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A MEDIA MIX TEST OF PAID RADIO ADVERTISING FOR ARMED SERVICES R--ETC(U)

JUL 76 R E SCHUCKER

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# LEVEL II

A Media MIX Test  
Of Paid Radio Advertising  
For Armed Services Recruitment. Volume 3.  
(Addendum).

9 Research rept.

10 Raymond E. Schucker

## VOL. III

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## BACKGROUND AND METHOD

ACCESSION NO.	WRITE SECTION <input checked="" type="checkbox"/>	UNIT SECTION <input type="checkbox"/>
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JUSTIFICATION		
BY	DISTRIBUTION/AVAILABILITY CODES	
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The results of a media mix test involving paid radio have already been fully reported in a two volume report entitled "A Media Mix Test of Paid Radio Advertising for Armed Services Recruitment." However, at the time that the report was submitted data on Public Service Announcements were not available for analysis. It was at least theoretically possible that the conclusions reached would have to be modified in the light of possible Public Service Announcement effects on the criterion measures.

For example, if radio station owners decided to do their best to demonstrate the full effectiveness of radio as a medium they could conceivably increase the number of Public Service Announcements in markets where services were buying radio. Conversely, they might reason that because the services were buying spots it was no longer necessary to donate time for Public Service Announcements. Or they might behave normally and neither significantly increase nor significantly decrease their Public Service Announcements.

To check what had actually happened the A.C. Nielsen Co. was engaged to audit the station logs of radio and television stations in test and control markets. The tables included in this report have been drawn from the worksheets of that organization.

## DETAILED FINDINGS

### PSA - Dollar Equivalents

The first four tables summarize dollar equivalents for Public Service Announcements for test and control markets for each of the four services. Considerable market to market variation is evident. Averages per market show that for two services (Air Force and Navy) the test markets outperformed control markets with respect to changes observed between the base period\* and the test period. However, in the case of the other two services (Army and Marines) the control markets fared better than the test markets. Thus, no clearcut pattern is evident concerning possible effects of Public Service Announcements.

\* Note that the base period is somewhat longer than that utilized in the main report, extending from May 1, 1975 to August 31, 1975

DOLLAR EQUIVALENTS OF  
PUBLIC SERVICE ANNOUNCEMENTS AIRED  
(AIR FORCE)

<u>Test Market</u>	<u>Base Period*</u>	<u>Test Period**</u>	<u>Test - Base Difference</u>
Bowling Green	147	415	+268
Boise	0	0	0
Denver	4395	2970	-1425
Kansas City	6671	4256	-2415
Valdosta	6	69	+63
Baton Rouge	7400	3985	-3415
Altoona	0	0	0
Spokane	<u>1815</u>	<u>5775</u>	+3960
Total	20,428	17,401	
Average	2553	2175	-378
<u>Control Market</u>			
Casper	0	0	0
Albany	180	23	-157
Shreveport	4288	3128	-1160
Yakima	<u>1019</u>	<u>639</u>	-380
Total	5487	3790	
Average	1372	947	-425

\*May 1, 1975 to August 31, 1975

\*\* September 8, 1975 to December 31, 1975

DOLLAR EQUIVALENTS OF  
PUBLIC SERVICE ANNOUNCEMENTS AIRED  
(ARMY)

<u>Test Market</u>	<u>Base Period*</u>	<u>Test Period**</u>	<u>Test - Base Difference</u>
Denver	420	300	- 120
Kansas City	10882	2126	-8756
Altoona	840	10	- 830
Spokane	9598	125	-9473
Columbus	2496	1474	-1022
Atlanta	39565	21302	-18263
Louisville	2125	710	-1415
Seattle	<u>2884</u>	<u>4315</u>	<u>+1431</u>
Total	68,810	30,362	
Average	8601	3795	-4806
<u>Control Markets</u>			
Albany	19	0	- 19
Yakima	20	40	+ 20
Omaha	7731	1459	-6272
Portland	<u>2745</u>	<u>717</u>	-2028
Total	10,515	2,216	
Average	2629	554	-2075

