A study examined the relationships among source diversity, medium reliance, and nominal issue diversity. Source diversity is defined as the number of categories or classes of sources, and in the study nominal diversity within media (newspapers, television and magazines) was examined. Medium reliance is defined as the perceived usefulness of a given medium for information about issues, while nominal issue diversity is the number of categories or classes of issues considered salient by an individual. A random sample of 223 graduate and undergraduate students at the University of Florida were interviewed. Results suggest positive associations between issue diversity and the following: newspaper diversity, magazine diversity, newspaper reliance and magazine reliance. Television diversity—measured as the number of channels ordinarily watched—was not found to be related to issue diversity. Similar patterns were found between medium reliance and issue diversity. Reliance on magazines and newspapers, but not radio and television, is related to nominal issue diversity. Findings also suggest that media diversity, in combination with motivation, is related to issue domain differentiation. These findings, when integrated with those from previous studies, represent the beginning of a model of issue domain structure and the antecedents of this structure. (A list of 67 sources is provided.) (NKA)
MEDIUM SOURCE DIVERSITY AND MEDIUM RELIANCE: IN SEARCH OF ISSUE DIVERSITY

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ABSTRACT

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The present study examines the relationships among source diversity, medium reliance, and nominal issue diversity. Source diversity is defined as the number of categories or classes of sources, and in the present study nominal diversity within media (i.e., newspapers, television and magazines) was examined. Medium reliance is defined as the perceived usefulness of a given medium for information about issues. Nominal issue diversity is the number of categories or classes of issues considered salient.

Interviews were conducted with a random sample of 223 adults. Results suggest positive associations between issue diversity and the following: newspaper diversity, magazine diversity, newspaper reliance and magazine reliance. In the discussion that follows, the authors delineate a model based on a recent series of studies, and point out priorities for future research.
Some believe an important function of mass media is the shaping of attitudes and beliefs concerning the importance of social issues. Agenda-setting research (McCombs & Shaw, 1972; Winter, 1981) examines ways media foster perceptions of important topics and affect individual's beliefs about issue salience. Research concerning medium reliance has focused on how variance in perceptions and knowledge on the part of audiences may be partially attributable to differences in message channel characteristics.

Pettey (1984) presents research that asks whether or not newspaper and television reliant individuals have similar or different cognitive structures about political information. Using several techniques (including cluster analysis and multidimensional scaling) he suggests that television has an impact on the "structuring of the cognitive space—at least for these issues" (p. 16).

Ferguson and Weigold (Ferguson, 1984, Ferguson et al., 1985; Weigold & Ferguson, 1986; Weigold, 1985) present a theoretical framework for examining individual's issue cognitions. Three key concepts in their research are nominal issue diversity (Allen & Izcaray, 1985; Ferguson, 1984), medium reliance (Pettey, 1983, 1984; Ferguson et al., 1985; Ferguson and Weigold, 1985; Weigold, 1985) and source diversity (Ferguson, 1984; Ferguson and Weigold, 1985).
Nominal issue diversity refers to the number of categories of issues that a person considers salient (Ferguson, 1984). It may also be thought of as the number of issues present at any given moment on a person's issue agenda. Ferguson (1984, 1985) outlines several ways of conceptualizing diversity, of which nominal issue diversity is but one. To emphasize the importance of audience member (as opposed to researcher) beliefs, an issue is defined functionally as an individual's labels for his or her perceptions of important social topics or concerns.

Nominal source diversity (Ferguson, 1934) refers to the number of categories of sources a person relies on for information. The concept refers to the different media individuals use. Diversity of media sources is assumed to be more likely if the individual has access to and uses many sources; with more sources is likely to come heterogeneity and variety.

Medium reliance is defined as the degree to which an individual perceives a particular medium as a useful and important source of information (Ferguson et al., 1985). This conceptualization differs from those offered by researchers who stress audience member preference for one medium over another (Becker, 1980; Miller & Reese, 1982) in that it does not segment audiences into mutually exclusive reliance categories (i.e., classifying respondents as
newspaper or television reliant). Reliance on a given medium for information is conceptualized and measured independently of exposure, as research has shown the variables to be only weakly related (Chung, 1934; Ferguson et al. 1985; Sedlacek, 1984).

SOURCE DIVERSITY AND ISSUE DIVERSITY

Weigold and Ferguson (1986) find that even when variance associated with individuals' need for cognition, education and issue domain salience is removed, a positive association is found for source diversity and issue domain differentiation. They find no relationship for overall media exposure to differentiation.

In a study conducted in Venezuela, Allen & Icaray (1985) find that increases in newspaper exposure are positively related to diversity of individual's national and local agendas. They do not find significant effects for television and radio exposure and diversity.

