.

Knowledge and Learning

Like all media that present information on social and political issues, PTR may have an educational function for the public. As has been true with main stream newspapers and television news, claiming such an effect and showing it are two different things. Most controlled experiments do show some kind of learning effects from exposure plus attention to media news. Many surveys on the other hand show small to non-existent effects for learning from exposure. In our report on PTR from Wave 1, the audience of regular PTR listeners was shown to be more knowledgeable on social and political issues than was the audience of non-listeners even after a variety of controls for demographic differences between the listening and non-listening groups.

The sample for the current study is not particularly different from our more representative Wave 1 sample in its knowledge of political and social issues. The table below shows levels of knowledge and following political issues broken out by four levels of education and two levels of use of PTR, twice a week or less and more than twice per week, for a variety of measures of knowledge and following issues. These knowledge indices include: civics knowledge; knowledge of social and political issues; political sophistication (Rhee & Cappella); close following of four separate issues; general following of political issues; and argumentative depth on the fairness doctrine (see appendix A for coding rules for argumentative depth).

Education and PTR exposure do not interact for any measure of knowledge or following. Education is a significant predictor of civics knowledge ($F(3,400)=17.19, p<.000, \eta^2=.114$), social and political knowledge ($F(3,400)=5.45, p<.001, \eta^2=.039$), close following ($F(3,400)=6.75, p<.0001, \eta^2=.048$), and argumentative depth ($F(3,400)=5.70, p<.001, \eta^2=.041$). Exposure to PTR is a significant predictor in 4 of 6 measures, with political sophistication a borderline case. Part of what is interesting about PTR is that it is strongest as a predictor of the two measures of close following (η^2 's between .08 and .10) which are little more than surrogate ways of saying that PTR is a manifestation of following. The measures of political knowledge are less strongly related to PTR exposure (η^2 about .01). The most sophisticated measure of political knowledge we employed – an assessment of reasoning on a question central to the conduct of the business of PTR – is unrelated to PTR exposure for high or low educated groups (η^2 less than .01).

Exposure to PTR is at best weakly related to political knowledge but, in fairness, it is probably no weaker than simple exposure to other mass media are. We wish to note the possibility that PTR can function like other media being the source of information for an informed electorate. But PTR as a source of information is less interesting than PTR as an activator of the acquisition of surrounding political information. In our previous research on main stream media in election campaigns and policy debates (Cappella & Jamieson, 1997), we discovered that news exposure (plus attention of course) had a

synergistic relationship to learning from other sources. In follow up exposures to political debates, previous exposure to related information led to more learning than when prior exposure was to unrelated materials. For example, exposure to information about candidates for a simulated mayoral campaign produced greater recall accuracy from a debate among candidates than did exposure to unrelated information. This was true even though everyone saw a follow-up debate and answered questions about it immediately. Would exposure to PTR have the same effect? Moreover would it have this effect for topics only indirectly related to those discussed in the PTR programs?

To test these ideas again and to extend them, we asked our participants to do several things after they had listened to the radio programs for a week. When they gathered on Saturday in groups from 15 to 50, they

--watched a CSPAN discussion of the minimum wage (a hot issue at the time) between Rep. Moran [a Democrat] and Representative Hutchinson [a Republican] debating and citizens calling in.

--reported on various political ads and PSAs they had heard during the week.

--reported on news accounts they had heard.

--read one pro and one con story from "USA Today" on educational vouchers and reacted to it.

The CSPAN discussion was edited to block out the party identification of the discussants even though a listener with even a modest knowledge of the issues could ascertain the Representatives' parties. Photo identification was also included in the questionnaire to remind people who was who. People answered four multiple choice questions about who said what during the debate. Before doing so, they wrote an open-ended essay about the minimum wage debate then raging between Republicans and

Table 16. Mean levels of social and political knowledge by previous PTR experience and education.

Social & Political Knowledge: EDUCATION BY TALK RADIO EXPOSURE								
Educational Talk Radio			Dependent Variable					
			Civics Know F(1,400)=14.9, p<.0001	Social & Polit Know F(1,400)=4.59, p=.03	Political Sophist F(1,400)=3.0, p<.09	Follows Issues F(1,400)= 36.8, p<.0001	Follows Politics F(1,400)=45.3, p<.0001	Argument Depth Pretest F(1,400)< 1, NS
HS & HS+	<=2X/Wk	Mean	1.447	3.340	2.574	11.809	2.511	3.426
		Std. Error	.176	.233	.229	.576	.120	.273
	>=3X/wk	Mean	1.788	3.818	3.030	14.606	3.303	3.939
		Std. Error	.211	.278	.274	.687	.144	.326
<College Deg	<=2X/Wk	Mean	1.678	3.864	2.831	13.068	3.051	4.169
		Std. Error	.158	.208	.205	.514	.107	.244
	>=3X/wk	Mean	2.517	4.190	3.172	14.483	3.483	4.241
		Std. Error	.159	.210	.207	.519	.108	.246
College Deg	<=2X/Wk	Mean	2.282	4.141	2.775	12.859	3.000	4.746
		Std. Error	.144	.189	.187	.469	9.795E-02	.222
	>=3X/wk	Mean	2.852	4.492	3.180	15.115	3.607	4.393
		Std. Error	.155	.204	.201	.506	.106	.240
>College Deg	<=2X/Wk	Mean	2.786	4.405	3.310	12.619	3.262	4.810
		Std. Error	.187	.246	.243	.609	.127	.289
	>=3X/wk	Mean	2.946	4.649	3.216	15.946	3.703	4.811
		Std. Error	.199	.262	.259	.649	.136	.308

Democrats. During the week people heard no PTR on the minimum wage so if exposure to other PTR discussion elevates knowledge or complexity of (written) reasoning about the minimum that would be an powerful and interesting indirect activation of political reasoning.

