



“Connecting” and “Disconnecting” With Civic Life: Patterns of Internet Use and the Production of Social Capital

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This article explores the relationship between Internet use and the individual-level production of social capital. To do so, the authors adopt a motivational perspective to distinguish among types of Internet use when examining the factors predicting civic engagement, interpersonal trust, and life contentment. The predictive power of new media use is then analyzed relative to key demographic, contextual, and traditional media use variables using the 1999 DDB Life Style Study. Although the size of associations is generally small, the data suggest that informational uses of the Internet are positively related to individual differences in the production of social capital, whereas social-recreational uses are negatively related to these civic indicators. Analyses within subsamples defined by generational age breaks further suggest that social capital production is related to Internet use among Generation X, while it is tied to television use among Baby Boomers and newspaper use among members of the Civic Generation. The possibility of life cycle and cohort effects is discussed.

Keywords civic engagement, generational differences, Internet use, interpersonal trust, life contentment, newspaper use, social capital, television use

Although scholars, technologists, and public intellectuals concur that the explosive growth in Americans' adoption and use of the Internet is transforming social and civic life, few agree about the nature of this change (e.g., Davis, 1999; Dertouzos, 1997; Kohut, 1994). Some contend that the digital world contains the promise of increased knowledge, tightened relations, and “wired” communities of coordination and cooperation (Bimber, 1998; Jones, 1995; J. Katz & Aspden, 1997; Rheingold, 1993). Others question the potential of the Internet to enrich public life, suggesting instead that “going on-line” erodes psychological well-being, weakens real-world ties, and reduces community involvement (Kraut et al., 1998; Nie & Erbring, 2000; Stroll, 1995; Turkle, 1996).

Unfortunately, insight into the merits of these contrasting perspectives has been hampered by conceptual and operational limitations. Reports on both sides of this de-

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bate have failed to provide an adequate framework for studying the relationship between Internet use and the health of civil society. In particular, there is little agreement on how to understand and assess relevant dimensions of social and civic life. Perhaps more important, studies on the psychological and sociological consequences of Internet use have tended to view the Internet as an amorphous whole, neglecting the fact that individuals make very different uses of this emerging medium. Thus, scholars often oversimplify the Internet, typically focusing on *hours of use* as opposed to *patterns of use* (see Kraut et al., 1998; Nie & Erbring, 2000; cf. Norris & Jones, 1998).

To address these limitations, this study draws upon research about *social capital* and *civic culture* to structure an examination of the role of the Internet in social and civic life (see Brehm & Rahn, 1997; Putnam, 1995b; Shah, 1998; Sullivan & Transue, 1999; Uslaner, 1998, 1999). This work shares the assumption that individuals comprise communities, and their attitudes and behaviors in relation to each other ultimately shape the quality of civic life. Accordingly, we attend to three indicators of the quality of civic life when examining the consequences of Internet use: individuals' engagement in community activities, trust in others, and life satisfaction. Trust and engagement—the “virtuous circle” of social capital—create the context for collective problem resolution, whereas life satisfaction—that is, personal contentment—strengthens governmental legitimacy and democratic functioning (Almond & Verba, 1963, 1980; Inglehart, 1997).

In addition, we build on communication research that indicates individuals use media such as the Internet to satisfy different goals, resulting in varied patterns of effects (Althaus & Tewksbury, 2000; Hill & Hughes, 1997). As Kraut et al. (1998) assert, theories about the social effects of “new media” must consider more than the “attributes of the technology alone” because people can use the Internet in a variety of ways and for a range of ends (p. 1071). Thus, the “effects” of being “wired”—whether favorable or unfavorable—are likely to be dependent on the gratifications individuals seek from media and their resultant media choices (McQuail, 1985; Rosengren, Wenner, & Palmgreen, 1985). Accordingly, we not only gauge *how much* individuals use the Internet, we also consider *how* they use it, disaggregating on-line practices.

Building on this work concerning social capital, civic culture, and motives for media use, our research explores the following question: Under what usage conditions is Internet use related to civic volunteerism, social trust, and life satisfaction? This question takes on added importance given the contention that younger Americans, the heaviest users of the Internet, are particularly detached from public life—less engaged in their communities, less trusting of their fellow citizens, and less satisfied with their lives than their parents were as young people (Rahn & Transue, 1998; Putnam, 2000). To examine the relationship of emerging forms of media use with the production of social capital, we use the 1999 DDB Life Style Study—a national survey of nearly 3,400 adults.

Civic Life and Media Use

Theorists have long debated how social attitudes and affiliations intersect to produce civic engagement and enhance democracy (Almond & Verba, 1963, 1980; Inglehart, 1997). In recent years, Putnam (1993, 1995b, 2000) has popularized the term *social capital* to describe how basic elements of community life such as interpersonal trust and social networks provide the means for citizens to cooperate on joint problems. Like earlier work on civic culture, social capital concerns psychological and sociological factors that, while not explicitly political, have implications for political functioning. It is this attention to social perceptions and practices beyond politics that makes theorizing

on social capital and civic culture so valuable for structuring an examination of the relationship between patterns of media use and engagement in civic life.

Consistent with this literature, we contend that civic participation, interpersonal trust, and personal contentment are important individual-level indicators of social capital (Brehm & Rahn, 1997; Shah, 1998; Sullivan & Transue, 1999; Uslaner, 1998). The experience of participating in community projects, volunteering, and engaging in other membership activities reinforces norms of obligation and cooperation, encouraging additional involvement in community life (Ostrom, 1990; Putnam, 1995a, 1995b). Likewise, social trust developed in small group interactions is thought to function as a heuristic that is applied to decisions to participate in large-scale collective action efforts (Scholz & Lubell, 1998; Scholz & Pinney, 1995). Research has also connected life satisfaction (i.e., personal contentment) to democratic stability and participation in collective action efforts, asserting that contentment provides a motive for and a benefit of civic volunteerism (Cohen, 1993; Fuller & Hester, 1998; Harlow & Cantor, 1996; Inglehart, 1997; Schaller & Cialdini, 1988; Scheufele & Shah, 2000).