The general assumption that diversity of media channels is associated with diversity of issues and opinions both at the social system level (Lang, 1983; Ferguson, 1985; Chaffee & Wilson, 1977; Stemple, 1973) and individual level (Allen & Icaray, 1985; Weigold & Ferguson, 1986) may need qualification, since many of these studies have operationalized media variables differently. Measures used
include medium exposure (Allen & Izcaray, 1985), the number of channels an individual is exposed to within a given medium (Ferguson, 1984), the total number of media sources exposed to and relied upon (Welgold & Ferguson, 1986) and media richness-media poorness (Chaffee & Wilson, 1977).

The purpose of the present research is to examine the relationships of medium reliance and of issue diversity, and diversity of sources and issue diversity. Several of the hypotheses will replicate those offered by Ferguson (1934). The rational for the present study derives from interest in whether diversity within a medium category (i.e. newspapers, television, etc.) can predict nominal issue diversity in ways similar to diversity across media (i.e., the total number of distinct sources of information, see Welgold & Ferguson, 1986).

Certain assumptions are made concerning the diversity of information within a given medium. While it seems intuitive that the information presented in a typical newspaper or magazine is greater in heterogeneity, quantity, depth and complexity than that presented in a broadcast news show, this remains an assumption (similar arguments have been advanced by others, e.g., Becker & Whitney, 1983; Allen & Izcaray, 1995). To the extent that such an assumption has validity, issue diversity should be strongly correlated with medium reliance for diverse media (newspapers and
magazines), but only weakly correlated for less diverse media (television, and perhaps radio). Within a given medium, it is expected that the greater the number of sources, the greater the nominal issue diversity. Although it is not tested, it seems plausible that such a relationship will be strongest when the categories of a medium are potentially highly diverse (such as magazines) as opposed to when they are relatively homogenous (television).

A second set of hypotheses deals with the effect of medium reliance on issue diversity.

The hypotheses for source diversity stated more formally are as follows:

H1: The greater the number of newspaper sources, the greater the nominal issue diversity.

H2: The greater the number of magazine sources, the greater the nominal issue diversity.

H3: The greater the number of television channel sources, the greater the nominal issue diversity.

Hypotheses for the relationship of medium reliance to nominal issue diversity include:

H4: The greater the newspaper reliance, the greater the nominal issue diversity.

H5: The greater the magazine reliance, the greater the nominal issue diversity.

The hypotheses about the strength of the association include:

H6: The association between number of newspaper sources and nominal issue diversity will be significantly stronger than the association
between number of tv channel sources and issue diversity.

H7: The association between newspaper reliance and nominal issue diversity will be significantly stronger than the association between television reliance and issue diversity.

H8: The association between number of magazine sources and nominal issue diversity will be significantly stronger than the association between number of tv channel sources and issue diversity.

H9: The association between magazine reliance and nominal issue diversity will be significantly stronger than the association between television reliance and issue diversity.

METHODOLOGY

Data for this research were collected through personal interviews conducted in Gainesville, FL, in spring of 1984. Interviewers were graduate and undergraduate participants in research methodology classes of the College of Journalism and Communications at the University of Florida.¹

¹ The sampling frame for the study was the Polk City Directory, 1983. A total of 1,033 addresses were systematically randomly sampled from the 55,788 directory listings. From the pool of 1,033 addresses, interviewers were to complete interviews with 240 people. A list of 30 addresses was provided to 30 two-person teams.
MEDIUM RELIANCE

To measure medium reliance, respondents were asked:

Where do you get your information about national issues or problems?

When subjects finished listing all the sources they could think of they were asked:

Any other source?

Next respondents were asked:

On a scale of 0 to 10, where 0 is very low reliance and 10 is very high reliance, how much would you say you depend on [the respondent's first source]?

This same question was repeated for each source provided by the respondent.

Reliance sources were then coded to represent more general categories. For example, if respondents mentioned that they relied on Time magazine for their information about national issues, this was coded to the more general category of magazines. The degree of reliance on any source is the number the respondent assigned to the source. If a respondent did not indicate a source within a medium category, their reliance score for that medium is coded as 0. All respondents are therefore included in calculating reliance measure statistics.
SOURCE DIVERSITY

The number of sources respondents were exposed to was measured by asking:

Of the total number of channels you get on your TV, how many channels do you ordinarily watch?

Think of the newspapers you read regularly. What are the names of these papers?

Think about the magazines you read regularly. What are the names of these magazines?

NOMINAL ISSUE DIVERSITY

To operationalize nominal issue diversity respondents were asked:

Please take a minute to make a list of the issues, problems, or concerns you think are facing the country today. In other words, what do you think are the major problems or concerns in the United States today? (By issues we mean: topics, subjects, or problems.)

When respondents finished listing the issues they believed were important, interviewers asked, "Is there anything you'd like to add?" Nominal issues diversity is the number of issues each individual mentioned.

