Complementarity in Consumption of News Types Across Traditional and New Media

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A substantive body of research on the relationship between traditional and new media builds upon the competition-based displacement theory, based on the argument that media types compete with each other for resources. This paper takes an alternative approach and suggests the idea of media complementarity. Media complementarity implies a congruence between the consumption of online and traditional media within a specific content domain. The results demonstrate support for media complementarity, with users of online news in a specific content area also being more likely to seek out news in the same area from traditional media outlets.

The increasing popularity of the World Wide Web has led to a growing academic interest in the effects of the Web on the consumption of traditional media (Kayany & Yelsma, 2000). While 57% of Americans visited the Internet at least once in 2001, 49% of these Internet users used it to gather information. In addition to the increase in Internet consumption, recent years have witnessed decreases in the consumption of traditional media such as newspapers, television, and radio (Stempel, Hargrove, & Bernt, 2000). This decrease in the consumption of traditional media has been attributed to the advent of the Internet. In its monthly telephone surveys conducted in 1998, the Pew Research Center for the People and the Press (2000) reported an increase in online news users on one hand and a decrease in the consumption of news from traditional sources such as TV, newspapers, and magazines on the other hand. Acknowledging the emergent role of the Internet in shaping the current media landscape, media scholars have become increasingly interested in studying its relationship with traditional media (Katz, 1999).

The central question, then, is: How does the Internet affect the way consumers read, view, or listen to traditional media outlets? This relationship between the Internet and the traditional media has been at the heart of an ongoing debate between two streams of media scholarship (Coffey & Stipp, 1997; Kayany & Yelsma, 2000). While media theorists on one end of the spectrum argue that the introduction of a new medium will not cause major changes in the media landscape (Coffey & Stipp, 1997), theorists on the other end suggest a revolution in the way people...
consume different media, ultimately leading to the death of traditional media (Coffey & Stipp, 1997; Stephens, 1998). The discourse around the impact of the Internet is conceptualized as a dialectic, a manifestation of the tension between the two opposing philosophical forces of stability versus change (Kayany & Yelsma, 2000; Stempel & Hargrove, 1996; Stempel, et al., 2000). It exposes competing frames, with researchers arguing about the success of one medium over another (Stempel & Hargrove, 1996; Stempel, et al., 2000). Acknowledging the scholarly impetus on studying media forms within a competitive frame, Umberto Eco (1996) stated, “The idea that something will kill something else is a very ancient one, and came certainly before Hugo and before the late medieval fears of Frollo,” (p. 295). Placed under the rubric of supersession (Duguid, 1996), constancy (McCombs, 1972), and displacement effects (Kayany & Yelsma, 2000), the fundamental question hinges on the ability of a new medium to replace or displace an old one (Kayany & Yelsma, 2000). Note the roots of the debate in a techno-deterministic model that accords centrality to the medium (McLuhan, 1964). In the face of the evolution-based conceptualization of existing research as a struggle between media types for resources, exploring alternative theoretical approaches is pivotal to the development of a more complete understanding of the relationship between traditional and new media. The relationship between media types needs to be located within the realm of content, context, and receiver characteristics; in other words, instead of demonstrating homogenous patterns across the population, the consumption of a medium will depend upon the nature of the content, the characteristics of the audience, and the context within which the medium is consumed (Duguid, 1996; Nunberg, 1996). This paper proposes a shift in research on media relationships by investigating the congruence between media types in specific content domains. Using data collected by the Pew Research Center for the People and the Press (2000), it shows the congruence of audience’s content interest across media, suggesting a shift in research approach. Fundamental to the idea of supersession is the rhetoric of technological revolution built on the premise that each new technological medium will replace an old medium (Duguid, 1996). Supersession theorists in the area of book scholarship suggest that the Internet will kill the traditional book (for an excellent discussion, see Nunberg, 1996). Paul Duguid (1996) traces this scholarly obsession with supersession to the repeated portrayal of the past in “a version of the pastoral that extracts idyllic and simple events of an earlier age only to contrast them with the assumed complexity and sophistication of the present” (Duguid, 1996, p. 70). The pastoral trope serves the strategic purpose of bolstering the success of the present by announcing the apocalyptic fate of the past. This opportunistic embracing of supersession, Duguid (1996) suggests, is a significant marketing ploy that advertises the future of the new as an elixir to the problems of the past. He warns against the trivialization and dismissal of the past because it threatens the loss of valuable cultural insights and cultural artifacts tied to old communication technologies. Oversimplification of the new media-traditional media relationship is also visible in the rhetoric of pessimistic media scholars (Stephens, 1998) that nostalgically ponder
about the pre-new media days of yore and launch zealous attacks on every new medium until the point when the medium is no longer new. Both conceptualizations of new media as liberating and new media as the villainous nemesis of traditional media operate under the notion of competition between new and traditional media.

This theme of competition is extrapolated to the economics of the media landscape and is expressed in Maxwell McComb's (1972) notion of relative constancy, arguing that consumer expenditures on media remain constant, resulting in a decrease in the resources spent on traditional media with the growth in new media. Competition is also documented in the realm of displacement theory, suggesting that the time spent on new media reduces the time spent on traditional media (Kayany & Yelsma, 2000). Central to these competition-based theories is the monolithic treatment of media types as homogeneous entities with different audience members having the same experiences with the consumption of one particular medium, irrespective of content types and audience characteristics. Such aggregate-level comparison does not capture the differences in media effects based on the content of media use. After all, different users use different mass media contents for different functions and to fulfill different goals (Kayany & Yelsma, 2000). The effect, therefore, of media types on one another would depend upon the specific motives of individuals that drive them toward the consumption of specific media content. For instance, the motive to stay informed about current events in other parts of the world drives readership of international news. Acknowledging the driving force of content in media choice, this research explores the relationship between media types in the context of specific content domains.