Notably, Putnam’s concern with the aggregate decline in social capital also argues for the centrality of civic practices, interpersonal trust, and life contentment in studies of civil society. He asserts that participation and trust have slipped in tandem, reciprocally contributing to the erosion of community life (Putnam, 2000). Concurrently, life satisfaction appears to have experienced a marked drop, with rates of depression and suicide among young people at all-time highs (see also Rutter & Smith, 1995). These trends appear to be based as much on generational differences as individual changes—that is, cohort and life-cycle effects—with “Gen-Xers” being less participatory, trusting, and satisfied than their “Baby Boomer” parents, who themselves are less connected and involved than members of the preceding “Civic Generation” were as young people.¹

Aggregate-level media variables (e.g., rising rates of television usage and declines in newspaper readership) have been offered to explain the downward trajectory of these indicators of civic culture, although most work connecting media consumption and the production of social capital has focused on individual-level differences in levels of media use (see Norris, 1996; Putnam, 2000; Shah, 1998). These studies often feature arguments about “time displacement” and the “mean-world” effects of television; time spent with television is thought to privatize leisure time at the expense of civic activities and to foster beliefs that the world is as threatening as the social reality of the “air-waves” (Brehm & Rahn, 1997; Gerbner, Gross, Morgan, & Signorielli, 1980; Morgan & Shanahan, 1997). Likewise, epidemiological research has connected amount of television viewing with lower levels of physical and mental health (Sidney et al., 1998). These studies, albeit crude in their operationalization of media variables, lend support to the view that media use is related to changes in life contentment, social trust, and civic participation.

Extending this logic to the Internet, Kraut et al. (1998) examined the effects of hours of Internet use on social involvement and psychological well-being. They write: “Like watching television, using a home computer and the Internet generally implies physical inactivity and limited face-to-face social interaction” (p. 1019; see also Vitalari, Venkatesh, & Gronhaug, 1985). Based on longitudinal analysis of a field study, they conclude that heightened use of the Internet causes *declines* in participants’ communication with family and friends and *increases* in their depression and loneliness. Using a similar approach, Nie and Erbring (2000) relate increases in time spent on-line with decreases in time socializing and attending events outside the home, suggesting that the Internet causes people to lose touch with their social environment.

However, as Norris (1996) argues, such critiques of the media are “drawn in black-and-white terms” (p. 475; see also Shah, 1998). Kraut et al. (1998) and Nie and Erbring (2000) treat the Internet as though it offered only one type of media experience, rather than multiple motives and uses, and one audience, rather than different types of media users. In contrast with this unidimensional approach, Norris and Jones (1998) argue that informational and communicative uses of media may prove beneficial to the health of society, whereas recreational and entertainment uses may erode public involvement.

Motives for New Media Use

Some Americans use the Internet to learn new information, maintain connections with others, and establish “virtual communities” (Davis, 1999; Jones, 1995; Rheingold, 1993). For these individuals, the Internet may promote civic engagement because it allows users to gain knowledge, build linkages, and coordinate their actions to address joint concerns (Bimber, 1998; Kern, 1997; Norris & Jones, 1998). However, it is also possible that connecting with others in on-line environments may undermine traditional relationships, displacing strong, face-to-face ties with weak associations (Kraut et al., 1998). Thus, recreational uses of the Internet (e.g., playing games, visiting chat rooms, and exploring multi-user dungeons) may erode the individual-level production of social capital because these activities are generally asocial or anonymous but foster a sense of social interaction.

As this suggests, research on media uses and gratifications may provide unique insights into the relationships between different patterns of new media use and the production of social capital. Work in this area has tried to answer the question of why individuals choose to attend to particular media channels or types of content and what gratifications they expect and gain as a result of these interactions (Katz & Gurevitch, 1974; Rosengren, Wenner, & Palmgreen, 1985; Swanson, 1987; Zillman & Bryant, 1985). Research has discovered regular patterns of consumption and fulfillment (Graber, 1993). For example, when considering traditional media, theorists suggest a four-part typology of motives for media consumption that fall under the broad functional headings of information, personal identity, integration and social interaction, and entertainment and diversion (McQuail, 1985, 1987; Zillman, 1985).

Due to the interactive nature of new media, the typology developed for traditional media may have limited utility for understanding motives for Internet use (see Eighmey & McCord, 1998; Perse & Greenburg-Dunn, 1998). Exploratory analysis by Norris and Jones (1998) supports this view. They find four types of Internet users, labeled (a) “researchers” (those who use the Internet for e-mail and investigative purposes), (b) “consumers” (those who shop on-line and use the Internet as a financial and travel resource), (c) “expressives” (those who discuss views or express opinions via bulletin boards, newsgroups, and chatrooms), and (d) “party animals” (those who go on-line to play games and be entertained). Although based on data collected in 1995 when Internet adoption and usage levels were relatively low, Norris and Jones’s distinctions are highly suggestive of emerging patterns of new media use.

For instance, Norris and Jones (1998) find that Internet “researchers” are more politically knowledgeable than other new media users, a relationship that suggests only certain types of “Netizens” will become more informed and politically engaged as a result of venturing on-line. Thus, these data imply that individuals who use the Internet mainly for entertainment and anonymous socialization may not experience many civic benefits. It seems new media could further privatize social recreation, especially since

chatrooms and multiplayer games increasingly provide the illusion of face-to-face social interaction and belonging. If the main reason a person goes on-line is to socialize with geographically dispersed others, a smaller proportion of the person's social contacts might be with family and friends. Thus, the person might gain "poorer quality social relationships for better relationships, substituting weak ties for strong ones" (Kraut et al., 1998, p. 1029).

In contrast, individuals who use the Internet for communication and information acquisition and exchange, such as Norris and Jones's (1998) "researchers," probably encounter more information, more readily, and experience more opportunities for civic recruitment than their on-line and off-line counterparts. Indeed, for the motivated user there is great potential to encounter mobilizing information or civic content via the World Wide Web: voting records of members of Congress, legislation currently before governmental bodies, the recruitment materials of countless charitable groups and social movement efforts, Web pages for social clubs, and, of course, the panoply of news media sources. As Davis (1999) writes, "citizens armed with such information . . . will then be able to interact intelligently with government officials to articulate their concerns" (p. 22). Coupled with the associative features of e-mail, this may make political activists out of citizens who previously were politically passive (Grossman, 1995). Indeed, politicians and academics alike have asserted that the Net is the most powerful tool for public deliberation and grass-roots organizing developed in the last 50 years (Corrado & Firestone, 1996; Gore, 1991; Pavlik, 1996).²

Thus, it seems worth exploring whether patterns of new media use that provide information or contain the possibility of strengthening strong ties are positively related to the individual-level production of social capital, whereas patterns of use that promote escapism, diversion, or social interactions that build weak, geographically distant ties are negatively related to the production of social capital. Further, given cohort and life-cycle differences, some consideration must be given to the possibility of different patterns of association between social capital and media use within generational age breaks. Thus, when exploring the relationship of Internet use with civic participation, interpersonal trust, and life contentment, we attempt to answer the following questions:

RQ1: Under what usage conditions is Internet use related to withdrawal from civic activities, social mistrust, and lower levels of life satisfaction?