All six types of PTR programming had news appended at the top and bottom of the hours. The news inserts were identical across all six PTR groups. Some of the news topics were also discussed during the PTR programs, while others were not.

Everyone read two brief articles from USA Today supporting or attacking educational vouchers. Order of presentation was randomized. People reported which of the two they agreed with more and wrote down reasons why they either favored or opposed vouchers. This topic was directly related to the week's discussion of education, public schools, teachers, and remedies for education's ills. We coded what people recalled about vouchers from the news stories they read.

Five of the six types of PTR had political ads and PSAs inserted into them at or near the news breaks. TOTN did not have these ads because we felt that it would be too great a deviation from standard programming on NPR. People were asked whether they remembered hearing a particular ad or not. Two of the questions were: "an ad for the Illinois Education Association" (correct is yes); and "an ad for a candidate that said that he was a 'veteran and war hero, father and teacher, ... is red, white and blue with no apologies ... He fought for his country and will do the same for you'" (correct is no). Of the 12 questions asked about ads, 7 were for ads that had appeared (yes is correct) while 5 were for ads that had not appeared. Because TOTN did not get the ads at all, what was correct for this group was different from the other five groups. Some of the questions about ads cued people to think about liberal outcomes (e.g. the PSA about the Illinois Education Association) while others cued conservative thoughts (e.g. an ad about a candidate who "fought the unions, and will cut city taxes"). One possibility is that ads with an ideological tone might be heard to occur within partisan programming when in fact they did not. Such memory distortions are common in other contexts and might also occur in the highly partisan context of PTR.

Being Informed

In addition to testing for learning, we asked people how informed they felt on a series of 5 issues related to those they heard discussed during the week's exposure to PTR. People did not feel uniformly more well-informed after listening to a week's PTR on issues of the federal budget deficit, the flat tax, doctor-assisted suicide, or education. But there were differences in how informed they were about affirmative action depending on their political ideology. The interaction between ideology and PTR group was significant at $F(10, 401)=2.29, p=.01$. Conservatives who listened to any PTR felt less informed about affirmative than their counterparts in the control while liberals felt more informed after listening. The exception to the trend among liberals was for those who listened to Limbaugh. They felt less well informed than other liberals did about affirmative action.

Just because people hear PTR doesn't mean they will come away feeling informed. For the most part there were no differences. On the one issue of affirmative action, conservatives were unimpressed by what they heard and so were liberals in the case of Limbaugh's program.

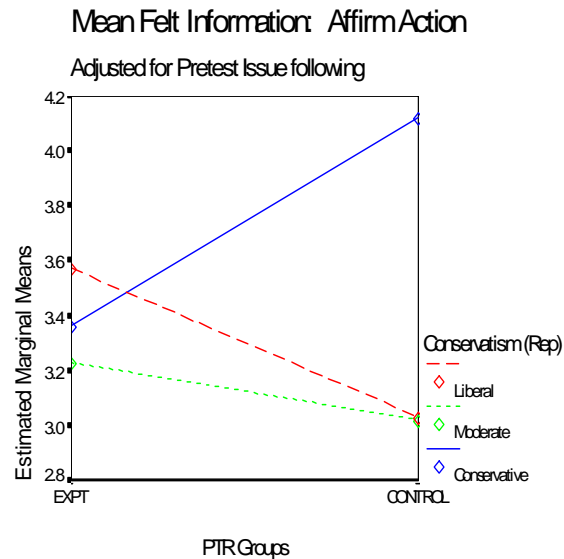
Argument Depth: Minimum Wage

The measure of argumentative depth about the minimum wage was both reliable and additive (see Appendix A). It correlated at .32 with pre-test argumentative depth on the fairness doctrine and correlated significantly with measures of education, civics knowledge, political sophistication, and knowledge (all in the vicinity of .20, $p < .05$). However, there were no differences across experimental conditions and no interactions between PTR groups and political ideology, education, or prior PTR experience. These findings are consistent with those reported in the table above showing no relationship between PTR exposure and pre-test measures of argumentative depth.

Two possible explanations arise. First, the messages of PTR may be insufficiently complex to enhance the quality of people's arguments about important issues. Second, even though people heard a substantive debate on the minimum wage at the final meeting, the PTR they heard during the week did not reinforce issues about the minimum wage. In effect, there was no redundancy between the messages

heard in PTR and those heard in the minimum wage debate. For PTR to have an activating effect may require redundancy between the topics of the messages heard initially and topics heard later.

Figure 33. The perception of “feeling informed” (adjusted means): PTR group and political conservatism.



Minimum Wage: Recognition

Four multiple choice items were asked about the CSPAN debate on the minimum wage. No single item was excessively difficult or easy ranging from 55 to 65 % correct. The mean correct was 2.4 on a 0 to 4 scale. No significant differences emerged for PTR group or interactions between PTR group and ideology, talk radio experience, or level of education.

Since the minimum wage was not discussed in the week's programming, it is perhaps unsurprising that no PTR group was affected favorably or adversely in recall from the CSPAN debate. Also the minimum wage materials were not themselves embedded within the PTR programming where there is a possibility of interference and distortion as well as enhancement. We entertained the hypothesis that discussion of political events such as taxes, the deficit, and Forbes' flat tax proposals might assist in the activation and retrieval of indirectly related knowledge and in the process encourage learning. That was not the case.

Educational Vouchers

Not yet available

News Stories

Participants were asked to respond true or false to eight news items inserted into the week's programming. The range of correct response was 25 to 70%; the mean correct on 0 to 8 scale was 4.1 and the median 4.0. The distribution of correct responses was approximately normal.