To address the problem with the conceptualization of media types as amorphous and homogeneous entities, this study builds upon selective exposure, niche, and involvement theories, and examines the relationship between media types in the context of the information gathering function in different content domains using the 2000 Pew Research Survey data. Based on the notion of symbiosis (Kayany & Yelsma, 2000), it suggests that media scholars need to look beyond the competing frameworks of media consumption to better understand the metamorphosing media landscape with the introduction of a new medium. Instead of looking at the overall consumption of one medium and its displacement or replacement by the overall consumption of another medium, the paper argues that scholars need to look at the relationship between traditional and new media in the realm of the consumption of specific forms of media content. The emphasis, therefore, is on the content of media types in understanding the relationship among media.

Using selective exposure, niche, and involvement theories, it builds on the idea that media types perhaps share complementary relationships when evaluated in the domain of specific content areas. The paper proposes media complementarity theory, articulating a congruence between media types within content areas. This congruence between media types is particularly relevant in the function of media as sources of different types of information such as sports, politics, etc. Motivated by an underlying interest in a certain subject or issue, the users of one medium in the
domain of a specific content perhaps also use other media in the same content domain to gather information. For instance, an individual interested in sports information perhaps consumes such information on newspapers, radio, television, and the Internet, driven by the common underlying motive of interest in sports. The focus of this paper is specifically on content-specific newsgathering practices of consumers across traditional and new media (Atkin, 1973; Chaffee & Kanihan, 1997; Vincent & Basil, 1997). Exploring the complementarity between consumption of online and traditional news in the areas of politics, business, health, science, international, local, sports, and entertainment news, it compares the consumption of specific content areas of traditional news between online readers and nonreaders of those content areas.

Recent research in mass communication also reveals a growing interest in the role of demographics in the consumption of online news media (Stempel, et al., 2000; Stempel & Hargrove, 1996). Scholars such as Stempel and Hargrove (1996) have studied the demographic correlates of readership of online news. This body of research has shown that the more educated individual with a higher income is more likely to use the Internet for news gathering than his/her less educated and lower income counterpart. The important question, then, is how do the online news users differ demographically in the domain of usage of different types of online news content (such as politics, sports, international, and entertainment news). In addition to examining the relationship between online and new media, this paper seeks to examine the demographic profiles of the users of online news by specific content areas such as sports, politics, entertainment, science and health, international and local news, comparing the users of online news in each content area with the nonuser in the domain of age, gender, education, and income. Overlap in demographic profiles of online and traditional news content areas would provide additional support for media complementarity theory.

Theories of Competing Media

Starting with the pioneering work on the displacement effect of radio on the print medium by Lazarsfeld (1940), media scholars have investigated displacement effects with the advent of every new form of technology, including television (Mendelsohn, 1964), cable television (Kaplan, 1978; Sparkes, 1983), VCR (Henke & Donahue, 1989), and computer-mediated communication (Finholt & Sproull, 1990; James, Wotring, & Forrest, 1995; Robinson, Barth, & Kohut, 1997). The emphasis of displacement theory is the amount of time individuals spend on different media types. Based on the argument that people have a limited amount of time to spend on the consumption of different media, displacement theorists argue that consumption of different media is driven by a zero sum game in the competition of audience and revenue resources. In other words, the viewership or readership of one particular medium leads to the reduction in the amount of time spent by the individual on
another medium. The introduction of a new medium therefore reduces the amount of time individuals allocate to existing media, ultimately leading to the displacement of such media. The competition-oriented notion is also present in media constancy theory (McComb, 1972), pointing out the limited resources in the media landscape that lead to competition. Competition occurs when there is an overlap in the resources used by different media.

As discussed in the introduction, this continued insistence on examining competition in the media landscape is a product of the preoccupation with selling the new and discarding the old on one hand (Duguid, 1996; Stephens, 1998), and nostalgic lamenting over the loss of the old at the footsteps of the new on the other hand (Stephens, 1998). Both liberationists that believe that new media will release humans from the shackles of traditional media and pessimists that succumb to the nostalgia for the past are driven by a tendency to create a monolithic media space occupied by a single medium. Media scholars and futurists in both camps suffer from a myopic vision of the medium as the driving force without taking into account the role of content, context, audience, or history. This idea of competing media types and limited media resources that dominate media scholarship is epitomized in the following excerpt from Kayany and Yelsma (2000): “When several forms attempt to consume the same limited resources available in the environment, the use of resources by one species constrains the availability of resources to other forms. The result is competition” (p. 217). This omnipresent theme of competition determines the research questions that get asked and the discourses that get explored in the domain of the relationship between media types. For instance, research papers focus on questions such as: “Are online media displacing the informational and entertainment functions of television?” (Kayany & Yelsma, 2000, p. 220) Has the increased use of e-mail resulted in displacement of the long distance phone?” (Dimmick, Kline, & Stafford, 2000, p. 234). The posing of research questions in a competitive frame, in turn, leads to a research methodology that is created to detect competition, constraining the answers of respondents to a competing media framework. For instance, Kayany and Yelsma’s (2000) recent article on displacement asked respondents questions focusing on the increase or decrease in time spent on traditional media after starting to use online media. Exploring an alternative to the traditional competition-based framework, this paper proposes the idea of media complementarity, articulating a content-based media congruence because of the greater likelihood of online users of a specific news content to consume similar content on traditional media.

