Consumer Control in Online Environments

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February 25, 2000

1. Introduction and Motivation

In most traditional media environments, the main type of control available to consumers is to manipulate their own beliefs and judgments or to approach or avoid the mass media message. Indeed, most research in the consumer behavior literature studying control (cf., Greene 1988; Hui and Bateson 1991; Hoch and Loewenstein 1991; Gould 1991; Siddarth and Chattopadhyay 1998; Zufryden, Pedrick and Sankaralingam 1993) has dealt with what is called secondary control. Secondary control occurs when people do not have control over the environment (because it is fixed), so they exert control internally by changing their perceptions and preferences (Heckhausen and Shultz 1995; Rothbaum et al 1982). In contrast, primary control occurs when people exert control directly on the environment. Because the consumer lacks direct control in traditional media environments, secondary control is the more relevant of the two control constructs when studying consumer behavior in these environments. In online environments, however, primary control becomes highly relevant because consumers are given a number of choices about how to see and act upon media messages.

Because it is generally assumed that people prefer to directly control their environment (White 1959), one might expect that people would seize this opportunity and exert control in this virtual world through a series of goal-directed, self-initiated activities as well as use the Internet to gather information to empower themselves in the physical world. At the same time, others argue that people using the Internet become overtaken and absorbed by the medium to the extent that they substitute Web use for other "real world" activities and thus become "socially isolated" (Kraut, Patterson, Lundmark, Kiesler, Mukophadhyay and Scherlis 1998; Nie and Erbring 2000). Yet in general, whether people act on or are acted upon by their environment depends on their general expectancies as to whether their own actions will produce predictable results (cf., Lefcourt 1966; Rotter 1966). Thus, using the Web as a substitute for other activities - and the nature of Web use in general (i.e., using the Internet primarily for recreation or work) - is better thought of as an outcome of individual differences rather than a global consequence of increased Web use. In addition, control has considerable relevance to important issues involving Internet policy (i.e., attitudes toward government regulation).

1.1 Internet Usage

People use media because of the utility they derive from the medium (Rubin 1993). Consumers value Web sites for their entertainment, informational (Ducoffe 1996; Eighemy 1997; Schlosser, Shavitt and Kanfer 1999) and purchase utility (Schlosser, Shavitt and Kanfer 1999), and use the Web socially, to gather information, and for economic reasons (Korgaonkar and Wolin 1999). Using the Internet for its informational value and purchase utility – such as directly searching for information to complete a task or to reduce purchase uncertainty -- are goal-directed behaviors, whereas relatively unstructured recreational use are experiential behaviors (Hoffman and Novak 1996). Goal-directed behavior is instrumental, purposive, and task-specific. In contrast, experiential behavior has been likened to hedonic and ritualized orientations and reflects nonlinear search (Hoffman and Novak 1996).

As people use the Internet for multiple purposes, scholars ask what (if any) activities are being replaced. Some speculate that if the Internet replaces rather than supplements activities such as watching TV, reading newspapers and spending time with friends and family, negative outcomes such as increased social isolation and depression will result (Kraut et al 1998; Nie and Erbring 2000). Indeed, Kraut et al (1998) propose that the convenience of the Internet entices people to substitute the less involving online relationships (weak ties) for the more involving offline relationships (strong ties).

There is some evidence to the contrary, however (Flaherty, Pearce and Rubin 1998; Katz and Aspden 1997). For instance, Flaherty et al (1998) demonstrated that the Internet is not a functional alternative for face-to-face communication: people judged the Internet and face-to-face communication differently for the majority of communication motives served by each. In addition, research by Katz and Aspden (1997) suggests that increased Internet use *augments* existing social connections. One problem with this study is that at the time they collected the data (in 1995), only a small percentage of contacted respondents were Internet users**.**

Just as certain types of individuals watch television for companionship (Rubin 1989), it is plausible that using the Internet to replace other activities might depend on the individual rather than be an overall consequence of increased Web usage. For instance, those who substitute less involving Internet relations for more involving face-to-face relations may be people who are socially anxious about interacting face-to-face and may prefer the Internet as a means of connecting with others. Indeed, there may be differences in Web usage and the outcomes of Web usage based upon individual differences. Windahl (1981) argues that whether media usage results in "effects" (e.g., being better informed) or "consequences" (e.g., being socially isolated) depends upon the type of media usage: when the medium is used instrumentally, there will be effects; when the medium is used ritualistically, there will be consequences. We argue that whether people use the Internet primarily for instrumental/goal-directed versus ritualized/experiential activities (and thus whether there are "effects" or "consequences" of Web use) depends on the user's locus of control orientation.