Although we did analyze the number of correct responses overall, we were more interested in the effects of PTR exposure on news items discussed during the radio programs and those only appearing in the news.²⁰ Both indices of news recall were analyzed through a multivariate analysis of covariance with PTR group (6 levels) as a factor and education as a covariate. Both were univariate significant and their patterns are illustrated in the graphs below. For news items not redundant with the content of PTR, the major finding is that all groups are lower than the control, 4 of 5 significantly so ($p < .05$). For news items redundant with PTR, the two-sided programs are significantly below the control while the one-sided programs are at or above the control in recall (Limbaugh is greater than the control at $p = .10$). These findings are not different for different ideological groups with liberals and conservatives in Limbaugh having higher scores than their counterparts in the control.

The major finding in recall of news must be that PTR does not necessarily enhance what people remember from news stories embedded in the programs. When the news is redundant with surrounding programming content there is more recall of the news for the partisan but not the two-sided programs. Only Limbaugh's show enhanced recall over that of the control for redundant news items. All other cases were either below or at the level of recall exhibited in the control condition.

Figure 34. Mean recall of news items redundant with PTR discussion by PTR listening group.

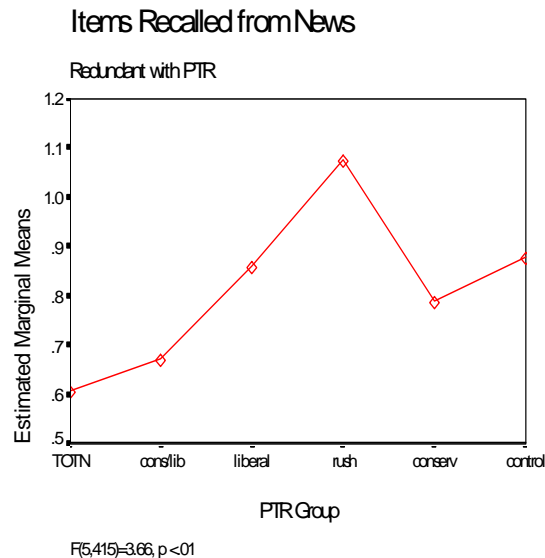
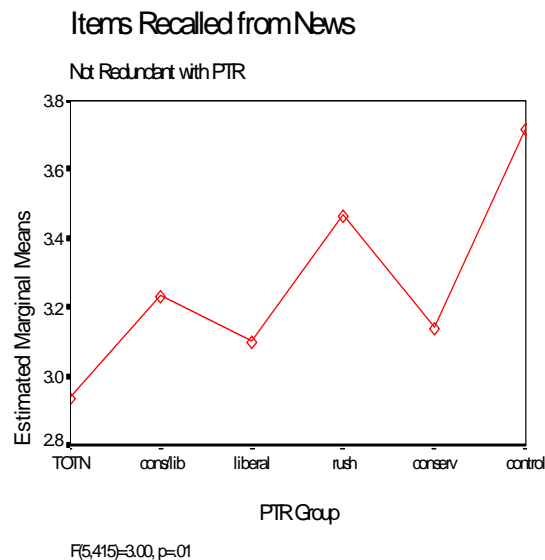


Figure 35. Mean recall of news items not covered during PTR programs by PTR listening group.



Several explanations should be considered. First, PTR messages may produce a kind of information overload for listeners wherein the content of the shows interferes with recall of the news occurring within the shows. This interference effect may be lessened when the content of PTR is redundant with the news effectively counteracting the interference effects. The two-sided programs may have greater difficulty in achieving this effect in part because their audiences are getting two sides of issues rather than one. Limbaugh's program may be especially effective at enhancing learning because it

tends to use current issues in the news as the basis for its daily commentary. By elaborating current news topics, mere redundancy may become elaborated redundancy with all the cognitive advantages that that provides for listeners.

Much of this is speculative, of course. We did not manipulate redundant and non-redundant news items using the same topics. So topic is confounded with redundancy here. But the patterns of recall are clearly different for the two types of news items and these differences deserve further inquiry. In our previous research where we were able to produce semantic activation of related knowledge, the information targeted for recall was related to the messages read but not embedded within the messages themselves. Also, in this study five separate topics were discussed whereas in our previous studies one topic was targeted for a full week of print or broadcast exposure. The present study shows the limitations of the semantic activation hypothesis. Interference rather than enhancement may result when consumers hear information that is only peripherally related to what is being learned and when they have no control over the rate at which the information is presented. The relevance of PTR programs to surrounding news may be a necessary condition for enhanced recall of that news.

Political Ads and PSAs

Five ads and PSAs were included in the radio programs excluding TOTN. Of the 12 questions about ads, 7 had “yes” as the correct answer and 5 had “no.” The range of correct response was 34 to 75% with the mean number correct 7.1 on a scale from 0 to 12. The questions were separated into two groups: those asking about ads whose content was discussed in PTR programs (6) and those not (6).

For ads whose topics did not appear during the week, there was a significant effect for PTR group $F(5,415)=12.8, p<.0001$ which is graphed below. People hearing TOTN correctly identified the fact that they got none of the ads and have higher recall scores than everyone else. This is comforting but uninteresting. More interesting is that the 4 other PTR groups had lower recall than the control with the Limbaugh and conservative shows at or near significance ($p<.07$). As we saw in recall of news items, PTR may interfere with other material presented within its boundaries reducing the accuracy of recall of those materials.

For ad questions whose topics were discussed, both a main effect for PTR group ($F(5,402)=25.2, p<.0001$) and an interaction between group and political ideology ($F(10,402)=2.18, p<.02$) emerged. The pattern of results graphed below may seem complicated but is not. The TOTN audience was once again highly accurate in identifying ads that were not available to them. Interestingly, their level of accuracy for ads whose content was discussed on TOTN was not as high (about 4 in 6) as it was for ads not discussed (nearly perfect 5.9 in 6). The main effect is due solely to the difference between TOTN and the other groups. The control and the four others are virtually identical in recall. Compared to the non-redundant ads, recall for the redundant ads in the PTR groups is slightly elevated over what it had been, especially in the comparing the conservative and Limbaugh listening groups.