RQ2: Under what usage conditions is Internet use related to civic volunteerism, interpersonal trust, and higher levels of personal contentment?

RQ3: Are the linkages between new media use and civic life concentrated among younger Americans?

Method

A secondary analysis of the 1999 DDB Life Style Study was performed to test these issues. The data used in this study were collected as part of an annual mail survey conducted by Market Facts and funded by the DDB advertising agency. Initially, Market Facts acquires the names and addresses of a massive number of Americans from commercial list brokers. Via mail, large numbers of people from these lists are then asked to express their willingness to participate periodically in mail or telephone surveys and, if so, to provide basic demographic information. Demographically balanced samples are then drawn from among the 500,000+ people who agree to become part of the prerecruited "mail panel" for inclusion in the Life Style Survey.

In an effort to achieve a balanced final sample, the starting sample of approximately

5,000 mail panelists is adjusted within the subcategories of race, gender, and marital status to compensate for expected differences in return rates. Weights are applied to match the demographic composition of the target population (Putnam, 2000; Putnam & Yonish, 1999). Moreover, the sample is drawn to approximate “actual distributions within the 9 Census divisions of household income, population density, panel member’s age, and household size” (Groeneman, 1994, p. 4). In 1999, of the roughly 5,000 mail surveys distributed to mail panelists, 3,388 usable responses were received, for a response rate of 67.8%.

This study proceeds to analyze the association between Internet use and the production of social capital in four steps. First, a set of zero-order relationships between overall Internet use and civic engagement, interpersonal trust, and contentment are ascertained. Second, just as it has been shown that it is important to not treat all television use as having a universal impact on social capital (e.g., Norris, 1996; Shah, 1998), it is also important to begin to isolate the impact of different forms of Internet use on social capital. As a result, a second set of analyses assess various forms of Internet use on the three dependent variables mentioned above. Third, a set of covariates is added to each of the three regression equations in order to control for basic demographic and contextual variables as well as other forms of media use with civic consequences. Finally, the study analyzes the predictive strength of each form of Internet use across three generational age breaks: Generation X, Baby Boomers, and the Civic Generation. The ultimate goal of these analyses is to gain a more comprehensive understanding of what types of Internet use are related to the production of social capital and to observe the strength of these relationships within specific subsets of the American population.

Criterion Variables

Civic engagement, which refers to participation in civic and community activities, was measured by three behavioral items; an additive index was created by summing the scores from these measures (Cronbach $\alpha = .68$). Respondents were asked to report how frequently they had participated in the following activities in the past year: “did volunteer work,” “worked on a community project,” and “went to a club meeting” (see Appendix A for complete question wording). Responses were recorded on a 7-point scale ranging from “none in the past year” to “52 times or more” ($M = 1.99$, $SD = 1.22$).

Interpersonal trust was measured by asking to what extent respondents agreed with an evaluative statement, “Most people are honest.” Responses were recorded on a 6-point scale that ranged from “definitely disagree” to “definitely agree,” without a neutral category ($M = 3.65$, $SD = 1.25$).

Contentment was operationalized on the basis of four statements: “I am very satisfied with the way things are going in my life these days”; “I wish I could leave my present life and do something entirely different”; “If I had my life to live over, I would sure do things differently”; and “Sometimes I feel that I don’t have enough control over the direction my life is taking.” Responses were appropriately reversed, and an additive index was created ($M = 3.69$, $SD = 1.07$; Cronbach $\alpha = .73$).

As expected, these three variables were positively interrelated. Interpersonal trust and life contentment were significantly associated with civic engagement ($r = .14$, $p < .001$, and $r = .17$, $p < .001$, respectively) and with each other ($r = .21$, $p < .001$). The relationship between any two measures of civic culture persisted even when controlling for the possibility of a spurious correlation created by the third.³

Exogenous Variables

Control Variables. This study analyzed four important demographic variables: *age*, *gender*, *education*, and *household income*. Each of these variables has been shown to have an impact on each of the three criterion variables to varying degrees, and it is important that each be studied in the context of the analyses conducted for this study (e.g., Anderson, 1996; Brehm & Rahn, 1997; Fukuyama, 1999; Putnam, 2000; Rahn & Transue, 1998; Rosenberg, 1988; Rosenstone & Hansen, 1993; Scheufele & Shah, 2000; Shah, Holbert, & Kwak, 1999; Verba, Schlozman, & Brady, 1995). The sample consists of 55% female respondents, with an average age of 48.3 years. The average annual household income was between \$40,000 and \$44,999, with the mean level of education being “attended college.”

Two contextual/situational variables were also included in this study, *race* and *population density* of city of residence. Racial minorities, particularly African Americans, tend to be less trustful of others because their personal and collective experiences make them feel vulnerable to prejudice (Loury, 1977, 1987; Mullen, 1991). On average, African Americans, the largest minority population, have been shown to be less content than the rest of the population (Shah et al., 1999). Race is operationalized in this study as a dichotomous variable of “White-Caucasian” and “all others” (79.3% of sample White-Caucasian). Population density has been found to influence involvement in civic activities; the larger a city, the less likely residents are to have a strong sense of community and a dense social network. Individuals in metropolitan areas are more likely to be atomized and anonymous, thereby resulting in fewer opportunities for recruitment into civic volunteerism (Fischer, 1982; Fischer et al., 1977; Giles & Dantico, 1982; Glynn, 1981; Huckfeldt, 1979; Huckfeldt, Beck, Dalton, & Levine, 1995; Verba et al., 1995).