1.2 Internal vs. External Locus of Control

Although receiving little attention in the consumer behavior literature, the locus of control construct is one of the most consistently researched variables in the social sciences (Lefcourt 1992; Rotter 1990). Based upon principles from social learning theory, the locus of control (LOC) construct captures people's general expectancies about the causes of rewards and punishments (Rotter 1966). Those with an internal LOC generally expect that their actions will produce predictable outcomes. Those with an external LOC generally expect that outcomes are due to external variables such as fate, luck or powerful others. Although initially conceptualized as a unidimensional construct with internal and external LOC as opposite ends of a continuum, a series of inconsistent findings in the 1960s and 1970s led to the calling for revisions to this initial scale (Joe 1971; Lefcourt 1972) and the development of a multidimensional scale of control (Levenson 1974). Levenson (1974) proposed that the inconsistent findings were not only due to the treatment of LOC as a unidimensional construct but also because there are two types of externals: those who believe that the world is ordered and powerful others are in control versus those who believe that the world is unordered and events are due to nonhuman forces (such as chance or fate).

Although Internal, Powerful Others and Chance Control are seen as independent constructs, the majority of research on locus of control treats it as a continuous variable and uses a median split to distinguish between Internals and Externals. Hence, little is known about behavioral, cognitive and affective differences between Internals and those who believe powerful others versus chance controls the world. Thus, we begin with a review of research distinguishing Internals from Externals and follow this with preliminary evidence regarding different types of Externals.

Comparing Internals with Externals. Internals are more action-oriented than Externals. They often commit to risky, innovative and difficult tasks (Hollenbeck et al 1989; Howell and Avolio 1993), especially seeking out those allowing for personal control (Brenders 1987). They believe in their own capabilities to perform behaviors necessary to control events, and consequently will set their own goals (Phillips and Gully 1997). At the same time, they put a great deal of effort into mastering situations (Brenders 1987; Ryff 1989; Zimmerman and Rappaport 1988) and derive more satisfaction from situations calling for personal control (Brenders 1987).

In contrast, Externals are avoidant of difficult situations, especially those requiring their active involvement. For instance, they pursue communication strategies that require little mastery (Brenders 1987) and, unlike Internals, are unlikely to master the skills necessary to accomplish their goals (Zimmerman 1995). In general, Externals believe that they lack the skills necessary to be effective problem solvers (Larson, Piersel, Imao and Allen 1990). Consequently, they exhibit such avoidant behaviors as procrastinating (Jannson and Carton 1999) or withdrawing, retreating or escaping (Aspinwall and Taylor 1992; Ingledew, Hardy and Cooper 1997; Skinner 1996).

Because the Internet offers the opportunity for consumers to have primary control of the environment, it is likely that Internals were attracted to this medium and were dedicated to mastering it. Consequently, they may be among the earliest adopters of the Internet and among the more expert users. Externals, however, likely adopted the Internet later than Internals did and are less skilled. This is our first hypothesis.

> **H1**: *Internal LOC will be positively correlated with number of years on the Internet and satisfaction with their Internet skills. External LOC will be negatively correlated with number of years on the Internet and satisfaction with their Internet skills.*

It is also plausible that Internals and Externals use the Internet differently. Internals likely use the Internet in a goal-directed manner. In general, Internals are more likely to adopt proactive, problem-solving stances to changing the environment than are Externals (Ingledew et al, 1997; Aspinwall and Taylor 1992; Skinner 1996; Zimmerman and Rappaport 1988). They use information to reduce uncertainty and to accomplish tasks, and their approach to communication is often instrumental (Lefcourt 1982). In addition to actively seeking out information, they are also more aware of the alternatives available to them (Skinner 1996; Zimmerman and Rappaport 1988).