Since there was no main effect for conservative ideology, the main effect for PTR group shows that the Liberal/Conservative, Liberal, Limbaugh, and Conservative PTR shows have recall levels at or very near to those of the control. When this result is contrasted to that for the questions where PTR content is not redundant, we find that recall for the ads is enhanced some by the redundant content. The enhancement is not large enough to increase recall beyond that of the control but it does bring recall to levels of the control.

But this description is not quite accurate because it masks differences among ideological groups. Aside from the Limbaugh group, conservatives recall less in PTR than in the control. Again excepting the Limbaugh group, liberals recall more ads than liberals in the control do do. The liberals and conservatives listening to Limbaugh deviate from the pattern of liberals and conservatives in the other PTR groups. Liberals have less accurate and conservatives more

Figure 36. Number of non-redundant ads correctly recalled by PTR group.

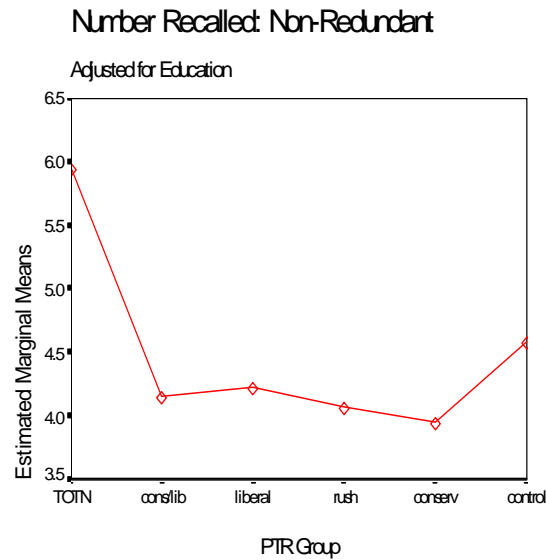
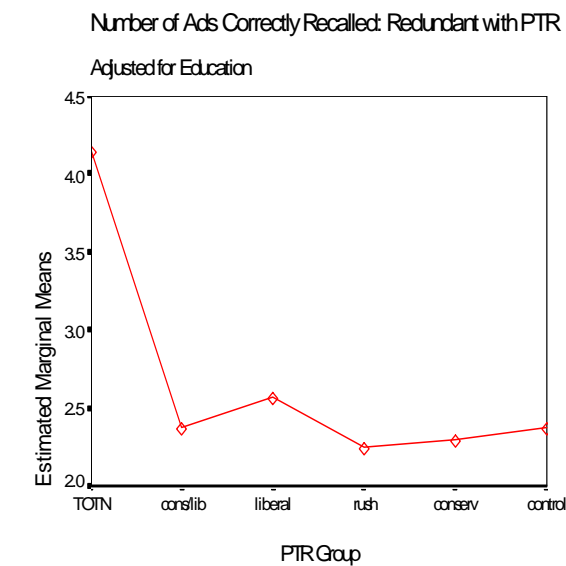
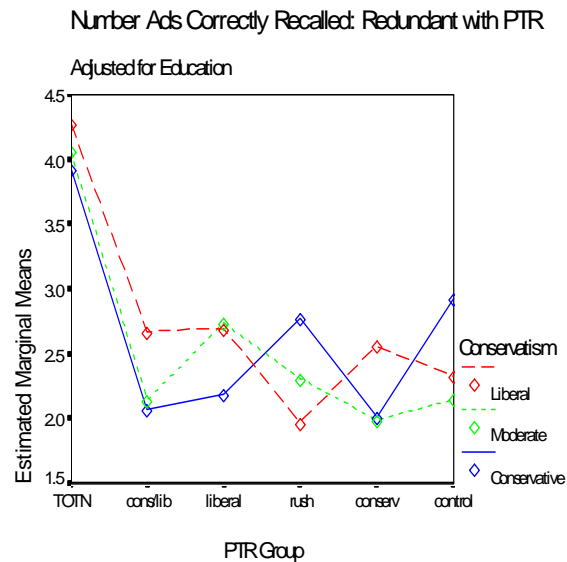


Figure 37. Number of topically redundant ads correctly recalled by PTR group.



accurate recall of the ads. The conservatives have better recall than other conservatives listening to PTR while liberals have worse recall than other liberals listening to other PTR. Given liberals' reactions to Limbaugh's program—especially for those who are familiar with Limbaugh's show—it is not surprising to find them learning less from it than the more favorable conservative audience would.

Figure 38. Number of ads correctly recalled: Redundant with PTR content.



Summary

The picture we are left with about learning from PTR is rather bleak. Participants did not especially feel informed after five hours of talk radio content except on the topic of affirmative action where conservatives felt less informed and liberals more than those in the control. Listening to Limbaugh reversed this pattern.

On topics unrelated to the content of PTR for the week—namely, the minimum wage – no differences across exposure groups were found on recall or on the quality of reasoning about this issue.

For materials embedded in the context of PTR – ads and news items – the results are equally unhappy. When news and ads are unrelated to the surrounding PTR messages, recall is lowered perhaps through some mechanism like interference. When the content of PTR is redundant, at least in topic, with ads and news items, recall improves but is not significantly beyond that of the control. The control group is in some ways advantaged in the case of non-redundant issues because its content does not interfere with news and ad content.

When liberals and conservatives do differ in their recall, it is along now familiar lines. Conservatives learned more from Limbaugh than other conservatives did from other PTR and liberals learned less. Liberals disdain for this host and conservatives infatuation with him probably explains some of this effect.

Interpreting PTR: Ideological Re-framing

Some of our previous work on news has held that the way issues are framed by the news determines how people interpret events and their consequences. In news stories using strategic frames, we found that news presented in this way engendered cynicism in the audience. This may come about through inviting an interpretation of political events in terms of personal motivations of political actors and the attribution of untrustworthy actions. The general point is simply that interpretations mediate the consequences of news. In much of PTR, the invited interpretation of events is not subtle. Instead it is stark and distinctly partisan. Might strong partisan messages invite interpretations of events distorted toward or away from a particular partisan slant? We have investigated this question in two different ways.