\* May 1, 1975 to August 31, 1975

\*\* September 8, 1975 to December 31, 1975

DOLLAR EQUIVALENTS OF  
PUBLIC SERVICE ANNOUNCEMENTS AIRED  
(MARINES)

<u>Test Market</u>	<u>Base Period*</u>	<u>Test Period**</u>	<u>Test - Base Difference</u>
Denver	5573	4045	-1528
Kansas City	8010	879	-7131
Valdosta	50	14	- 36
Baton Rouge	4923	1361	-3562
Louisville	725	405	- 320
Seattle	4505	2960	-1545
Augusta	545	294	- 251
Dothan	<u>704</u>	<u>252</u>	- 452
Total	25,035	10,210	
Average	3129	1276	-1853
 <u>Control Market</u>			
Albany	71	299	+ 228
Shreveport	3472	2428	-1044
Portland	1068	115	- 953
Charleston	<u>1553</u>	<u>2533</u>	+ 980
Total	6164	5375	
Average	1541	1344	- 197

\* May 1, 1975 to August 31, 1975

\*\* September 8, 1975 to December 31, 1975

DOLLAR EQUIVALENTS OF  
PUBLIC SERVICE ANNOUNCEMENTS AIRED  
(NAVY)

<u>Test Market</u>	<u>Base Period*</u>	<u>Test Period**</u>	<u>Test - Base Difference</u>
Valdosta	263	18	- 245
Baton Rouge	4674	1106	-3568
Altoona	0	29	+ 29
Spokane	1547	7820	+6273
Louisville	1175	325	- 850
Seattle	1620	6435	+4815
Lansing	1677	825	- 852
Knoxville	<u>2057</u>	<u>1614</u>	- 443
Total	13,013	18,172	
Average	1627	2271	+ 644
<u>Control Market</u>			
Shreveport	2964	2000	- 964
Yakima	1325	256	-1069
Portland	282	25	- 257
Binghamton	<u>135</u>	<u>72</u>	-63
Total	4706	2353	
Average	1177	588	- 589

\* May 1, 1975 to August 31, 1975

\*\* September 8, 1975 to December 31, 1975

PSA - Number of Announcements

If the number of Public Service Announcements aired is examined rather than the dollar equivalents, a similar erratic pattern is evident. For two services (Air Force and Marines) the test markets show better performance than control markets. However, for the remaining two services (Army and Navy) the control markets out performed the test markets.

Note that the results between numbers of announcements and dollar equivalents are also inconsistent. Only the Air Force (a positive effect for test markets) and the Army (a negative effect for the test markets) show consistent directions of change, and they are in opposite directions.

The following four tables summarize the results for numbers of announcements.

NUMBER OF  
PUBLIC SERVICE ANNOUNCEMENTS AIRED  
(AIR FORCE)

<u>Test Market</u>	<u>Base Period*</u>	<u>Test Period**</u>	<u>Test - Base Difference</u>
Bowling Green	14	70	+ 56
Boise	0	0	0
Denver	15	5	- 10
Kansas City	72	352	+280
Valdosta	1	5	+ 4
Baton Rouge	116	43	- 73
Altoona	0	0	0
Spokane	<u>45</u>	<u>76</u>	+ 31
Total	263	551	
Average	33	69	+ 36
 <u>Control Markets</u>			
Casper	0	0	0
Albany	11	2	- 9
Shreveport	64	55	- 9
Yakima	<u>34</u>	<u>32</u>	- 2
Total	109	89	
Average	27	22	- 5

\* May 1, 1975 to August 31, 1975

\*\* September 8, 1975 to December 31, 1975

NUMBER OF  
PUBLIC SERVICE ANNOUNCEMENTS AIRED  
(ARMY)

<u>Test Market</u>	<u>Base Period*</u>	<u>Test Period**</u>	<u>Test - Base Difference</u>
Denver	4	4	0
Kansas City	139	67	- 72
Altoona	96	2	- 94
Spokane	285	7	-278
Columbus	36	19	- 17
Atlanta	335	183	-152
Louisville	22	9	- 13
Seattle	<u>38</u>	<u>60</u>	+ 22
Total	955	351	
Average	119	44	- 75
 <u>Control Market</u>			
Albany	1	0	- 1
Yakima	2	2	0
Omaha	108	37	- 71
Portland	<u>102</u>	<u>18</u>	- 84
Total	213	57	
Average	53	14	- 39