Media Use. Single-item measures of *overall use of television, newspapers, and the Internet* were employed in this study. As discussed above, the “time displacement” and “mean world” hypotheses predict that total television viewing time will be negatively related to participation, trust, and contentment (see also Brehm & Rahn, 1997; Putnam, 1995a; Sidney et al., 1998; cf. Norris, 1996; Shah, 1998). The logic of these time-spent arguments has been extended to the Internet, with the findings generally pointing to negative associations with these variables (Kraut et al., 1998; Nie & Erbring, 2000). In contrast, past research consistently reveals time spent with the newspaper to be positively related to increased community knowledge and overall civic activity (McLeod et al., 1996; McLeod, Scheufele, & Moy, 1999; Moy, Scheufele, & Holbert, 1998; Rothenbuhler, Mullen, DeLaurell, & Ryu, 1996). Accordingly, each respondent was asked “How much time do you spend on each of the following on an average day?” Ratings were made on a 6-point scale ranging from “don’t use” to “5+ hours.”

Measures of television and newspaper “hard news” use are developed to provide some nuance to findings concerning the total use of each medium. Research has found use of television and newspaper hard news to be a positive predictor of participation in civic activities after controls. Building on this finding, it can be posited that hard news use across each medium will be a positive predictor of civic engagement. *Television hard news* use is a 2-item additive index consisting of dichotomous (yes/no) measures of viewing the “local news” and “evening network news” ($M = .57$, $SD = .40$; $r = .395$, $p < .001$). *Newspaper hard news* use is a 2-item additive index consisting of dichotomous (yes/no) measures of reading the “news section” and the “editorial section” ($M = .64$, $SD = .34$; $r = .262$, $p < .001$).

Internet use is broken down into four components: social recreation, product consumption, financial management, and information exchange. Respondents were asked to respond in a dichotomous fashion (yes/no) to a multitude of possible uses of the Internet. As can be seen in Figure 1, among daily Internet users there are substantial differences in Internet activities, with e-mail and game playing among the more popular activities and on-line shopping and stock transactions among the less popular activities. A factor analysis (principal components, OBLIMIN) was conducted using these 11 Internet use items. This analysis revealed a 4-factor solution with no significant cross-loadings (see Appendix B). *Product consumption* consists of a 4-item index of “purchased a book,” “purchased clothing,” “purchased videos,” and “purchased music” ($M = .05$, $SD = .15$; Cronbach $\alpha = .68$). *Information exchange* is a 3-item index of “explored an interest or hobby,” “searched for information for school or educational purposes,” and “sent e-mail” ($M = .27$, $SD = .35$; Cronbach $\alpha = .73$). Similarly, *financial management* and *social recreation* are 2-item indices, the first composed of “made banking transaction” and “made a stock transaction” ($M = .03$, $SD = .14$; $r = .227$, $p < .001$) and the second composed of “played a game” and “participated in a chat room or on-line forum” ($M = .14$, $SD = .29$; $r = .389$, $p < .001$).

Generational Groups. As mentioned above, the final stage of this study analyzes the relationship of various forms of media use across three subsamples defined in terms of generational age breaks: Generation X, Baby Boomers, and the Civic Generation. Baby Boomers are defined as those individuals born between the years 1946 and 1964. Thus, this study projected the years of age that were appropriate to the time at which the survey was conducted and established the Baby Boomers to be between the ages of 35 and 53. The two other birth cohorts, Generation X and the Civic Generation, comprise

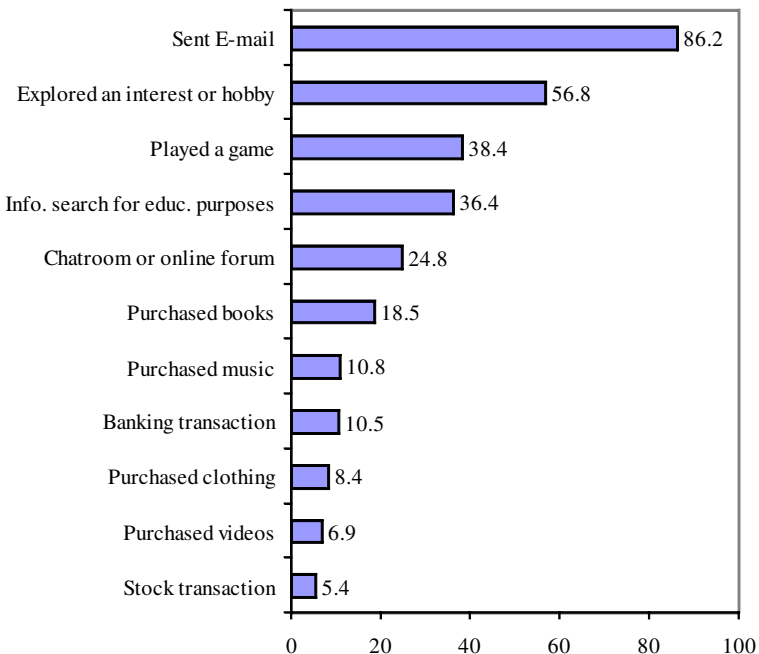


Figure 1. Percentage of Internet users by activity.

all of those individuals who fall either below or above this age group, respectively. The percentage breakdown of the sample across the three age groups is as follows: Generation X, 20.5%; Baby Boomers, 42.7%; and Civic Generation, 36.8%.

Results

In order to examine the strength of the relationship of overall Internet use and four types of Internet usage patterns with the different facets of social capital—civic engagement, interpersonal trust, and contentment—a series of preliminary analyses was conducted. When the associations between overall Internet use and criterion variables were analyzed at the zero order, overall Internet use was found to be positively, albeit weakly, related to civic engagement ($r = .07, p < .001$) and interpersonal trust ($r = .04, p < .05$), while it was not related to contentment ($r = .00, ns$). However, as shown in Table 1, when different types of Internet usage patterns were simultaneously considered, overall Internet use failed to retain a significant association with any of the criterion variables. Instead, the four types of Internet usage considered in this study emerged as significant predictors with distinct patterns, indicating that, unlike overall Internet use, specific types of Internet usage have significant and systematic links with the production of social capital.

Specifically, people’s use of the Internet for social recreation (i.e., participation in chat rooms and game playing) was consistently and negatively related to their engagement in civic activities, trust in other people, and life contentment. In contrast, people’s use of the Internet for information exchange (i.e., searching for information and sending e-mail) was found to have a positive impact on all three criterion variables. Those who used the Internet for product consumption, however, were less likely to be content with their life, while those who used the Internet as a financial management tool tended to express a greater degree of satisfaction with their lives.