Interpretive Biases on the Role of Government

The first way asked people to respond to two questions after hearing the minimum wage debate between Hutchinson and Moran on C-SPAN. They were asked which alternative was closer to their opinion? The first question was:

Increasing the minimum wage is

- a. more unnecessary interference by the government in solving our country's economic problems

OR b. the kind of government assistance for the less fortunate that our country needs.

The second was

Giving taxpayers an Earned Income Tax Credit instead of increasing the minimum wage is

- a. more unnecessary interference by the government in solving our country's economic problems

OR b. the kind of government assistance for the less fortunate that our country needs.

The option advocating an increase in the minimum wage was argued by the Democrat representative Moran. The option advocating the EITC was argued by Republican Representative Hutchinson. The question is not whether people with different ideologies would choose the ideologically consistent alternative. Rather would there be differences in choice within ideological groups after exposure to partisan PTR?

The alternatives were phrased so that if one is opposed to government interference, one must choose the first alternative in both cases. But in doing so, that is in being ideologically pure, one must also go against one's political party. To stay with one's political party requires being ideologically inconsistent.

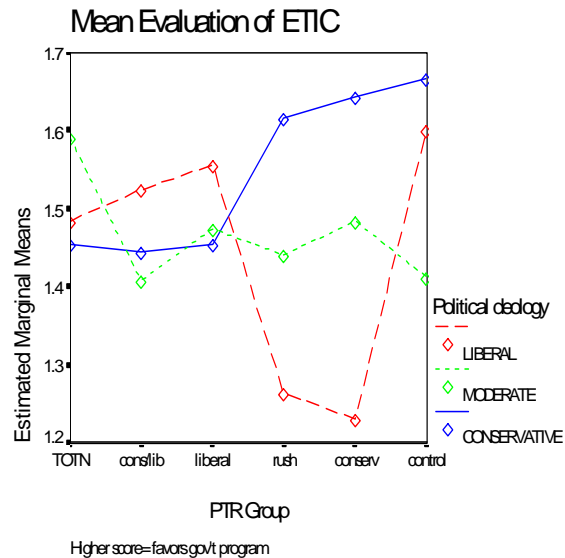
The minimum wage question produced no such differences being strongly predicted only by liberal-conservative ideology ($F(1,366) = 48.0$, $p < .0001$, $\eta^2 = .116$).²¹ No effects due to PTR group or its interaction with any measure of ideology or party affiliation were found. The minimum wage may have been so well known an issue and the ideology so strong a predictor that no effects to surrounding partisan talk resulted.

The EITC question produced an interesting interaction between PTR group and a measure of liberal-conservative ideology ($F(5,372) = 2.72$, $p < .02$, $\eta^2 = .035$) along with a main effect for group ($F(5,372) = 3.05$, $p < .04$, $\eta^2 = .04$). The effects are graphed below only for purposes of illustrating the nature of the interaction between the categorical PTR group variables and the continuous variable of political ideology. The main effects for PTR group show significant differences between the Limbaugh group and the control ($p = .01$) and between the conservative group and the control ($p < .01$). But the differences are due primarily to the liberals in these two groups.

The liberals who hear conservative programming interpret the EITC more as "unnecessary interference" than liberals hearing control or other PTR programs. In effect, they reject the EITC program advocated by Republicans even though it would be a help to the less fortunate and even though such an interpretation would be ideologically consistent. Importantly, only the liberals in the Limbaugh and conservative PTR behave in this way. Liberals are not simply rejecting a Republican program but rather liberals exposed to counter ideological programs are boomeranging away from the host's ideology and becoming more entrenched in their own positions – more entrenched in fact than other liberals are. In this case, PTR polarizes the interpretations of liberals.

The apparent differences between conservatives listening to liberal PTR and those listening to conservative and control PTR are not reliable differences. Liberals end up rejecting the ideological and partisan tones of Limbaugh and conservative hosts even if it means taking an ideologically inconsistent position on government intervention.

Figure 39. Mean evaluations of EITC for PTR groups and three levels of political ideology.



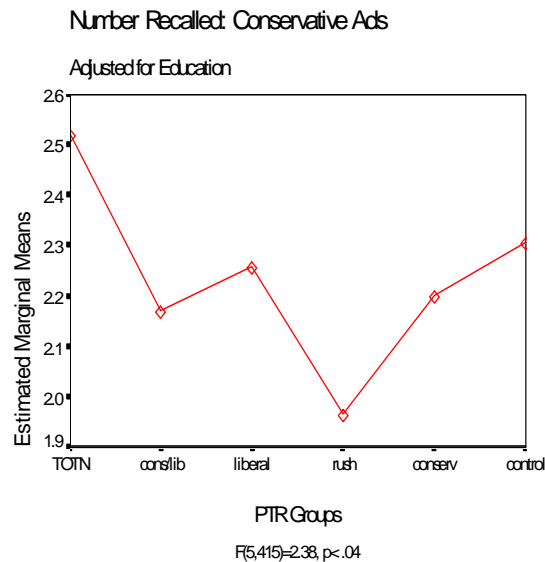
Recalling Conservative and Liberal Ads

One way to look at the possible distortions of ideology is in recall of materials with an ideological tone. Of the political ads received by 5 of our 6 PTR groups, some implied the ad had conservative content, some liberal, and some were neutral. We grouped the conservative ads whose topics had occurred during the week's exposure and separately grouped the liberal ads whose topics had received some attention during the week's programming. Neutral ads such as "a promotional ad for C-SPAN" and ideological ads not getting discussion during the week (such as "an ad sponsored by the Environmental Protection Agency") were left out. The correct answers for the 3 liberal ads were summed as were those for the conservative ads. People hearing TOTN got no ads, so correct answers for them were always "no" and were so coded.