Also, while the literature displays a large body of work that applies displacement theory to look at overall media consumption, there is a sore need in media research to compare the consumption of new and traditional media by specific areas of media content. As articulated in the introduction, in contrast to the conceptualization of media as homogeneous and amorphous entities, there exists a great deal of variance within media types based on the different content areas. Even within the broad categories of information and entertainment (Kayany & Yelsma, 2000), ample
variance is observed in the different content areas. For instance, dramas, reality shows, comedies, and mystery shows are some of the many different content areas within television entertainment. The relationship between traditional and new media in the context of these different content domains has not hitherto been explored. This paper proposes to take a step toward answering the question about the consumption of media content across traditional and new media by studying the relationship between online and traditional media in the area of news content. How is the information in one particular news content domain consumed by the individual through mass and new media? How do individuals use traditional and new media to fulfill their information needs in a particular content area such as politics, sports, or religion? Does the individual that uses traditional media for political information gathering also use the Internet for receiving political information? This paper applies the ideas of selective exposure, enduring involvement, and niche theories to build hypotheses for media consumption by areas of information content. As pointed out in the introduction, particular emphasis here is on the consumption of news content (Stempel & Hargrove, 1996; Stempel, et al., 2000; Vincent & Basil, 1997). Although the paper suggests a shift in research focus by investigating content complementarity issues, it does not set out to disprove the competition-based theories. Displacement effects might still be occurring within specific content areas and this may be explored in future research.

Selective Exposure, Niche, and Involvement Theories

The relationship between underlying motivations and media choice has received considerable attention based on selective exposure theory (Finn, 1997). Selective exposure theory is founded on the critical idea that individuals orient their attention to specific stimuli in their environment (Zillmann & Bryant, 1985). This focused information orientation is driven by an enduring interest in a specific subject area (Petty & Cacioppo, 1986). For example, an avid sports fan rushes to read the sports section of the newspaper in the morning. On his way to work, he perhaps tunes into sports radio. During lunch break at work, he visits the ESPN Web site and figures out a plan for what he would watch on ESPN at night. The underlying interest of the individual in sports issues takes him from the sports section of the newspaper to the ESPN Web site to the ESPN cable channel based on the particular medium available to him at that time. The example provided here illustrates the idea of systematic differences among individuals in the consumption of media by content areas. On the other hand, systematic correlations are expected within individuals and content areas in the consumption of different media types.

Underlying selective exposure theory is the concept that exposure to different media content is a product of active choice. This point is exemplified in the definition of exposure as "an act of choice in which an individual selects from a range of possible activities or messages" (Webster & Wakshlag, 1985). Selective
exposure theory is typically placed within a social psychological framework, suggesting that a person's predisposition to act a certain way interacts with his/her situation to produce underlying motivations that in turn drive the exposure to particular media activities. Worth noting here is a consistent underlying interest that manifests itself in the choice to read, watch, or listen to specific media content. As a consequence, complementarity or congruence is observed in consumption of specific content across media types. The individual is loyal to particular content areas based on his/her underlying drives.

The role of audience predisposition in media choice has been extensively investigated in the domain of audience exposure to violent television material (Gunter, 1985; Hartnagel, Teevan, & McIntyre, 1975), indicating that individual aggressiveness is associated with the viewership of violent television programming (Fenigstein, 1979; Gunter, 1985; McIntyre & Teevan, 1972; Robinson & Bachman, 1972). Selective exposure effects documenting the link between a particular predisposition and the exposure to media content that matches the disposition are also observed in the area of prosocial behavior, political, and moral values (Atkin, 1985; Fox & Williams, 1974; Mashkin & Volgy, 1975; Sprafkin and Rubenstein, 1979). Pointing out the match between disposition and content choice, Atkin (1985) suggested the role of reinforcement theory in media choice (see Atkin, 1973, for an excellent review). Reinforcement theory argues that individuals prefer messages that are supportive of their predispositions (Atkin, 1973, 1985; Klapper, 1960). Therefore, media content reinforces individual disposition and is chosen based on its congruence with existing beliefs, attitudes, and behaviors.

Niche theory supplements the theoretical articulations of selective exposure theory by arguing that different media forms offer different gratifications and gratification opportunities to the consumer (Dimmick, et al., 2000). The niche of a medium is defined by its position in the "multidimensional resource space of the environment" (Dimmick, et al., 2000, p. 230). While gratifications are the functions and uses served by a specific medium in driving individual selectivity, gratification opportunities refer to the characteristics of a medium that "amplify or attenuate the opportunities for deriving gratification from the medium" (Dimmick, et al., 2000, p. 230). The relationship between two media forms then can be understood in the context of the gratifications and gratification opportunities they offer with respect to each other. When the media forms overlap, competition occurs. A lower level of overlap, however, indicates that the media serve different needs, leading to a state of complementarity. The gratifications and gratification opportunities obtained from a medium are driven by the modality of the medium (audio, visual, audio-visual, etc.).