Externals, however, are less likely to engage in goal-directed behavior on the Internet than Internals. They typically use media ritualistically, indiscriminately and as an escape (Gunter 1985; Flaherty et al 1998; Rubin 1993; Rubin and Rubin 1989). Indeed, placing people into prolonged uncontrollable scenarios appears to induce cognitive exhaustion (Sedek, Kofta and Tyszka 1993). When cognitively exhausted, people are unable to process information constructively and feel a need to escape from thinking. Exhibiting behavior consistent with cognitive exhaustion, Externals are less motivated by freedom of choice than Internals: for instance, they are less likely to choose which television shows to watch and when to set their VCRs (Rubin and Rubin 1989). Consequently, they are more likely to engage in experiential, nondirected behavior on the Internet than Internals.

Externals are also more likely to use the Internet for companionship than are Internals. Externals have higher affiliation needs than do Internals (Flaherty et al 1998) but are also more anxious about communicating with others (Rubin 1989). One possible cause of their social anxiety is that they are unable to understand others' behaviors and plan their own reactions (Fiske and Taylor 1984). In fact, Externals tend to interact face-to-face with others less for pleasure and entertainment than Internals do (Flaherty et al 1998). The Internet may be an attractive alternative to "real time" communication for Externals. Because of its asynchronous communication capabilities, it may allow Externals the time to

process and decipher other's messages and plan a response than synchronous communication would. The absence of paralinguistic cues in computer-mediated environments may also make communicating via this medium more manageable for Externals. Thus, in terms of Internet usage, we expect that:

> **H2**: *Internal LOC will be positively correlated with goal-directed usage of the Internet and negatively correlated with experiential usage of the Internet. External LOC will be negatively correlated with goal-directed usage of the Internet and positively correlated with experiential usage of the Internet.*

One might expect that if Internals have used the Internet for a longer period of time than Externals (see H1), Internals would be more absorbed into the medium and removed from other activities compared to Externals. Alternatively, because of their personal goal-directed orientation, Internals likely use the Internet to supplement rather than substitute for other activities. Indeed, Internals typically use communication to maintain the control they already have (Flaherty et al 1998; Rubin and Rubin 1992). Thus, Internals may use the Internet primarily to access information that would be useful for them to be empowered and successful in the offline world. Indeed, Internals appear to be more capable of balancing work and leisure than are Externals (Danes 1998). Such capabilities might generalize to balancing activities on and off the Web. Therefore, Internals may integrate the Web into their life to supplement their daily activities rather than use the Internet as a substitute for work or leisure activities.

Rather than use the Internet in a directed search to gather needed information as Internals would, Externals are more likely to be involved in nondirected search in an effort to escape. Furthermore, due to their anxiety with communicating with others (Rubin 1989) and yet their high need to affiliate with others (Flaherty et al 1998), Externals may use the Internet as a substitute to synchronous communication. Thus, not only might their behavior in cyberspace be nondirected, nonlinear and experiential, they may use the Internet to escape from (and as a substitute for being in) the physical world. Comparing Web use relative to involvement in other activities, we expect:

> **H3**: *Internal LOC will be negatively correlated with Web use substituting for other activities, whereas External LOC will be positively correlated with Web use substituting for other activities.*

Comparing Different Types of Externals. Levenson (1974) argued "people who believe the world is unordered (chance) would behave and think differently from people who believe the world is ordered but that powerful others are in control. In the latter case a potential for control exists. Furthermore…a person who believes that chance is in control…is cognitively and behaviorally different from one who feels that he himself is not in control" (p. 378). Although both the constructs of Powerful Others and Chance are positively correlated with each other and negatively correlated with Internal LOC, research suggests that Powerful Others and Chance are distinct dimensions of External LOC (Levenson 1974 1981; Walkey 1979; Zimmerman and Rappaport 1988).