A main effect for PTR group was found on the number of conservative ads correctly recalled ($F(5,415)=2.38, p<.04$, after controlling for education as a covariate). The graph below represents the differences between groups. Although TOTN differs from the control, the interesting difference is between Limbaugh and the control ($p < .04$). The Limbaugh audience had significantly fewer correct than the other groups. The 3-item index of correct recall of conservatively toned ads all had "no" as the correct answer. That is the conservative ad did not appear in the Limbaugh program. Answering incorrectly means people were tending to say that "yes" the ad had appeared when in fact it had not. The direction of this distortion is toward remembering conservative ads as having been heard during the Limbaugh show when in fact they had not been present. Given the audience's knowledge of Limbaugh's positions and ideology, they may simply be inferring that an ad with a conservative topic is more likely to appear on this partisan and conservative show even if it had not. The inference was equally true of those on the left and right of the ideological spectrum. Other shows – perhaps more ideologically diffuse – did not produce this effect.

The liberal ads generated a more complex representation of this phenomenon. An analysis of covariance with education as the covariate and PTR group and conservatism (3 levels) as factors yielded an effect for PTR group ($F(5,402)=29.2, p<.0001$) and an interaction between the factors ($F(10,402)=1.91, p=.04$). The main effect is due solely to the TOTN group correctly remembering that they received no ads (liberal or otherwise). All the other groups have about the same level of recall of liberal ads. However, the interaction between listening groups and

Figure 40. Number of conservative ads correctly recalled (adjusted for education) by PTR group.



conservatism indicates that the more liberal and moderate audiences and more conservatives have different levels of recall across condition. In the figure below, TOTN is dropped because it did not receive ads and doesn't figure prominently in the interaction effect. Also moderates and conservatives did not differ across PTR groups and so were lumped for purposes of simplifying the display. The test of the interaction was done with 3 levels of conservatism and 5 PTR groups. It is also significant with 6 PTR groups and 3 levels of conservatism.

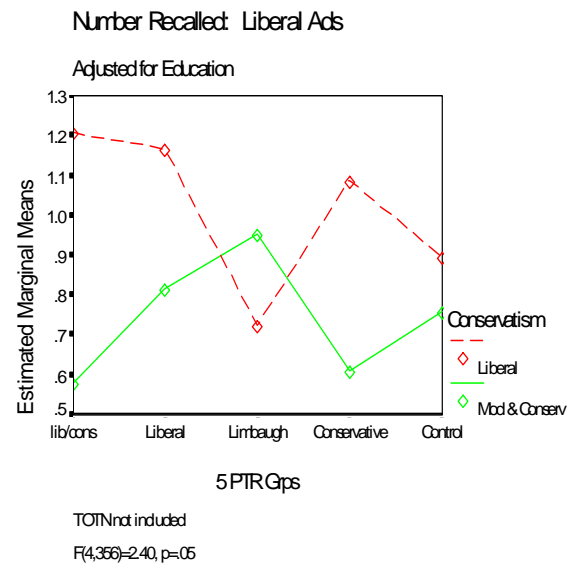
Liberals tend to recall hearing more liberal ads and they are more accurate than conservatives in this assessment. However, this tendency, consistent across the 5 types of radio programming is reversed in Limbaugh with liberals recalling fewer ads than conservatives and conservatives recalling more ads than conservatives in the control.

Liberals having clear knowledge of Limbaugh's partisan attitudes may find it difficult to believe that his program would carry ads with a liberal tone and incorrectly attribute fewer such ads to that condition. Conservatives may harbor beliefs that Limbaugh is more accepting of alternative positions and be less likely to miss ads even if they are liberal. Personal ideology may lead to inferences about a host or program that result in distorted recall. They adjust what they remember so that it's consistent with the surrounding ideology.

Summary

People may interpret what they see and hear in PTR differently depending on the filters created by their ideologies and the ideologies they impute to hosts and programs. Because Rush Limbaugh is so well known, his program and its partisan attitudes and conservative ideology are confidently assumed by the audience. Other hosts and programs may be more ideologically ambiguous to some members of the audience. Liberals who listened to Limbaugh produced interpretations of the EITC different from that offered by other liberals. They (along with moderates and conservatives) tended to incorrectly attribute more conservative ads to having appeared during Limbaugh's show than other shows. Liberals tended to assume (incorrectly) that liberal ads would not be occurring during Limbaugh's show even though they did not tend to make the same error when listening to conservative shows.

Figure 41. Number of liberal ads correctly recalled (adjusted for education) by PTR group and political conservatism.



Appendix A

Coding Open-Ended Questions for Argumentative Quality: Fairness Doctrine.

Developed by Gayle Collins and George Nimeh (Research Assistants)

The responses from the open-ended questions concerning the Fairness Doctrine administered during the course of the Annenberg School for Communication's Radio Programming Study (Spring, 1996) were analyzed for quality of argument. The coding system, based on methods developed by Deanna Kuhn in *The Skills of Argument* and elaborated upon by Emory Woodard in "*Argumentative Skill: A Measure of Schema Development*," assesses the ability of respondents to present logical, relevant and substantive arguments in response to open-ended questions. The coding system also takes into account the degree of complexity of the argument by examining the number of individual arguments made in a given response, the overall length of the response, the elaboration of individual arguments, and the ability of the respondent to link arguments within a single response.

In the original survey questionnaire, respondents were asked to answer one closed-ended and three open-ended questions regarding the Fairness Doctrine. The following is a reprint of the original questions:

There used to be an FCC (Federal Communications Commission) ruling in the U.S. known as "the Fairness Doctrine" that required broadcasters give "reasonable opportunity for the discussion of conflicting views on issues of public importance." Under the Fairness Doctrine, radio and television stations had to show that over a reasonable period of time, they had presented a balanced version of controversial public issues. In 1985 the Fairness Doctrine was repealed so that a television or radio program can now only give one side.