The findings in Table 1 were retested by more stringent analyses that considered the contribution of important demographic and contextual variables and traditional media use measures. As indicated in Table 2, the influence of demographic and contextual variables was consistent with previous studies. Those who were older, female, more

Table 1
Preliminary analysis of the impact of Internet use on engagement, trust and contentment

	Engagement β (t statistic)	Trust β (t statistic)	Contentment β (t statistic)
Overall Internet use	.04 (1.26)	.00 (0.05)	.04 (1.32)
Social recreation	-.06 (-2.54)*	-.08 (-3.51)***	-.08 (-3.85)***
Product consumption	.00 (-0.17)	-.01 (-0.73)	-.04 (-1.98)*
Financial management	-.02 (-1.10)	.03 (1.70)	.06 (2.91)**
Information exchange	.11 (4.04)***	.07 (2.56)*	.08 (2.85)**
<i>N</i>	3,215	3,240	3,206

Note. Cell entries are standardized final regression coefficients.
* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 2
Multiple regression analysis of engagement, trust, and contentment

	Engagement β (<i>t</i> statistic)	Trust β (<i>t</i> statistic)	Contentment β (<i>t</i> statistic)
Demographic/contextual variables			
Age	.18 (8.26)***	.23 (10.40)***	.15 (7.17)***
Gender (female = high)	.10 (5.57)***	.04 (2.36)*	.05 (2.98)**
Education	.16 (7.80)***	.04 (1.77)	.05 (2.42)*
Income	.02 (0.96)	.10 (4.92)***	.22 (10.98)***
Race (non-White = high)	.00 (-0.19)	-.04 (-2.33)*	-.06 (-3.51)***
Population density	-.06 (-3.00)**	-.03 (-1.36)	-.02 (-1.21)
Television use			
Overall television use	-.07 (-3.39)***	.01 (0.43)	-.08 (-4.08)***
Television hard news	.05 (2.59)**	.01 (0.66)	.07 (3.36)***
Newspaper use			
Overall newspaper use	.05 (2.40)*	.01 (0.66)	.01 (0.40)
Newspaper hard news use	.07 (3.69)***	.04 (2.04)*	.04 (1.98)*
Internet use			
Overall Internet use	-.01 (-0.36)	-.03 (-1.03)	.00 (0.09)
Social recreation	-.01 (-0.34)	-.04 (-1.63)	-.04 (-1.88)
Product consumption	.02 (0.91)	-.01 (-0.68)	-.04 (-1.80)
Financial management	-.01 (-0.26)	.03 (1.55)	.04 (2.08)*
Information exchange	.10 (3.45)***	.11 (3.64)***	.04 (1.27)
<i>R</i> ² (%)	11.75	8.71	12.70
<i>N</i>	2,769	2,787	2,757

Note. Cell entries are standardized final regression coefficients.

p* < .05. *p* < .01. ****p* < .001.

educated, and residents of less populated areas tended to demonstrate a greater degree of participation in civic and community events. In terms of a trusting attitude toward other people, those who were older, female, more affluent, and members of the racial majority were more likely to be trusting of others. As expected, life satisfaction demonstrated several significant associations: Those who were older, female, higher educated, and economically resourceful tended to express greater contentment, while racial minorities were more likely to be discontented.

Further, media variables were found to play an important role in the production of social capital. Two measures of television use were found to be inversely related to civic engagement and life contentment. The more time people spent watching TV, the less likely they were to be participants in civic activities and to express contentment with life. However, use of hard news on TV (i.e., local and national news programs) seems to have facilitated people's civic engagement and life satisfaction. Both the number of hours respondents spent reading newspapers on an average day and their use of public affairs content in papers were found to foster respondents' involvement in civic activities, while newspaper hard news use was significantly, though weakly, related to interpersonal trust and life contentment. After controlling for six demographic/

contextual variables and four traditional media measures, use of the Internet for information exchange remained a key contributor in accounting for individuals’ social capital in terms of engagement in civic activities and trusting attitude toward other people. Also, individuals who use the Internet for financial management are more likely to indicate contentment in life.

As discussed earlier, this study inquired into how three generationally defined subsamples demonstrated differential relationships between media use measures and the criterion variables. Tables 3 through 5 reveal findings that compare the relationships between media use and three generational groups, Generation X, Baby Boomers, and the Civic Generation. Discussion of these findings will focus on the relative predictive power of television, newspaper, and Internet use. Differences in patterns of Internet usage among these three generational groups are presented in Appendix C.

Table 3 concerns the roles of independent variables in accounting for civic engagement across these three subsamples. For Generation X, use of the Internet for information exchange was found to be the strongest predictor of civic engagement among all of the variables considered, while use of newspapers, both overall and hard news use, also appears to strengthen engagement in civic activities. Purchasing products on the Internet was found to marginally facilitate Generation X’s participation in civic activities. For

Table 3
Multiple regression analysis of civic engagement by generation group

	Generation X β (t statistic)	Baby Boomers β (t statistic)	Civic Generation β (t statistic)
Demographic/contextual variables			
Age	.02 (0.37)	.02 (0.68)	.10 (2.97)**
Gender (female = high)	.03 (0.63)	.08 (2.92)**	.17 (5.62)***
Education	.11 (2.46)*	.18 (5.64)***	.16 (4.49)***
Income	.02 (0.51)	-.02 (-0.55)	.08 (2.18)*
Race (non-White = high)	.01 (0.23)	-.01 (-0.38)	.00 (-0.12)
Population density	-.09 (-2.12)*	-.03 (-1.03)	-.07 (-2.36)*
Television use			
Overall television use	-.02 (-0.40)	-.09 (-3.15)**	-.05 (-1.44)
Television hard news	.00 (-0.12)	.06 (2.03)*	.06 (2.02)*
Newspaper use			
Overall newspaper use	.14 (3.38)***	.02 (0.52)	.04 (1.32)
Newspaper hard news use	.09 (1.98)*	.07 (2.17)*	.08 (2.39)*
Internet use			
Overall Internet use	-.06 (-0.85)	-.01 (-0.11)	-.02 (-0.35)
Social recreation	.02 (0.43)	.00 (-0.13)	-.05 (-1.41)
Product consumption	.09 (1.93)†	.00 (0.10)	.01 (0.23)
Financial management	-.04 (-0.94)	.00 (-0.05)	.00 (0.14)
Information exchange	.24 (3.83)***	.08 (1.80)†	.12 (2.36)*
R ² (%)	14.55	8.20	10.69
N	545	1,204	1,020

Note. Cell entries are standardized final regression coefficients.