The empirical research that compares powerful others with chance control rather than collapses these constructs into externality reveals some similarities between these two groups (Levenson 1981; Ryff 1989; Zimmerman and Rappaport 1988) and some differences (Levenson 1974 1981; Martin and Hall 1992; Rubin and Rubin 1992). It appears that the belief that external forces control events (whether powerful others or fate) undermines people's beliefs in their own self-efficacy (Zimmerman and Rappaport 1988), their environmental mastery (Ryff 1989; Zimmerman and Rappaport 1988) as well as acceptance of themselves, their positive relations with others and personal growth (Ryff 1989). Yet, some suggest that those who believe in powerful others may be content with and may even desire that others be in control (Burger 1989; Skinner 1996). Indeed, both types of externality are negatively correlated with desire for control (Zimmerman and Rappaport 1988). Those who believe that powerful others are in control may prefer that others make decisions for them and regulate the environment. In some cases,

powerful others can be perceived as facilitative (Levenson 1981). For instance, those who believe in powerful others (such as doctors and therapists) respond better to medical treatment and interventions than those who believe chance controls events (Caster and Parsons 1977; Wiegmann and Berven 1998).

Those who believe in chance control may lack the desire for control because they believe that having control is impossible. They may feel helpless as well as hopeless about predictable and organized change. Indeed, they appear to question the legitimacy of powerful others (Martin and Hall 1992). And even when they recognize that a problem exists (e.g., pollution), they are less involved in trying to change events than are those who believe in powerful others (Levenson 1974).

It is possible that the two types of Externals think and behave differently when they must predict or instigate change. Whereas those who believe in Powerful Others will likely turn to those in power in order to elicit change and create order, those who believe in chance will likely become disengaged, helpless and hopeless about any form of order occurring.

Comparing different types of Externals has the benefit of aiding in the examination of the extent to which control in one area (e.g., personal Internet usage) generalizes to others (e.g., Internet policy beliefs; Shapiro, Schwartz and Astin 1996). For instance, the two types of Externals may have similar Web usage patterns (i.e., respond similarly for H1-H3). However, in terms of how the Internet should be regulated, those who believe in powerful others will likely prefer government intervention. Those who believe in chance control will not have a single, consistent solution for how the Internet should be regulated. In contrast, Internals will prefer self-regulation to any external (including government) involvement.

> **H4**: *Internal LOC will be negatively correlated with beliefs that Internet content should be regulated through filter use or the government. External LOC/Powerful Others will be positively correlated with beliefs that the government should regulate Internet content. Reflecting External LOC/Chance people's disengagement and avoidance of problems, this construct will not correlate with these beliefs.*

Comparing Different Types of Internals. Levenson's (1974) LOC scale assesses individual differences in control expectancies that generalize across domains. Yet, individual differences in policy beliefs might best be assessed at the domain-specific level (Zimmerman and Zahniser 1991) because involvement in social and policy decisions is more than general expectancies regarding whether oneself or others control events. It is a combination of "a sense of personal competence, a desire for, and a willingness to take action in, the public domain" (Zimmerman and Rappaport 1988, p. 746). It involves working with others to bring about social change and accessing resources in order to master the sociopolitical environment (Zimmerman 1995). Thus, we added Zimmerman and Zahniser's (1991) Sociopolitical scale to assess whether Internals would respond differently to filter use versus government regulation of Internet content if they believe they have the skills to lead and organize groups (i.e., leadership competence) or believe they have an influence on policy decisions (i.e., policy control). Whereas leadership competence assesses people's beliefs about their own skills to be effective leaders, policy control assesses people's participatory expectations. Although it is not necessary to be in power in order to believe in one's own leadership competence and policy control, it appears that the individual must have an Internal LOC rather than an External LOC (Zimmerman and Zahniser 1991).

Although Internals in general will disagree with government regulation of the Internet (as proposed in H4), we compared domain specific Internals (as measured by Levenson's LOC scale) with different types of Internals at the domain specific level (as measured by Zimmerman and Zahniser's Sociopolitical

Control scale) to explore the extent to which Internet policy beliefs might vary as a function of people's domain-specific beliefs in their leadership competence and policy control. For instance, those who believe in their own policy control likely endorse policies enabling the people to regulate Internet content (thereby maintaining personal control). Thus, they may be the least supportive of policies enabling the government to have control over Internet content.