FINDINGS

Data were collected in 20 to 30-minute personal interviews with 239 randomly selected respondents. The sample included 52 percent males. The mean age of the sample was 35.4 years. A large portion (55 percent of the
sample) was between 18 and 29 years old. Some thirty percent of those interviewed said they had a B.A. degree or greater.

The medium reliance scores could range from 0 to 10 (low to high reliance). For newspapers the mean reliance score was 5.1 (S.D. 3.5). The mean television reliance score was 6.1 (S.D. 3.2). The magazine reliance mean was 1.9 (S.D. 3.1) and the radio reliance mean value was 1.8 (S.D. 3.1).

The total number of issues mentioned ranged from 1 to 17 with a mean of 4.1 and a standard deviation of 1.9.

For source diversity, the mean number of channels ordinarily watched was 4.1 (S.D. 2.8). The mean number of papers read regularly was 1.6 (S.D. .9) and the mean number of magazines read regularly was 2.8 (S.D. 2.4).

TESTS OF HYPOTHESES

To test the first five hypotheses, Pearson correlations are computed for the relationship of nominal issue diversity to newspaper, magazine and television source diversity and to newspaper, magazine, television and radio reliance. Zero-order correlations and significance levels (P < .05) are presented in Table 1.
### TABLE 1

Correlations of Reliance, Source Diversity and Issue Diversity

<table>
<thead>
<tr>
<th></th>
<th>X1</th>
<th>X2</th>
<th>X3</th>
<th>X4</th>
<th>X5</th>
<th>X6</th>
<th>X7</th>
</tr>
</thead>
<tbody>
<tr>
<td>X1. Number of Newspapers</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>X2. Newspaper Reliance</td>
<td></td>
<td>.35</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>X3. Number of Magazines</td>
<td></td>
<td>.22</td>
<td>.09</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>X4. Magazine Reliance</td>
<td></td>
<td>.16</td>
<td>.02</td>
<td>.31</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>X5. Number of Channels</td>
<td></td>
<td>.05</td>
<td>.04</td>
<td>.01</td>
<td>-.06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>X6. Television Reliance</td>
<td></td>
<td>-.02</td>
<td>.15</td>
<td>.01</td>
<td>.01</td>
<td>.29</td>
<td></td>
</tr>
<tr>
<td>X7. Radio Reliance</td>
<td></td>
<td>.02</td>
<td>.05</td>
<td>-.09</td>
<td>.09</td>
<td>-.11</td>
<td>.03</td>
</tr>
<tr>
<td>X8. Nominal Issue Diversity</td>
<td></td>
<td>.22</td>
<td>.12</td>
<td>.15</td>
<td>.14</td>
<td>.01</td>
<td>-.01</td>
</tr>
</tbody>
</table>

$r_{GE} .12$, $p < .05$

$r_{GE} .16$, $p < .01$

$r_{GE} .22$, $p < .001$

The first two hypotheses, the greater the number of newspaper and magazines sources, the greater the nominal issue diversity, are supported ($r = .22$, $p < .001$; and $r = .15$, $p < .02$, respectively).
There is no support for the hypothesis that there would be a positive association between number of channels ordinarily watched and nominal issue diversity ($r = .01$).

There is support for hypotheses four and five, which specified the relationships between newspaper and magazine reliance and nominal issue diversity ($r = .12$, $p < .04$; and $r = .14$, $p < .02$, respectively).

Hypothesis 6 through hypothesis 9 were tested using a $t$-test for differences of correlations (non-independent samples, Blalock, p. 407, 1972).

The hypothesis (H6) that the relationship between newspaper source diversity and nominal issue diversity ($r = .22$) is greater than the association between television channel diversity and nominal issue diversity ($r = -.01$) is supported ($t = 2.34$, 220 $p < .01$).

The next hypothesis (H7) was for the difference between the correlation of newspaper reliance with issue diversity, ($r = .12$) and television reliance with issue diversity ($r = -.01$). The test for differences was not significant ($t = 1.49$, 220, $p < .10$).

The last two hypotheses also did not receive support at the .05 level. The correlation of magazine source diversity with issue diversity ($r = .15$) is not significantly greater than the relationship of television channel diversity with
issue diversity \((r = .01)\) \((t = 1.49, 220, p < .10)\).

Finally, the relationship of magazine reliance with issue diversity \((r = .14)\) and television reliance with issue diversity \((r = -.01)\), is not significantly different \((t = 1.60, 220, p < .10)\).

Given the failure of the t-tests to demonstrate significant differences, it is some interest to note the relationships that could have attenuated these tests. As can be seen in Table 1, the measures of medium reliance are for the most unrelated to one another. The exception to this is the positive correlation between newspaper and TV reliance \((r = .15, p < .01)\).