It is worth pointing out that the consumption of news in an online environment is especially different from traditional mass-media style news consumption because of the differences in modalities of these media types. Unlike traditional media, the Internet involves multiple communication modes that operate simultaneously. It also evokes interpersonal interactivity. As a consequence, the overlap between the gratifications and gratification opportunities offered by online and traditional news is
likely to be low, leading to greater opportunities for media complementarity between new and traditional media.

Additional evidence supporting the existence of congruence between audience orientation and media exposure comes from the substantive body of research on involvement (Petty & Cacioppo, 1986). Involvement refers to the extent to which individuals are motivated to gather, process, and evaluate information on a specific subject or issue (Salmon, 1986). A high level of involvement leads to cognitively-based central route processing (Petty & Cacioppo, 1986). Therefore, involvement in an issue/subject is positively associated with information seeking related to that subject/issue. The highly involved consumer scans media outlets to selectively expose him/herself to information that matches his or her interest. As a consequence, for a particular content area, a similar pattern may be expected in the individual’s media choices on television, radio, and the Internet. The highly involved sports fan mentioned in the introduction that reads the sports section of the newspaper also uses the sports website of ESPN.

Based on the concept of underlying motivations for informational media choice, this paper suggests that the individual who seeks out specific information content in one medium is also perhaps likely to read, watch, or listen to similar content information in other media. In other words, individuals interested in procuring information in a particular content area expose themselves to a multitude of media outlets to optimize the information on that particular content area. This forms the basis for media complementarity theory and is used for building hypotheses in the next section.

### Hypotheses and Research Questions

While the focus of media displacement theory is the relationship between the hours spent on different media, the subject of media complementarity theory is the comparison of use and nonuse of different media types by content areas. Rather than emphasizing time spent, the emphasis is on comparing users versus nonusers. Media complementarity theory suggests that people consuming one particular medium to gather information in one particular area are likely to consume other media that contain information in that specific area. This media complementarity arises from enduring involvement in one particular content area. For instance, someone who is interested in cars perhaps consumes not only car magazines, but also visits car shows, car races, and car Web sites. An individual interested in politics perhaps not only reads political news, but also watches political television, listens to political radio, and visits political Web sites. In other words, the great deal of interest in one particular area leads the individual to seek out information on that area from multiple outlets across multiple media types. The particular medium chosen for retrieval of the specific content depends upon what is available and convenient.

Based on the implications of selective exposure, niche, and involvement theories,
it may be articulated that the underlying characteristics that predispose an individual toward a particular type of news content drive the individual to expose him/herself to media outlets that are likely to contain that information. Given the theoretical emphasis of this paper on media complementarity as opposed to media replacement, the methodology compares the users versus nonusers of online news types rather than comparing the hours spent. In addition, the comparison of users versus nonusers is motivated by the focus on specific content-based interest areas as opposed to an interest in the broad functions of information versus entertainment.

The idea of media complementarity suggests that media outlets, instead of being conceptualized as being in direct opposition to one another, may be seen as complementary in the information gathering process. The individual, according to this approach, is loyal to the content and uses media only to the extent they satisfy the need for content. Niche theory provides additional support for this perspective based on the notion that the drawbacks of one media vehicle perhaps are compensated by the advantages of another vehicle because they offer different gratifications and gratification opportunities. The information received from one outlet is perhaps enriched by additional information received from other outlets. Information gathered from multiple outlets, therefore, serve to fill the information gaps and fulfill the information needs that individuals face in a certain subject area.

An individual interested in one type of issue is perhaps likely to be interested in the coverage of that issue on television, radio, newspapers, and the Internet. He/she is loyal to the content and is likely to get his/her specific content news from any media channel that is available. As a consequence, according to media complementarity theory, news consumption demonstrates congruence or complementarity across media types. Individuals interested in one particular content area are likely to use both traditional and new media to receive news in that area. Users of online news in a specific content domain, in other words, are more likely to be users of traditional news in that content domain than the nonusers. The comparison of users versus nonusers is conducted within the group of Internet users that have used online news at least a few times in order to single out the role of interest in the consumption of specific news areas. In this case, both user and nonuser groups in specific content areas have access to the Internet and have used it to gather online news. In the context of media complementarity, then, the differences revealed between user and nonuser groups reflects a difference in content preference as opposed to a difference in other factors such as access to the Internet, familiarity with online news, use of online news, etc. Hence, the following hypotheses are proposed:

H1a: Users of political news are more likely to consume political news on traditional media than nonusers.
H1b: Users of online sports news are more likely to consume sports news on traditional media than nonusers.
H1c: Users of online business and finance news are more likely to consume business and finance news on traditional media than nonusers.
H1d: Users of online science and health news are more likely to consume health news on traditional media than nonusers.
H1e: Users of online international affairs news are more likely to consume international affairs news on traditional media than nonusers.
H1f: Users of online local government news are more likely to consume local government news on traditional media than nonusers.
H1g: Users of online entertainment news are more likely to consume entertainment news on traditional media than nonusers.