2. Method

2.1. Data

Data were collected in conjunction with the 10th WWW User Survey (GVU 1998), which ran from October 10 1998 through December 15 1998. As the GVU WWW User Survey employs non-probabilistic sampling and self-selection (GVU 1997), it is not representative of the general population of Web users. Comparison with population projectable surveys of Web usage (e.g. Hoffman, Kalsbeek and Novak 1996) shows that the GVU User Survey sample contains more long-term, sophisticated Web users than the general population. Participants were solicited using both online and traditional media. These included announcements placed on Internet-related newsgroups, banner ads placed on specific pages on high exposure sites (e.g. Yahoo, Netscape, etc.), banner ads randomly rotated through high exposure sites (e.g. Webcrawler, etc.), announcements made to the www-surveying mailing list maintained by GVU, and announcements made in the popular press. After the two-month survey period, a total of 5206 respondents filled out at least one of the nine surveys that comprised the 10th WWW User Survey. We consider data from five surveys. Two surveys were developed specifically for this research: "Filters and Ratings" (n=1327) and "Control" (n=2100). Three surveys developed for other purposes were also used: "General" (n=5022), "Usage" (n=3291) and "Flow" (n=1312).

The Control Survey consisted of 57 items that were used to construct the six different control scales developed by Burger and Cooper (1979), Zimmerman and Zahnister (1991) and Levenson (1974). The Filters and Ratings Survey contained 40 rating scales dealing with Web users' attitudes toward a variety of issues concerning the degree of severity, ease of access to, and proposed solutions to problems involving objectionable content on the Internet and in traditional media. The General and Usage surveys contained items detailing respondents' demographic characteristics and Web usage. Finally, the survey dealing with the Flow construct (Hoffman and Novak 1996; Novak, Hoffman and Yung 2000) contained items dealing with the customer experience of using the Web.

2.2. Measurement Properties

The measurement properties of the six control scales from Burger and Cooper (1979), Zimmerman and Zahnister (1991) and Levenson (1974) were empirically tested by fitting a series of structural models in the sample of 2100 respondents who completed our Control survey. While coefficient alphas for the six scales all looked reasonable (above .6), we fit confirmatory factor analysis models to the three sets of scales. Following is a summary of the results.

Desirability of Control (Internal) - Burger and Cooper (1979). A one-factor CFA model was fit, with all 20 scale items loading on this factor. This model had very poor fit with CFI=.611 (should be .9 or larger) and RMSEA=.096 (should be .08 or smaller). Thus, this scale does not appear to be unidimensional, and we excluded it from further consideration.

Leadership Competence (Internal) and Policy Control (Internal) - Zimmerman and Zahnister (1991). A two factor CFA model was fit, with the 8 items loading highest on Leadership on one factor,

and the 9 items loading highest on Policy on a second. This model has better fit, but still not acceptable with CFI=.817 and RMSEA=.085. By only including items which correlated .4 or higher with the factor analysis results reported by Zimmerman and Zahnister, fit of a two factor CFA model fit to the reduced item sets was acceptable (CFI=.911 and RMSEA=.078). Thus, reduced versions of these two scales were used in all subsequent analyses.

Internal, Powerful Others (External) and Chance (External) Control - Levenson (1974). A three factor CFA model was fit, using the highest loading items on each of the three factors as indicated by Levenson. Fit of this model was CFI=.832 and RMSEA=.067, again not acceptable. However, inspection of the loadings provided by Levinson shows many items have very poor communalities - in some cases, the highest loading of an item with one of the three factors is only .12. Therefore, the three scales were redefined using only the reduced subset of items that correlated at least .40 with a factor according to Levinson. Fit of this model was good, with CFI=.932 and RMSEA=.053. Consequently, reduced versions of these three scales were used in all subsequent analyses.

3. Results

3.1. Demographics and Web Use

Demographically, Internals in our sample are similar to those surveyed in previous research (see the correlations reported in Table 1): they are older (Ryff 1989), more educated (Lachman and Leff 1989), with higher household incomes (Judge et al 1999). Also consistent with previous research, Powerful Others was unrelated to age, whereas those believing in chance control tend to be younger (Ryff 1989).