1. *Do you think that this change is a good idea or a bad idea for our country?*
2. *Why do you think so? (Write as much or as little as you wish. Use the back of this page for additional space.)*
3. *If someone disagreed with you about whether the change in this law was good or bad, what do you think they would say to convince you that you were wrong?*
4. *What would you reply to convince them that you were right?*

The coding system used to analyze the responses to the questions involved nine judgments:

- 1) The opinion of the respondent in relation to the repeal of the Fairness Doctrine.
→ possible responses: good, bad, mixed, none
- 2) The presence of an argument in #2 above
→ possible responses: yes, no
- 3) The number of distinct arguments in #2 above
- 4) The number of words in #2 above
- 5) The quality of the argument in #2
(see rules below)
- 6) The presence of an argument in #3 above
→ possible responses: yes, no
- 7) The number of distinct arguments in #3
- 8) The presence of an argument in #4
→ possible responses: yes, no
- 9) The number of distinct arguments in #4

Coding Rules

The methodology for the determination of the quality of an argument is based on two elements:

1) The existence of an elaboration of a single argument and 2) The existence of links between arguments given in response to a single question. Coding rules for the two elements are as follows:

- 1) Any expansion of a single argument made in response to an individual question is given one point with a maximum of 3 points.
- 2) Any link between arguments made in response to an individual question is given one additional point.
- 3) the total score shall not exceed five points.

In the examples that follow individual arguments are in quotes while expansions are *italicized*. Links are underlined and arrows are used to show what is being linked.

a) 1 Argument, Unexpanded. (Quality of Argument score = 0)

"I think it was a bad idea to repeal the fairness doctrine because the media has an ethical obligation to present both sides of a story."

b) 2 Arguments, Unexpanded (Quality of Argument score = 0)

"The airwaves (free TV) belong to the public, therefore the public is entitled to a balanced view. As things are, those with the most money can potentially have too much influence on voters."

c) 1 Argument, Expanded (Quality of Argument score = 1)

"I think it's absurd to try to always give equal time to divided issues- *it's too overwhelming a goal- impossible because there are too many opinions given to try to present so-called both sides.*"

d) 2 Arguments, 1 Expanded, Linked (Quality of Argument score = 2)

"A television or radio station ought to present a balanced version of controversial public issues so as to appeal to and be fair to the masses. It is also a means of educating the public on an issue that the public may not even have considered another point of view. *Sometimes we can be very "one-sided" about an issue because we've never been exposed to another viewpoint and when given that exposure become more aware of our own prejudices and/or lack of knowledge/compassion concerning a particular issue.*"

e) 3 Arguments, 2 Expanded, 1 Link (Quality of Argument score = 3)

I have strongly disagreed with this ruling since its inception. Providing the public with only one viewpoint, has led to the polarization of our society. It has allowed special interest that has access to media vehicles to express their point of view, without any counterpoint. *This has polarized our society because only one point of view has been exposed.* The results have been devastating to our ability to have honest discourse about controversial issues that affect us all. *The debate over the NAFTA treaty comes to mind. In all the debates about the treaty, I would speculate that 85-90 percent of the time, only one side was given during the discussion of the issue.*

e) 4 Arguments, 4 Expanded, 2 Links (Quality of Argument score = 5)

I favor the repeal of the "fairness doctrine". Networks and other Broadcasters should possess the integrity, on their own, *without government intervention, to ensure that all issues of public importance are presented factually, without attempting to spin the story for one side or the other.* As I mentioned, more government regulation, in the form of FCC intervention, or other sanctions, will not ensure that all networks are presenting the issues fairly. *Once again, the best regulation of fairness is the public viewing and listening audience.* If the public perceives that broadcasters' are not being honest with them, then they will find another outlet to obtain their news and information. *Gone are the days when ABC, NBC, CBS, and even CNN stood alone as the sole national news sources. Through the Internet, talk radio, independent broadcast companies and other similar upstart media, the public now has a much broader selection of news sources and is accessing these new sources more and more each day. In another words, it is now almost impossible for the networks to continue the status quo.*

Coding Open-Ended Questions for Argumentative Quality: Minimum Wage

In the post-test survey, a similar set of open-ended questions about the minimum wage debate was asked. The coding of these open-ended questions was very similar but not identical to that done for the fairness doctrine. Part of the difference was that there were many fewer expansions and very few connections between argumentative threads than was the case in the fairness doctrine. Perhaps fatigue played a role or perhaps people simply knew less about the minimum wage – we do not know.

The modified scheme used for the minimum wage is available from the authors upon request.

Reliabilities

The table below presents reliabilities for each component of argumentative quality coded and for each question separately. Reliability is established by working through a set of examples, talking through disagreements, independent testing of coders, and sometimes a separate second testing to assess “coder drift.” Because of the lower reliabilities with the minimum wage question a second test was undertaken with modest improvement in reliability. The reliabilities reported are Krippendorff alphas either for nominal data (as in the yes-no codes) or ordinal (as for the numeric codes)(Krippendorff, 1980).

Table A1. Reliability (Krippendorff alpha) for seven components of argumentative quality: Minimum wage and fairness doctrine.

Coding Category	Minimum Wage	Fairness Doctrine
Relevant Argument (Y or N)	.73 to .84	.88
Number of Arguments	.84 to .73	.94
Quality of Argument 1	.74 to .76	.85 to .97
Relevant Counter (Y or N)	.90 to .86	.96
Number of Counters	.83 to .87	.95
Reply to counter	.66 to .78	.95
Number of Replies	.81 to .82	.93

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- Krosnick, J. A. & Petty, R. A. (1995). Attitude strength: An overview. In Petty, R. E. & Krosnick, J. A. (Eds.). *Attitude strength: Antecedents and consequences* (pp. 1-24). Mahwah, NJ: Lawrence Erlbaum.