†p < .10. **p < .05. ***p < .01. ****p < .001.

Table 4
Multiple regression analysis of interpersonal trust by generational group

	Generation X β (<i>t</i> statistic)	Baby Boomers β (<i>t</i> statistic)	Civic Generation β (<i>t</i> statistic)
Demographic/contextual variables			
Age	.07 (1.67) [†]	.08 (2.85)**	.10 (2.84)**
Gender (female = high)	.09 (2.09)*	.06 (2.02)*	.00 (0.02)
Education	.09 (1.96)*	.01 (0.18)	.04 (1.08)
Income	.02 (0.47)	.15 (4.48)***	.08 (2.19)*
Race (non-White = high)	-.03 (-0.79)	-.02 (-0.76)	-.09 (-2.75)**
Population density	-.02 (-0.37)	.00 (0.15)	-.06 (-1.76) [†]
Television use			
Overall television use	-.01 (-0.28)	.03 (1.01)	-.01 (-0.35)
Television hard news	-.01 (-0.19)	-.01 (-0.23)	.04 (1.38)
Newspaper use			
Overall newspaper use	.07 (1.50)	.02 (0.52)	-.03 (-0.78)
Newspaper hard news use	.03 (0.60)	.01 (0.49)	.09 (2.70)**
Internet use			
Overall Internet use	.04 (0.61)	-.04 (-0.08)	-.07 (-1.31)
Social recreation	-.11 (-2.10)*	-.04 (-1.15)	.04 (0.92)
Product consumption	.06 (1.27)	-.04 (-1.35)	-.04 (-1.21)
Financial management	.02 (0.36)	.04 (1.44)	.01 (0.27)
Information exchange	.11 (1.73) [†]	.12 (2.79)**	.07 (1.31)
<i>R</i> ² (%)	7.53	5.20	4.67
<i>N</i>	547	1,215	1,025

Note. Cell entries are standardized final regression coefficients.

[†]*p* < .10. ***p* < .05. ****p* < .01. *****p* < .001.

Baby Boomers, the impact of TV use on civic engagement appeared to be most important among the media variables, with overall TV use and TV hard news use exerting negative and positive influence on civic involvement, respectively. In addition, Baby Boomers' use of hard news in newspapers and information exchange on the Internet enhanced their participation in civic events, the latter of which was only marginally significant. For the Civic Generation, use of the Internet for information exchange as well as on both TV and newspaper hard news use emerged as significant predictors of to what extent members of the Civic Generation were participants in civic affairs in the past year.⁴

As shown in Table 4, none of the traditional media use variables was associated with trusting attitudes among Generation X. For this youngest generation, use of the Internet for social recreation and information exchange was inversely related to trust in others, with recreational use of the Internet tied to lower levels of trust and informational use linked to higher levels of trust. For Baby Boomers, the extent to which they used the Internet for information exchange was the only significant positive correlate with trusting attitude. For the Civic Generation, the reading of hard news was found to be the sole media variable facilitating a trusting attitude.

Table 5
Multiple regression analysis of contentment group

	Generation X β (<i>t</i> statistic)	Baby Boomers β (<i>t</i> statistic)	Civic Generation β (<i>t</i> statistic)
Demographic/contextual variables			
Age	-.02 (-0.39)	-.05 (-1.78) [†]	.20 (5.90)**
Gender (female = high)	.06 (1.44)	.07 (2.67)**	.04 (1.32)
Education	-.01 (-0.16)	.00 (-0.01)	.09 (2.72)**
Income	.26 (5.80)***	.27 (8.81)***	.27 (7.59)***
Race (non-White = high)	-.11 (-2.52)**	-.04 (-1.54)	-.04 (-1.40)
Population density	.02 (0.58)	-.05 (-1.69) [†]	-.01 (-0.38)
Television use			
Overall television use	-.07 (-1.76) [†]	-.10 (-3.57)***	-.05 (-1.48)
Television hard news	.04 (0.85)	.06 (2.17)*	.09 (2.84)**
Newspaper use			
Overall newspaper use	-.04 (-0.97)	.02 (0.73)	-.03 (-1.03)
Newspaper hard news use	-.01 (-0.20)	.02 (0.71)	.08 (2.50)*
Internet use			
Overall Internet use	.00 (0.06)	.04 (0.98)	.03 (0.62)
Social recreation	-.11 (-2.13)*	-.08 (-2.42)*	.00 (-0.11)
Product consumption	-.04 (-0.82)	-.08 (-2.52)*	.00 (0.15)
Financial management	.10 (2.31)*	.02 (0.77)	.01 (0.37)
Information exchange	.14 (2.20)*	.04 (1.06)	-.04 (-0.84)
<i>R</i> ² (%)	16.02	12.58	13.69
<i>N</i>	540	1,206	1,012

Note. Cell entries are standardized final regression coefficients.

[†]*p* < .10. ***p* < .05. ****p* < .01. *****p* < .001.

In relation to life contentment, as shown in Table 5, three out of four Internet usage types were found to be significant predictors for Generation X. Specifically, the more frequently the members of this younger generation used the Internet to make financial transactions and to gather and exchange information, the more likely they were to express their satisfaction with their present life. Conversely, their participation in chat rooms or on-line game sites was negatively related to their life satisfaction. For Generation X, time spent watching TV was a marginally significant negative predictor of contentment. For Baby Boomers, overall TV use, social recreational Internet use, and Internet use for product consumption and purchasing were found to have negative relationships with life satisfaction, whereas viewing hard news on TV was found have a positive association with satisfaction in life. Finally, for the Civic Generation, both reading and viewing public affairs content in the media were positively related to contentment, yet none of the Internet use variables significantly accounted for satisfaction.

Discussion

The findings presented above highlight the need to focus on various forms of Internet use. The pattern of parallel positive and negative associations between certain modes of

Internet use and civic engagement, interpersonal trust, and life contentment suggests that the relationship between new media and social capital is dynamic and highly contextual. These relationships are often weak, which is not surprising if one recognizes that at the time of the survey the Internet was still emerging as a mainstream medium. Even when controlling for a wide range of demographic and contextual variables along with traditional forms of media use, patterns of Internet use retain meaningful associations with life contentment, interpersonal trust, and civic engagement. If the Internet is to become an important variable in research on social capital, as this study suggests it should, then our findings indicate that it must be conceptualized with greater care.