\* May 1, 1975 to August 31, 1975

\*\* September 8, 1975 to December 31, 1975

NUMBER OF  
PUBLIC SERVICE ANNOUNCEMENTS AIRED  
(MARINES)

<u>Test Market</u>	<u>Base Period*</u>	<u>Test Period**</u>	<u>Test - Base Difference</u>
Denver	21	25	+ 4
Kansas City	130	15	-115
Valdosta	10	3	- 7
Baton Rouge	79	27	- 52
Louisville	12	4	- 8
Seattle	54	41	- 13
Augusta	48	26	- 22
Dothan	<u>48</u>	<u>16</u>	- 32
Total	402	157	
Average	50	20	- 30
 <u>Control Market</u>			
Albany	4	17	+ 13
Shreveport	62	47	- 15
Portland	52	6	- 46
Charleston	130	50	- 80
Total	248	120	
Average	62	30	- 32

\* May 1, 1975 to August 31, 1975

\*\* September 8, 1975 to December 31, 1975

NUMBER OF  
PUBLIC SERVICE ANNOUNCEMENTS AIRED  
(NAVY)

<u>Test Market</u>	<u>Base Period*</u>	<u>Test Period**</u>	<u>Test - Base Difference</u>
Valdosta	105	4	-101
Baton Rouge	595	105	-490
Altoona	0	6	+ 6
Spokane	52	255	+203
Louisville	14	5	- 9
Seattle	32	51	+ 19
Lansing	69	10	- 59
Knoxville	<u>53</u>	<u>253</u>	+200
Total	920	689	
Average	115	86	- 29
 <u>Control Market</u>			
Shreveport	48	40	- 8
Yakima	40	15	- 25
Portland	13	1	- 12
Binghamton	<u>4</u>	<u>4</u>	0
Total	105	60	
Average	26	15	- 11

\*May 1, 1975 to August 31, 1975

\*\* September 8, 1975 to December 31, 1975

### Statistical Analysis

While on an overall basis the net directions of change show no consistent patterns it is still possible that market-to-market changes in Public Service Announcements are correlated with changes in one or more of the criterion measures for one or more of the four services. If so, it might be necessary to consider a statistical adjustment of the results.

To test this possibility thirty two regressions were run - one for each of the four services for each of the four criteria and for numbers of Public Service Announcements and for dollar equivalents. In each regression the criterion measure and the variable representing Public Service effort were treated as continuous variables and the test/control condition as a dummy variable.

In no case did any Public Service variable reach the .05 level of statistical significance. Results are summarized in the following table.

Note that the directions of association are also diverse. Eighteen of the coefficients are positive while fourteen are negative. For dollar equivalents nine are positive and seven negative. Proportions of positive and negative signs for the numbers of announcements aired are identical to those of dollar equivalents, although their sources vary slightly. Again no consistent patterns are evident.

**SIGNIFICANCE LEVELS FOR  
PUBLIC SERVICE ANNOUNCEMENTS  
(T-VALUES)\***

<u>Service</u>	<u>Public Service Measure</u>	<u>Accessions</u>	<u>Inquiries</u>	<u>Attitudes</u>	<u>Awareness</u>
Air Force	Dollars	1.12	.10	.83	1.80
	Units	.56	-.36	-1.02	.02
Army	Dollars	-.47	.86	-1.70	-1.14
	Units	-1.91	1.30	-1.10	.14
Marines	Dollars	-1.43	-.67	.21	.45
	Units	-.62	-.48	-.07	.79
Navy	Dollars	.57	.68	-.41	-.22
	Units	1.52	.68	.65	.81

\* T-Values must reach 1.96 or more to be statistically significant at the .05 level.

## CONCLUSIONS

Findings of this postscript analysis are clearcut. Nowhere is there any evidence that changes in levels of Public Service Announcements had any effect on any of the performance criteria. Thus, the results of the original analysis stand as presented in the original May report.