In addition to studying the complementarity of traditional and online media in the consumption of online news types by content areas, it is worthwhile to explore the demographic correlates of online news media use by content areas. A study conducted by Stempel and Hargrove (1996) on online news use demonstrated that use was greatest for 35 to 54 year olds while it was lowest for the 55+ age group. A similar study conducted in 1999 demonstrated that Internet users were younger, with people under 35 being the heaviest users (Stempel, et al., 2000). Use increased with both income and education (Stempel & Hargrove, 1996). Other studies on Internet use point out that men are more likely than women to use the Internet. These findings are used to build hypotheses about the demographic profile of online news users. Furthermore, existing research has not looked at the demographic dimensions of online news consumption by the different content areas of news. This paper explores the differences in demographic profiles by content areas within the population of online news users, seeking to portray the demographic predictors of interest in a specific news content area. The following hypotheses and research questions are proposed:

H2: The higher the education, the more the consumption of online news.
H3: The higher the income, the more the consumption of online news.
H4: The higher the age, the more the consumption of online news.
H5: The user of online news is more likely to be male than the nonuser of online news.
RQ1: How do users of online news in specific content areas (such as politics, sports etc.) differ from nonusers in the domain of age, income, education, and gender?

Method

Data

The data used for testing the hypotheses were gathered by the Pew Research Center for the People and the Press (2000). The Pew Center conducts national surveys of the media and technology consumption of individuals. To avoid “listing” bias and provide representation of both listed and unlisted numbers, random digit samples of telephone numbers are selected from telephone exchanges in the continental United States (Pew Research Center, 2000). Area code, telephone exchange, and bank number serve as the basis for the random generation of the last
two digits of telephone numbers. Also, the selection of telephone numbers is based upon proportional representation of each county (Pew Research Center, 2000). The survey used in this study was conducted in 2000.

Participation in telephone-based surveys tends to vary by the different subgroups of the population, leading to non-response biases (Pew Research Center, 2000). In other words, some groups within the population, owing to their orientation are particularly likely to participate in such surveys as compared to other groups. In order to compensate for these known biases, the sample data are weighted in the analysis and the demographic weighting parameters are derived from a special analysis of the most recently available U.S. Census Bureau’s Current Population Survey (Pew Research Center, 2000). An iterative technique that simultaneously balances the distributions of all weighting parameters is used to derive the weights (Pew Research Center, 2000). The entire sample was weighted on age, sex, race/ethnicity, income, and household size to reflect the U.S. Census population. Usable data were obtained from 3,142 individuals. After weighting the data, the mean age of the respondents of the study was 46.3 (S.D. = 18.80). The sample comprised of 46.3% men and 53.7% women. The sample included 1807 respondents (57.4%) with access to the Internet; 1638 respondents (52.1%) reported having used the Internet to get news.

Measurement

The consumption of different types of news content on traditional media was measured on a 1 to 4-point Likert scale, with 1 representing “very closely,” 2 representing “somewhat closely,” 3 representing “not very closely,” and 4 representing “not at all closely.” The instruction read, “Now, I am going to read you a list of different types of news. Please tell me how closely you follow this type of news either in the newspaper, on television, or on radio?” News consumption of online media was measured by a dichotomous yes/no response to the question, “Do you sometimes go online to get . . .?” The news types that were referenced in the study were political news, sports news, business and finance news, science and health news, international affairs news, local government news, and entertainment news. Overall online news use was measured on a 1 to 6-point scale, with 1 representing “everyday,” 2 representing “3-5 days per week,” 3 representing “1-2 days per week,” 4 representing “once every few weeks,” 5 representing “less often,” and 6 representing “never.”

The demographic variables included in the study are age, gender, education, and income. Age was measured by numeric response to the question, “What is your age?” A dichotomous scale measured gender with 1 representing “male,” and 2 representing “female.” Income was measured by the question, “Last year [that is, in 1999] what was your total family income from all sources, before taxes?” The item was measured on a 1 to 8-point scale, with 1 representing “less than $10,000,” 2 representing “$10,000 to $20,000,” 3 representing “$20,000 to $30,000,” 4 represent-
senting "$30,000 to under $40,000," 5 representing "$40,000 to under $50,000," 6 representing "$50,000 to under $75,000," 7 representing "$75,000 to under $100,000," and 8 representing "$100,000 or more." Education was measured on a 1 to 7-point scale to the question, "What is the last grade or class that you completed in school?" The numeral 1 represented "none or grade 1-8," 2 represented "High school incomplete," 3 represented "High school graduate," 4 represented "Business, technical, or vocational school after high school," 5 represented "some college, no 4-year degree," 6 represented "college graduate," and 7 represented "post-graduate training or professional schooling after college."

Results

The hypotheses emphasized the comparison of online news users and nonusers. Therefore, t tests were conducted to test the hypotheses (see Table 1). Hypothesis 1a was supported by the results demonstrating that individuals that went online to get political news also followed political news on traditional media more closely than non-users of online political news. The results demonstrated support for hypothesis 1b, with online sports newsreaders showing a greater tendency to consume sports news on print, television, and radio than non-readers of online sports news. Business and finance news readership showed similar relationship between online and traditional media, supporting hypothesis 1c. Individuals that went online to procure business news were more likely to seek business news in traditional media than non-users of online business news.

Hypothesis 1d was also supported with individuals that went online to get science and health news also being more likely to follow such news in radio, television, and print than individuals who did not go online to get science and health news. Hypothesis 1e focused on the relationship between online news use and use of traditional media in the domain of news on international affairs. The hypothesis was supported, showing that online international affairs news users are more likely to follow news on international affairs on traditional media than nonusers. Supporting hypothesis 1f, it was demonstrated that individuals who go online to get news about local government are also more likely to follow local government news on traditional media as compared to individuals who do not follow online government news. Finally, in support of hypothesis 1g, the users of the Internet in the entertainment news domain are more likely to follow entertainment news more closely in traditional media than nonusers.