It appears that the Internet is not the unconditional danger that some recent research on social association and personal well-being has concluded (Kraut et al., 1998; Nie & Erbring, 2000). Instead, relationships between Internet use and the production of social capital must be viewed as more provisional—dependent on the motives individuals bring to their use of the World Wide Web. In contrast with the conclusions drawn by Kraut and colleagues and Nie and Erbring on the basis of a total-time-of-Internet-use variable, this exploratory analysis suggests that how much time people spend on-line is less important than what they are doing when they “connect” to the Internet via their modems.

The above-mentioned point speaks to the larger issue of how communication researchers bring the same set of assumptions and raise the same set of questions at the beginning of each new media revolution (e.g., McGuire, 1986). At the height of the broadcast revolution, the medium of television was seen as a harbinger of either the rise or fall of democracy. Paralleling this debate, so, too, has the Internet as a medium been commended and criticized. Just as earlier studies on media uses and gratifications revealed that the effects of television stem in large part from how it is used by an active audience, so, too, does this research find that a focus on Internet technology without consideration of individual difference in its use leads to questionable conclusions. Thus, scholars interested in understanding the linkages between the Internet, civic life, and democratic functioning must attend to what individuals do with this new medium, not simply what it does to them.

In particular, use of the Internet for information exchange (i.e., searching for information and exchanging e-mail) has a universally positive impact across the three criterion variables *and* across all three generational groups considered in this study. Indeed, in six out of nine tests of this variable, informational motives for new media use related positively to social capital production. It seems reasonable to conclude that individuals who use the Internet for information exchange probably encounter more mobilizing information and experience more opportunities for recruitment in civic life. Indeed, with the panoply of mobilizing content available on-line, citizens who are armed with such information may be able to exert greater control over their environments, encouraging participation and enhancing trust and contentment. Further, with e-mail comes the opportunity to connect with others, organize activities, and recruit volunteers—all of which should increase the individual-level production of social capital.

In contrast, use of the Internet for social recreation appears to diminish the production of social capital, especially the psychological components of this construct. That is, playing virtual video games, visiting a MUD (multi-user dungeon), or spending time in a chat room may have a deleterious effect on trust and contentment. It appears that people whose use of the Internet is motivated by desire for entertainment or anonymous socialization do not experience many benefits from a social capital perspective. In such cases, recreation and socializing may become privatized while the illusion of social interaction is maintained. While these settings may foster a sense of personalization and

belonging, they may not provide much opportunity to connect to the real world. Consequently, such Internet users in comparison with others may have diminished social contacts with family, friends, and other people who typically lend social support and help build trusting relationships.

Of course, these assertions assume that the Internet is the causal agent in this dynamic. Our cross-sectional analysis does not permit such conclusions. It is not unreasonable to believe that individuals who are engaged in civic life come to use the Internet for information exchange in order to fulfill their preexisting motivations. Conversely, the mistrustful and discontented may have gravitated to social recreational uses of the Internet to satisfy basic needs they are unable to fulfill in face-to-face social interactions. In fact, Internet use and social capital production may be mutually causal, suggesting the need for sophisticated over-time analyses of panel data or thoughtful laboratory experiments to tease out the nature, magnitude, and direction of these effects.

Nonetheless, it is notable that the positive and negative associations we observed were concentrated among the youngest American adults, members of Generation X. Indeed, across the three generational subsamples analyzed, the predictive power of Internet use variables on the three criterion variables tended to become weaker as we moved from younger to older groups. Thus, the civic correlates of Internet use were strongest among members of Generation X, the youngest group, whereas the Civic Generation appeared least prone to the effects of Internet use. In the absence of longitudinal data, it is difficult to determine whether these differences are the result of cohort or life cycle effects. It is possible, though unlikely, that younger people will abandon the Internet in favor of television and newspapers as they mature, and that older adults will gain proportional representation as “Netizens.”

It is easier to conceive of generational preferences for media, with different age cohorts relying on the medium that served as their initial window to the world. Our results indicate that each generation seems to have a distinctive medium that most significantly accounted for their reserves of social capital. For Generation X, the Internet is clearly shown to be the most influential medium for all three aspects of social capital, and the significance of the Internet for Generation X becomes clearer when its relative importance to other media is compared across generations. For Baby Boomers, among three types of media, TV emerged as the most important medium; with the exception of interpersonal trust, both measures of TV use (i.e., overall use and hard news use) were significantly related to criterion variables. This finding was not observed for the other generations. Lastly, for the Civic Generation, the contribution of newspaper use in accounting for variance in the criterion variables was distinctively important, with newspaper hard news reading being consistently significant across all three criterion variables. For the two younger generations, newspaper reading was significantly related only to civic engagement. Notably, findings also indicate that type of media use (i.e., hard news) may be an important reason for generational differences in social capital. The overall pattern of findings, then, suggests many directions for future research.

Given the differential rates of adoption of information technologies across generational groups, it seems likely that the Internet will gain influence relative to other media forms as our population continues to age and as the medium itself continues to develop and expand. It will be important for future studies to continue to track the relative influence of various media forms across time, and to also begin to assess the influence of new media forms on those cohorts that have not yet reached maturity (i.e., Generation Y). The findings of this study would point to an increasing influence of the Internet—both positive and negative—among younger cohorts.

Notes

1. Because we focus on the individual-level production of social capital rather than its decline, we will not present data on change over time in levels of participation and trust. The Life Style data set does permit such an analysis, which has been undertaken by Putnam (2000). He reports substantial downward shifts in levels of participation in community organizations (i.e., church and club meeting attendance), informal socializing (i.e., entertaining at home, hosting a dinner party), and social trust (i.e., belief in the honesty of others) in his analysis of the 1975 through 1998 Life Style data. He also finds generational differences in volunteering during this period.

2. Notably, Internet use may not directly cause social capital to rise or fall; instead, particular types of Internet content may attract users who seek to satisfy certain motivations more broadly, potentially because of their social situation. Individuals who pursue social gratifications from new media, for example, may be those who strive to fulfill such motivations in their behaviors beyond media selection. McLeod and Becker (1981) suggest that “more attention should be paid to the question of how exposure to various types of media content combines with motives to produce effects” (p. 95). However, secondary analysis of survey data does not usually permit the researcher to understand the motives of respondents directly unless specific open-ended probes or checklists of motivations are included in the questionnaire (Becker, 1979; Katz, Blumer, & Gurevitch, 1973).