End Notes:

¹ For TOTN, news was edited in that was identical to that used for the other programs. This was done for purposes of comparability across conditions even though NPR has its own news format. Political ads and PSAs however were not included in TOTN because we felt this would simply be too far from NPR's norms. The news and the ads gave us comparable target materials for assessing recall and distortion.

² When party, ideology, and prior experience with PTR are entered as covariates, the differences are still significant and the rank order of means is the same.]

³ Many variables were measured in the pre-test as well as the post-test. The pre-test versions typically were variants of the post measures in format usually with the same wording. For example, a pre-test question on media cynicism might take the form of a forced choice about "the news media helping society solve its problems" or "getting in the way" followed by a "strongly – not strongly" modifier. In the post test, this two part forced-choice became two separate agree-disagree questions about the media. By controlling for pre-test scores, differences among PTR groups due to a non-random response distribution across conditions will be minimized. Many of the graphs presented in the text are means for groups adjusted for covariates such as pre-test scores.

⁴ Multicollinearity is not a problem here as the tolerances are acceptable. A step-wise regression shows that all the non-significant coefficients of table 1 drop aside while the significant ones remain in the equation.

⁵ Post hoc tests of difference between programming groups show support these claims at $p < .05$ at least by t-tests.

⁶ Indeed, when we look specifically at judgments of similarity of positions and informativeness, the patterns found with liking and honesty replicate. Conservatives evaluative Limbaugh and conservative shows as informative and similar to their own views while liberals do the opposite.

⁷ In our own national survey about PTR in February of 1996, people reported having as high a level of recognition of Rush Limbaugh as they did of Speaker of the House Newt Gingrich with about 6% saying they never heard of either man.

⁸ The items were: Blacks are responsible for their own condition (2 versions); government must help Blacks (2 versions).

⁹ Unless otherwise noted, no items were added together unless they passed Tukey's test for additivity.

¹⁰ . None of the univariate tests was significant either. Affirmative action attitudes were not significant $F(5,373)=1.87$, $.05 < p < .10$; Black Progress had an $F(5,373)=1.37$, $p=.24$; Black improvement $F(5,373)=.61$, $p=.62$. The near significant effect on attitudes toward affirmative action was due primarily to differences between the Limbaugh group ($M= 3.37$) and the two-sided Conservative /Liberal hosts ($M= 4.21$). We avoided exploring these occasional differences unless there was a clear pattern of findings or the difference was anticipated by hypothesis.

¹¹ . We also tested the interactions of group with pre-test attitudes toward Black leaders. These predictors did not add significant variance explained with the change in $F(5,385)= 1.86$, $p < .11$.

¹² The individual parameter estimates are somewhat unreliable due to multicollinearity. However, the relative size of the t-tests is still a good indicator of where the real differences are to be found. The largest t-tests are located in comparisons between TOTN subgroups to the control and Limbaugh subgroups relative to the control.

¹³ While these four loaded on a single factor, their reliability was low .62 and non-additive. Dropping any item lowered reliability appreciably. The items correlated from .18 to .36.

¹⁴ The items were weighted to reflect the different scale ranges.

¹⁵ We employed an index of conservatism involving both political ideology and party identification with leaners to balance out the number of conservatives versus liberals. The three measures correlate as follows:

Correlations

		Political Ideology	Party Lean	Political Conservatism
Pearson Correlation	Political Ideology	1.000	.454	.758
	Party Lean	.454	1.000	.928
	Political Conservatism	.758	.928	1.000

The distributions of ideology and party into political conservatism are described in the frequency table below. The effect of the index is to increase the number of conservatives somewhat on the political conservatism index by moving some independent conservatives into the group of conservatives. It also assigns some liberal republicans and conservative democrats into the middle or moderate group.

Counts of Ideology by Party ID by Political Conservatism index

Count			Party Identification			Total
Political Conservatism			Democrat	Moderate	Republican	
Liberal	Ideology	LIBERAL	96	41		137
		MODERATE	78			78
	Total		174	41		215
Moderate	Ideology	LIBERAL		9	16	25
		MODERATE		78		78
		CONSERVATIVE	8	4		12
	Total		8	91	16	115
Conservative	Ideology	MODERATE			39	39
		CONSERVATIVE		17	40	57
	Total			17	79	96

¹⁶ Some might argue that even attending a lecture by Minister Farrakahn is an act of implicit support for his message. If this were true one could also argue that merely listening to Rush Limbaugh's radio program is a vote of support for Limbaugh. But obviously some do listen to Limbaugh out of curiosity, entertainment value, and simply knowing the arguments of an ideological opponent.

¹⁷ The non-significant effect for assisted suicide was in part due to nonlinear effects of ideology on activation. However, even after allowing for non-linearities the interaction effect was not significant, $p = .17$.

¹⁸ Four questions about specific news personalities and sources were also evaluated. No effects due to experimental condition or any interactions were obtained. There was no discussion of media personalities in the PTR programs.

¹⁹ These were: Politicians won't talk honestly about hard issues such as taxes and the cost of government because that would lose them support; Having elections makes people believe that government officials are paying attention to what they think; Elections are a good way to get government officials to pay attention to what the people think.

²⁰ A multivariate analysis of covariance was conducted to test the effects of PTR on recall of news stories with education serving as the covariate. PTR group was significant ($F(5, 415) = 3.88, p = .002, \eta^2 = .045$) with TOTN significantly lower than the control, Limbaugh equal to the control and the other groups below the control but not significantly. Basically, all PTR groups recalled less than the control group except for Limbaugh's audience.

²¹ The two were first submitted to a multivariate analysis of variance with PTR group (categorical) and political ideology (continuous) predictors. Wilks' lambda for PTR group was .945, $F(10, 730) = 2.09, p = .02$ and for the interaction $\lambda = .950, F(10, 730) = 1.87, p < .05$.