Hypotheses 2 through 5 were supported, documenting the relationship between online news consumption and demographic variables such as age, education, income, and gender. The results demonstrated that online news use was positively related to both education ($r = -.15, p < .01$) and income ($r = -.07, p < .01$). Also, the online news user was younger than the nonuser ($r = .05, p < .05$). Men ($M = 2.73, S.D. = 1.69$) were more likely to use online news than women.
Table 1
Differences in Traditional News Content Use Between Online Users and Non-Users

<table>
<thead>
<tr>
<th>Online News Content</th>
<th>Use Groups</th>
<th>Traditional News Content</th>
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<tbody>
<tr>
<td>Politics</td>
<td>User</td>
<td>Political news use</td>
<td>1.90 (0.76)</td>
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<tr>
<td></td>
<td>Non-user</td>
<td></td>
<td>2.53 (0.91)</td>
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<tr>
<td>Sports</td>
<td>User</td>
<td>Sports news use</td>
<td>1.57 (0.75)</td>
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<tr>
<td></td>
<td>Non-user</td>
<td></td>
<td>3.06 (0.96)</td>
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<tr>
<td>Business</td>
<td>User</td>
<td>Business news use</td>
<td>1.92 (0.80)</td>
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<tr>
<td></td>
<td>Non-user</td>
<td></td>
<td>2.81 (0.85)</td>
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<td>User</td>
<td>Science &amp; health news use</td>
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<td></td>
<td>Non-user</td>
<td></td>
<td>2.34 (0.95)</td>
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<tr>
<td></td>
<td>Non-user</td>
<td></td>
<td>2.78 (0.85)</td>
</tr>
</tbody>
</table>

***p < .001

(M = 3.34, S.D. = 1.69), supporting the nomological network, t = .766, p < .001. Research question 1 explored the differences in age, gender, education, and income between users and nonusers of online news by specific content areas (see Table 2). T tests comparing political news users with nonusers demonstrated no significant differences in age between the two groups. The users of online political news are likely to be more educated and earn more than the nonuser of online political news. Those who read political news on the Internet (59.1%) are more likely to be men than nonusers (45.8%) of online political news, χ² = 29.12, p < .001. Users of online sports news are more likely to be younger than nonusers of online sports news. There were no significant differences in education and income between online sports news users and nonusers. Online sports news users (69%) are more likely to be men than nonusers (38.1%) of online sports news, χ² = 154.38, p < .001.

In the realm of online business and finance news, users are more likely to be older than nonusers of online business and finance news. Online business news users are
Table 2
Demographic Differences Between Online Users and Non-Users of News Types

<table>
<thead>
<tr>
<th>News Area</th>
<th>Demographics</th>
<th>Online User</th>
<th>Online Nonuser</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Politics</td>
<td>Age</td>
<td>39.91 (15.45)</td>
<td>40.50 (15.88)</td>
<td>0.75</td>
</tr>
<tr>
<td></td>
<td>Education</td>
<td>5.35 (1.40)</td>
<td>4.94 (1.50)</td>
<td>5.52***</td>
</tr>
<tr>
<td></td>
<td>Income</td>
<td>5.99 (2.14)</td>
<td>5.66 (2.21)</td>
<td>2.99**</td>
</tr>
<tr>
<td>Sports</td>
<td>Age</td>
<td>38.04 (15.44)</td>
<td>41.89 (15.71)</td>
<td>4.94***</td>
</tr>
<tr>
<td></td>
<td>Education</td>
<td>5.10 (1.49)</td>
<td>5.11 (1.46)</td>
<td>.17</td>
</tr>
<tr>
<td></td>
<td>Income</td>
<td>5.82 (2.17)</td>
<td>5.77 (2.20)</td>
<td>.40</td>
</tr>
<tr>
<td>Finance</td>
<td>Age</td>
<td>42.03 (15.86)</td>
<td>38.13 (15.24)</td>
<td>5.04***</td>
</tr>
<tr>
<td></td>
<td>Education</td>
<td>5.39 (1.35)</td>
<td>4.75 (1.54)</td>
<td>8.96***</td>
</tr>
<tr>
<td></td>
<td>Income</td>
<td>6.18 (2.05)</td>
<td>5.32 (2.26)</td>
<td>8.05***</td>
</tr>
<tr>
<td>Health</td>
<td>Age</td>
<td>40.51 (15.85)</td>
<td>39.81 (15.45)</td>
<td>.86</td>
</tr>
<tr>
<td></td>
<td>Education</td>
<td>5.19 (1.46)</td>
<td>4.96 (1.48)</td>
<td>3.03***</td>
</tr>
<tr>
<td></td>
<td>Income</td>
<td>5.79 (2.17)</td>
<td>5.79 (2.22)</td>
<td>.02</td>
</tr>
<tr>
<td>International</td>
<td>Age</td>
<td>39.17 (15.21)</td>
<td>41.17 (16.08)</td>
<td>2.57**</td>
</tr>
<tr>
<td></td>
<td>Education</td>
<td>5.30 (1.44)</td>
<td>4.94 (1.48)</td>
<td>4.95***</td>
</tr>
<tr>
<td></td>
<td>Income</td>
<td>5.85 (2.22)</td>
<td>5.74 (2.17)</td>
<td>1.05</td>
</tr>
<tr>
<td>Local</td>
<td>Age</td>
<td>38.04 (15.44)</td>
<td>41.89 (15.71)</td>
<td>4.94***</td>
</tr>
<tr>
<td></td>
<td>Education</td>
<td>5.10 (1.49)</td>
<td>5.11 (1.46)</td>
<td>.17</td>
</tr>
<tr>
<td></td>
<td>Income</td>
<td>5.82 (2.17)</td>
<td>5.77 (2.20)</td>
<td>.40</td>
</tr>
<tr>
<td>Entertainment</td>
<td>Age</td>
<td>36.68 (15.13)</td>
<td>42.92 (15.60)</td>
<td>8.09***</td>
</tr>
<tr>
<td></td>
<td>Education</td>
<td>4.96 (1.53)</td>
<td>5.21 (1.42)</td>
<td>3.52***</td>
</tr>
<tr>
<td></td>
<td>Income</td>
<td>5.51 (2.21)</td>
<td>6.00 (2.15)</td>
<td>4.44***</td>
</tr>
</tbody>
</table>