3. When controlling for life contentment, the correlation between interpersonal trust and civic engagement persisted at $r = .10$ ($p < .001$). Similarly, when controlling for trust, the correlation between contentment and engagement remained robust at $r = .14$ ($p < .001$). Finally, the correlation between trust and contentment endured ($r = .19$, $p < .001$) when accounting for engagement.

4. For analyses within generational subsamples, we include reference to “marginally significant” relationships of $p < .10$. This is consistent with recent analyses of the social implications of Internet use and the production of social capital that rely on comparable case counts (see Anderson, 1996; Kraut et al., 1998; Uslander, 1999).

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Appendix A: Question Wording

Civic Engagement was measured with the following items:

I have listed below some activities that you, yourself may or may not have engaged in. For each activity listed, please place an “x” in the appropriate box to indicate how often during the past 12 months you, yourself, have engaged in the activities: (1) None in the past year; (2) 1–4 times; (3) 5–8 times; (4) 9–11 times; (5) 12–24 times; (6) 25–51 times; (7) 52+ times; and (8) not specified.

“Did volunteer work”

“Worked on a community project”

“Went to a club meeting”

Interpersonal Trust was measured with the following item:

In this section, I have listed a number of statements about interests and opinions. For each statement listed I’d like to know whether you personally agree or disagree with the statement. After each statement, there are six numbers from 1–6. The higher the number, the more you tend to agree with the statement. The numbers may be described as follows: (1) I definitely disagree with the statement; (2) I generally disagree with the statement; (3) I moderately disagree with the statement; (4) I moderately agree with the statement; (5) I generally agree with the statement; (6) I definitely agree with the statement.

“Most people are honest”

Contentment was measured with the following items:

Note: See question wording for Interpersonal Trust.

“I am very satisfied with the way things are going in my life these days”

“I wish I could leave my present life and do something entirely different”

“If I had my life to live over, I would sure do things differently”

“Sometimes I feel that I don’t have enough control over the direction my life is taking”

Demographic/Contextual variables were measured with the following items:

Note: Age, education, race, and population density of area of residence were not asked directly to respondents. These variables were generated from information contained in the Market Facts consumer database.

Age: Exact age from database

Gender: Coded as 0 = male; 1 = female

Education: Education from database: (1) attended elementary school; (2) graduated from elementary; (3) attended high school; (4) graduated high school or trade school; (5) attended college; (6) graduated college; and (7) postgraduate education

Household Income: Into which of the following categories does your annual household income fall? (1) under \$10,000; (2) \$10,000–\$14,999; (3) \$15,000–\$19,999; (4) \$20,000–\$24,999; (5) \$25,000–\$29,999; (6) \$30,000–\$34,999; (7) \$35,000–\$39,999; (8) \$40,000–\$44,999; (9) \$45,000–\$49,999; (10) \$50,000–\$59,999; (11) \$60,000–\$69,999; (12) \$70,000–\$79,999; (13) \$80,000–\$89,999; (14) \$90,000–\$99,999; (15) \$100,000 or more; (16) not specified

Race: Race from database: (1) White; (2) Black; (3) Hispanic; (4) other. Recoded as 0 = White; 1 = non-White

Population Density: Population density of area of residence from database: (1) non-

metropolitan statistical area (less than 50,000); (2) 50,000–499,999 people; (3) 500,000–1,999,999 people; (4) over 2,000,000 people

Three total media use items were measured with the following questions:

How much time do you spend on each of the following on an average day? Newspaper/Television/Internet: (1) don’t use; (2) less than 30 minutes; (3) 30 minutes to 1 hour; (4) 1–2 hours; (5) 3–4 hours; (6) 5+ hours

Newspaper Hard News Use was measured with the following items:

Below is a list of sections of the newspaper. Please “X” each section that you read all or most sections of: News section; Editorial section

Television Hard News Use was measured with the following items:

Listed below are different television programs. Please “X” each television show you watch because you really like it: Local news; Evening network news

Internet Use was measured with the following items:

Note: See question wording for Civic Engagement.

“Internet/World Wide Web Services”

Below is a list of ways people use the Internet/World Wide Web. Please “X” each way that you use the Internet/World Wide Web: purchased a book; purchased clothing; purchased music; purchased videos; made banking transactions; sent e-mail; participated in a chat room or on-line forum; explored an interest or hobby; searched for information for school or educational reasons; made a stock transaction; played a game

Appendix B: Factor Analysis of Internet Use Items

Item	Rotated factor loadings			
Product consumption				
Purchased music	.759	.120	.179	-.066
Purchased videos	.713	.025	.002	-.108
Purchased a book	.686	.184	.175	.006
Purchased clothing	.604	-.046	.192	-.196
Eigenvalue	2.21			
Variance (%)	20.1			
Information exchange				
Explored interest/hobby	.111	.670	-.094	-.196
Searched for info.—educ.	.029	.630	-.052	-.028
Sent e-mail	.091	.621	.169	-.164
Eigenvalue		1.45		
Variance (%)		13.2		
Financial management				
Stock transaction	.075	.044	.821	.144
Banking transaction	.287	-.071	.670	-.281
Eigenvalue			1.07	
Variance (%)			9.7	
Social recreation				
Played a game	.093	.122	-.044	-.787
Chat room or on-line forum	.092	.200	.092	-.734
Eigenvalue				1.02
Variance (%)				9.3

Note. Factor analysis was conducted only for individuals stating they use the Internet at least some time during an average day ($N = 1,389$).

Appendix C: Descriptive Statistics of Internet Use by Generational Group

	Generation X	Baby Boomers	Civic Generation
Use of the Internet			
Past year (%)	64.5 _a	59.2 _b	33.7 _{ab}
Average day (%)	49.3 _a	48.7 _b	28.6 _{ab}
Have used the Internet for			
Social recreation (%)	33.9 _{ab}	24.2 _{ac}	12.4 _{bc}
Product consumption (%)	15.8 _a	14.8 _b	6.3 _{ab}
Financial management (%)	8.1 _a	7.3 _b	3.5 _{ab}
Information exchange (%)	56.5 _{ab}	49.8 _{ac}	26.8 _{bc}

Note. Entries with the same alphabetical subscripts within each row are significantly different from one another at $p < .05$ using the Scheffé post hoc test.