Consistent with our first hypothesis, Internals have used the Web for more years and are more satisfied with their skills (see Table 1). Furthermore, Internals (especially those who believe in their own leadership competence) use the Web more times per day and more hours per day/week.

3.2. Web Activities

Supporting our second hypothesis, Externals use the Web more frequently for experiential activities: for fun, entertainment, personal information, time wasting, chat, and fooling around (see the correlations in Table 2). Internals on the other hand use the Web less for experiential activities and more for goal-directed activities: they use the Web more frequently for job/work, shopping, product search, research, references, and task-oriented activities. Externals use the Web less frequently for goal-directed activities, especially for work and to search for specific information.

There was no relationship between Internal/External LOC and communication or educational uses.

3.3. Web Activity Substitution

Consistent with our third hypothesis, Externals are more likely to substitute the Web for social, leisure, family, work, and reading activities. In contrast, Internals are less likely to substitute the Web for these activities. The only activity in which this finding did not generalize was watching TV. There was no difference between Internals/Externals on substituting the Web for watching TV. Perhaps there was no significant difference because TV viewing is a passive activity, thereby unrelated to people's perceptions of their own personal control. In contrast, the other activities (social interaction, reading the paper) are active activities. Thus, Externals may use the Web as a substitute for activities requiring active engagement whereas Internals do not.

3.4 Internet Policy Beliefs

Consistent with our fourth hypothesis, Internals are more likely to oppose government regulation as a solution to "objectionable content" on the Web. Externals, on the other hand, split into two groups. External LOC/Powerful Others are more likely to *favor* government regulation, while there is no relationship of External LOC/Chance with attitudes toward government regulation.

4. Concluding Remarks

The results of this study suggest that locus of control is a highly relevant construct in understanding Web use, Web activities, whether Web use replaces other activities and Internet policy beliefs. Using the Web as a substitute for other activities is positively related to beliefs that events are beyond their personal control (External LOC) and negatively related to beliefs that they personally control events (Internal LOC). An external orientation causes people to retreat into using the Web for experiential, ritualized activities. In contrast, an internal orientation causes people to use the Web in a goal-directed manner, using the Web to supplement such activities as work and searching for product information. Furthermore, Externals do not want control over Internet content. They (especially those who believe that powerful others control events) prefer that the government regulate Internet content. Internals, however, appear to prefer self-regulation to external regulation.

Although not presented in this abstract, we also examined through regressions and partial correlations whether hours/week (the main "social isolation" explanatory variable) and number of years using the Internet related to Web use and activity substitution. The results revealed that hours/week does not explain the relationships of Internal/External LOC with activity substitution (Table 3) or Web activities (Table 2). Number of years does explain *some* of the Web activities (Table 2) - in general, longer-term users engage in more goal-oriented activities (like the Internals do). Contrary to the prediction that increased Web use causes "social isolation," number of years using the Web does *not* explain activity substitution (Table 3). Thus, contrary to recent speculation that increased Web use is detrimental to social involvement and mental health because using the Web eclipses other activities (Kraut et al, 1998; Nie and Erbring 2000), our findings provide initial evidence that Web use and activity substitution are better thought of as outcomes of people's generalized expectancies that they versus external forces control events; those who believe that external forces control events and thus are already withdrawn from the physical world will use the Internet as a substitute for other activities.

Table 1 – Demographics and Web Use (correlations)

	Internal:			External:	
	Leader-ship	**Policy Control**	**Internal Control**	**Powerful Others**	**Chance Control**
(Interpretation for each item is listed below)					
Age (+ older)	.018	.055*	.068*	-.037	-.196*
Education Attainment (+ higher education)	.150*	.181*	.048*	-.082*	-.123*
Household Income (+ higher income)	.201*	.118*	.126*	-.118*	-.183*
Number of Children in Household (+ more kids)	.071*	.003	.035	-.039	-.081*
Years on Internet (+ more years)	.100*	.131*	.027	-.013	-.028
When did you start using the Web? (+ longer time ago)	.136*	.140*	.083*	-.088*	-.091*
Satisfaction with Skills (+ more satisfied)	.123*	.084*	.081*	-.063*	-.037
Frequency of Use (- more times used/day)	-.132*	-.060*	-.043	-.014	.007
Hours Used (+ more hours used/day)	.055*	.012	-.023	.054*	.032
How much time would you estimate that you personally spend using the Web? (+ fewer hours week)	-.064*	.003	.032	-.057	-.003