Notes. **p < .01, ***p < .001. a) Lower the mean, greater the likelihood to follow the news content closely, b) positive coefficient reflects a negative relationship.

More educated and earn more than nonusers. Also, online business news users are more likely to be men (60.6%) than nonusers (39.5%) of online business and finance news, $\chi^2 = 72.95, p < .001$. Similar results were observed in the domain of online science and health news use. Users of online science and health news are significantly more educated than nonusers of online science and health news. There were no significant differences in income between online science and health news users and nonusers. Online science and health news users (51.6%) are more likely to be women than nonusers (43.9%) of online science and health news, $\chi^2 = 10.01, p < .01$.

In contrast to other domains of news content, users of online international news are more likely to be younger than nonusers of online international news. There were no significant differences in income between online international news users and nonusers. Education was positively associated with the use of online international news, with online international news users being more educated than nonusers.
Also, online international news users (59.1%) are more likely to be men than nonusers (44%) of online international news, $\chi^2 = 38.25, p < .001$. A $t$ test conducted to examine the differences in demographic variables between online local news users and nonusers showed that users of online local news are younger and more educated than nonusers of online local news. There were no significant differences in income between online local news users and nonusers. Online local news users did not differ from nonusers in gender. Finally, the realm of entertainment news was explored. Entertainment news users are younger than nonusers. Users of online entertainment news did not differ from nonusers of online entertainment news in gender. They were less educated and earned lesser than the online news reader who did not read online entertainment news.

**Discussion**

The results demonstrate support for the media complementarity framework suggested in the paper. Indeed, the use of news content in traditional and new media reflect complementarity in media consumption. The search for news information in a specific content area drives the consumption of specific news types across different media outlets and categories. In agreement with the idea of enduring involvement, the underlying motive that drives the individual to seek out content information in traditional media also drives him/her toward the consumption of online media in the same content domain. Individuals interested in one particular area of news expose themselves to different types of news outlets that carry information in that particular subject area. Complementarity between new and traditional media was demonstrated in the areas of sports, politics, business and finance, science and health, entertainment, international, and local news.

Consumer interest in politics manifested itself in search for political information in traditional as well as new media. Similarly, an interest in sports prompted the individual to seek out sports information on print, television, radio, and the Internet. In the domain of consumer interest in business and finance news, the same consumer who sought out such news in traditional media also used the Internet to gather information in the area. Those respondents who keenly followed science and health information in traditional media outlets also sought out information on science and health on the Internet. Information gathering and news viewership in all these different content areas perhaps brings to surface the notion of enduring involvement. Highly motivated consumers who are involved in a particular issue seek out information about that issue across different media outlets. Hence, a great deal of correlation is observed in the consumption of news across the different media types, supporting the notion of content loyalty.

Individuals interested in learning about international affairs followed both conventional media and online media to gather information in the area. On a similar note, interest in local affairs news not only led to the viewer/listenership of such news
on traditional media, but also to the online search for such news. Entertainment
information seeking on traditional media was mirrored in the search for such
entertainment news on the Internet. Different media channels perhaps complement
each other in the quantity and quality of information they can provide. Based on the
different underlying information needs, information searchers visit traditional and
new media outlets to gain information and fulfill the felt gaps. Future research needs
to further investigate the relationship between the consumption of news content in
traditional and new media. The gratifications and gratification opportunities offered
by different media in different content domains need to be explored. Special
attention may be provided to the comparison of the amount of time spent in the
gathering of news in specific content areas across traditional and new media. Also,
the process underlying the relationship between different media types may be further
explored, with the goal of discovering the exact relationship between different news
outlets. For instance, how does online news complement traditional news? Does it
first generate the consumer’s interest in a specific headline or topic which is then
supplemented by traditional news consumption? Do consumers first learn about an
issue on traditional outlets and then seek out additional information on the Internet?
These are questions that need to be addressed in future scholarship.

Clear relationships emerge in the domain of demographic correlates of online
news consumption. The online newsreader is younger, is typically male, and has
higher levels of both income and education than the nonreader. These findings in the
area of online news use mirror the findings with respect to overall Internet use
(Hoffman, Kalsbeek, & Novak, 1996). Also, news consumption, in general, tends to
reflect similar demographic profile, supporting the complementarity framework.
Individuals who are typically drawn to news on traditional outlets are also drawn to
news on online outlets.