**DISCUSSION**

The findings reveal that magazine and newspaper diversity are associated with issue diversity. Television diversity—measured as the number of channels ordinarily watched—is not related to issue diversity. In examining relationships between medium reliance and issue diversity, similar patterns hold. Reliance on magazines and newspapers, but not radio and television, is related to nominal issue diversity.

Hypotheses which predicted that reliance on and diversity of print sources would show stronger associations with diversity than would reliance on and diversity of television
sources approached significance and were in the correct direction.

Certainly, as with previous studies, support has been found for a relationship between nominal source diversity and nominal issue diversity, at least for print media. Also in keeping with past research, reliance on print media has generally been shown to result in greater nominal issue diversity, while broadcast media reliance shows no such relationship.

These findings, when integrated with those of Weigold and Ferguson (1986), represent the beginnings of a model of issue domain structure and the antecedents of this structure. Source diversity across media has been found to be positively related to motivational variables, such as need for cognition and the salience of the issue domain. Cognitive differentiation of issue domains is found to be positively related to source diversity and need for cognition, but negatively related to domain salience. Also, the degree of domain integration (perception of links or relationships among cognitions) is positively related to need for cognition and the salience of the issue domain. Combining these observations into a more basic framework, Weigold & Ferguson (1986) conclude that media diversity, in combination with motivation (see also Pettey, 1983, 1984, for a discussion of how media variables and motivation are
associated with political knowledge levels) are related to issue domain differentiation. In the present study, we find a relationship for both source diversity and medium reliance with nominal issue diversity for print media, but not for broadcast media.

FUTURE DIRECTIONS

Several potential problems are apparent in the conceptualizations and operationalizations previously used in this work. The first area requiring attention is the specification and measurement of attributes of source diversity. It appears to the authors that source diversity measures that are more specific to the domain are necessary. For example, questions regarding specific media sources for specific issues may provide greater evidence for relationships of source and issue diversity. Also, researchers need to explicate attributes of media that could represent diversity. With television, for example, measures of just the number of channels generally watched seems inadequate, given television's many functions. A more appropriate measure would tap the diversity of these television sources. The same criticism applies to both the measure of newspaper diversity and magazine diversity. The numbers of sources can be expected to be only a rough approximation of actual diversity. For example, classifying the diversity of a given individual's print media sources may be a better operationalization of source diversity.
The concept of medium reliance also deserves a great deal of conceptual and operational attention. As Ferguson et al. (1995) suggest, the frequent practice of dichotomizing respondents as print or television reliant seems artificial given the frequent complementarity of different media.

Relationships among the various media variables need further exploration. For example, Sedlacek (1984), Chung (1984), and Ferguson et al. (1985) have noted a curvilinear relation between medium reliance and medium exposure. And, as Pettit (1984) suggests, the notion of media reliance has come to mean something very different from the concept of dependency as proposed by Defleur and Ball-Rokeach (1975). Further clarification of the relationship of dependency and reliance would be useful. Finally, as with source diversity, reliance measures that are issue specific may be better predictors of issue diversity than non-specific measures.

For research about the structural aspects of the domain of social issues to progress, specification of the variables associated with domain structure must occur. One of the dimensions most often researched in the agenda-setting tradition is salience of the issues. However, individuals may attribute many other equally interesting dimensions to issues. For example, foreign-domestic, simple-complex, personally involving-personally distant are but a sample of dimensions people may use to structure their issue domain.
Some of the other variables that may be of interest to issue domain researchers include: the degree of discrimination of issues within the domain, degree of issue domain complexity, issue domain specificity and the categorization strategies individuals use to structure information domain content.

Finally, research must move beyond the bounds of the fairly simplistic model suggested here if a true theory of diversity is to emerge. The integration of work done in agenda-setting, medium reliance, issue diversity, and social and cognitive psychology should be a major priority for cognitively oriented communication scholars. The embracing of social cognition research in communication (Roloff & Berger, 1982) demonstrates the utility of integrating diverse research areas as a tool for theory development. Similar integration efforts are bound to advance knowledge of the key processes involved in communication.
SOURCES CONSULTED


BUSS, L. J. (1967) "Motivational variables and information seeking in the mass media." Journalism Q. 44: 130-133.


McCOMBS, M. E., and D. SHAW (1972) "The agenda-setting function of mass media." Public Opinion Quarterly


McLEOD, J. M., W. LUETSCHER, and D. MCDONALD (1980) "Beyond mere exposure: Media orientations and their impact on political processes." Paper presented to the Association for Education in Journalism, Boston, MA.


PETTEY, G. R. (1983) "Those who want, get: The impact of political knowledge of media reliance under conditions of political interest." Paper presented to the Association for Education in Journalism, Corvallis, Oregon.