Significant results also emerge with respect to the readership of specific content
areas of online news within the population of online news users. Consumers of hard
news such as politics, business, and finance are more likely to belong to higher
socioeconomic groups than the nonconsumers of such news types. Readers of online
political news are more likely to be men than nonreaders while there is no significant
difference between readers and nonreaders with respect to age. Similar to the
research in the domain of traditional political media content, and similar to overall
online news consumption patterns, the online political newsreader earns more and is
more educated than the nonreader. Since the comparisons are made within the
population of online news users, the differences in education, income, and gender
between the political news user and nonuser are reflective of an interest in politics,
mirroring the findings in the domain of traditional political news readership. This
builds additional support for complementarity theory, suggesting that the same
underlying demographic markers that define consumption of traditional political
news also define the consumption of online political news. Online business and
finance news users differ from nonreaders in age, gender, education, and income. 
Business and finance newsreaders are significantly older than nonreaders and are
typically male compared to nonusers. Also, readers of online business and finance news have a greater level of education and income than nonreaders of online business and finance news, once again reflecting the traditional media findings. The demographic match between traditional and new media in business and finance news attest to the effectiveness of complementarity theory in this domain. It is worth emphasizing that the differences in education and income between the users and nonusers were the largest in the realm of business and finance. Perhaps, the achievement orientation of the educated and higher income group manifests in the readership of achievement-oriented online news content. Users of online science and health news are significantly more educated than nonusers of online science and health news. Although there were no significant differences in age and income between online science and health news users and nonusers, online science news users were more likely to be women than nonusers of online science news. Similar to the results in the realm of political and business news, complementarity in demographic profile was observed between online and traditional media consumption of science and health news, pointing to the fact that individuals who use traditional media for science and health news also perhaps use online media to get news related to issues of science and health. The user of online international news was also younger and more likely to be male compared to the nonuser of online international news. He was also more educated that the nonuser, supporting the complementarity framework. Interest in international affairs and global issues increases with an increase in education. However, no significant differences were observed in education and income when comparing the local news user and nonuser.

Online readers of sports and entertainment news are more likely to be younger than nonreaders. It is especially important to note the comparatively large effect of age on online entertainment news use, further mirroring the demographic findings in the realm of traditional media, and thus supporting media complementarity theory. While readers of sports news were more likely to be men, readers of entertainment news demonstrated no significant gender differences. The interest of men in sports manifests itself in sports media viewership, supporting the notion that underlying motivational factors generate media consumption. Entertainment news users were less educated and earned lesser that their counterparts, once again supporting the complementarity-based framework. The results suggest that higher income and education are related with an information orientation in the online environment, while lower education and income are associated with a sensory or entertainment orientation, reiterating the findings in the arena of traditional media. The framework of media complementarity is supported in the realm of demographic correlates of media consumption. These results strengthen the fundamental idea that online news consumption should not be treated as a monolithic construct. The readership of online news differs by specific content areas and the demographic features of users versus nonusers vary across news content types, providing support for the notion that
the Internet is not an amorphous, homogeneous medium with similar consumption patterns for everyone.

One of the limitations of this study is in its reliance on secondary data. While secondary data often provide an exploratory starting point for theory building and testing, they also suffer from the limitation of not providing a comprehensive framework for theory testing. Important questions, albeit critical to the theory, get left out. The data drive the research questions and theoretical foundations instead of being driven by the theory. In that vein, it is important to acknowledge that this paper evokes additional questions that are not answered in these pages. For instance, the role of motivation in specific content areas, although inferred indirectly from the content choices made by individuals, is not specifically measured and tested here. Questions regarding content-based motivations need to be asked in the context of content-based media preferences. Additional research is needed to narrate the complementary relationship between new and traditional media in specific domains. Questions related to frequency of use and the number of media channels used need to be asked and examined in future research.

It may be noted that the paper set out to investigate the media complementarity between traditional and new media. It demonstrated that consumers are likely to be loyal to specific communication content. In highlighting a content-driven approach, it challenged the techno-deterministic idea that the medium is the key player (McLuhan, 1964), not the message content. The alternative viewpoint articulated in this research is that content drives media consumption and needs to be paid greater attention in mass communication research. Content, the study showed, is a critical ingredient in media choice. Future research specifically needs to examine the proposed complementary relationship between new and traditional media within specific content areas. The complex interpenetration and interdependence of medium, audience, content, and context needs to be examined in future research. Furthermore, future research needs to examine other media contents (such as comedy, music, etc.) beyond news to test the robustness of the theory of media complementarity.

The finding of this study regarding the complementary relationship between online and traditional news consumption is a step toward research on the consumption of news content across different media outlets. Users of online news in a specific content area are more likely to consume news in that content area from traditional outlets. The support for media complementarity provided in this paper calls for exploration of alternative frameworks by media scholars. Instead of, or in addition to, simply asking respondents questions about the extent to which new media replace or displace traditional media consumption habits, questions asking respondents about other aspects of the relationships need to be introduced. Both academics and media planners may apply the complementarity theory to better understand the process of news consumption. Future scholarship needs to test findings across other media outlets that have not been included in this study.
Notes

1 Lower the mean, greater the likelihood to follow the news content closely.
2 Positive coefficient reflects a negative relationship.

References