*p<.05

Table 2 – Web Activities (correlations)

	Internal:			External:	
	Leader-ship	**Policy Control**	**Internal Control**	**Powerful Others**	**Chance Control**
(+/- score is "More frequently perform activity" as indicated below)					
Fun (+ more)	-.101*	-.076*	-.081*	.112*	.113*
Entertainment (+ more)	-.109*	-.094*	-.047*	.068*	.107*
Personal info (+ more)	-.058*	-.009	.006	.049*	.048*
Time-wasting (+ more)	-.121*	-.041*	-.111*	.062*	.146*
Have Fun and Explore (- more)	.134*	.102*	.074*	-.081*	-.145*
Chat groups (- more)	.025	.080*	.073*	-.080*	-.095*
Entertainment (+ more)	-.135*	-.103*	-.054	.097*	.160*
Just fooling around and exploring for fun (+ more)	-.124*	-.075*	-.061*	.085*	.178*
Convey the Right Impression (- more)	.015	-.037	.016	-.049*	-.047
Job (+ more)	.215*	.094*	.112*	-.059*	-.086*
Work – question 1(+ more)	.221*	.133*	.103*	-.076*	-.092*
Work – question 2(+ more)	.239*	.099*	.103*	-.096*	-.109*
Shopping (+ more)	.003	.073*	.044	-.029	-.059*
Purchases (- more)	-.111*	-.118*	-.057*	.051	.065*
Actually purchasing products and services online (+ more)	.061*	.048	.054	-.044	-.031
Product Information (- more)	-.134*	-.105*	-.090*	.045	.055*
Searching for information about products or services (+ more)	.105*	-.045	.101*	.014	-.011
Search for Specific Information (- more)	-.126*	-.054*	-.127*	.094*	.062*
Searching for information not related to shopping (+ more)	.066*	-.029	.042	-.021	-.035
Reference Material (- more)	-.132*	-.083*	-.063*	.055	.105*
Research Material (- more)	-.187*	-.120*	-.082*	.049*	.072*
Financial Material (- more)	-.152*	-.110*	-.127*	.089*	.100*
Medical information (- more)	.002	.010	-.018	-.001	.056*
Newsgroups (- more)	-.039	-.056*	-.022	-.046	.001
Electronic News (- more)	-.057*	-.157*	-.032	-.009	.012
Job listings (- more)	-.042	-.046	.016	-.047	-.108*
Real Estate (- more)	-.080*	-.030	-.071*	.036	.015
Telephone listings (- more)	-.076*	-.068*	-.022	.018	.045
Maps (- more)	-.079*	-.095*	-.041	.043	.069*
Communication (+ more)	.007	.001	.000	.009	.033
Education (+ more)	.021	.036	.034	-.031	-.044

*p<.05

Table 3 – Activity Substitution (correlations)

	Internal:			External:	
	Leader-ship	Policy Control	Internal Control	Powerful Others	Chance Control
(Positive score is "agree")					
Web reduces the time I spend watching TV	.003	-.006	.025	-.009	.006
Web reduces the time I spend reading magazines and newspapers.	-.101*	-.115*	-.094*	.102*	.100*
Web reduces the time I spend on leisure activities and hobbies.	-.114*	-.116*	-.135*	.186*	.132*
Web reduces the time I spend on social activities with friends.	-.146*	-.144*	-.157*	.234*	.176*
Web reduces the time I spend with my family.	-.091*	-.150*	-.148*	.220*	.150*
Web reduces the time I spend on work.	-.063*	-.070*	-.152*	.158*	.152*

*p<.05

Table 4 - Internet Policy Beliefs (correlations)

	Internal:			External:	
	Leader-ship	Policy Control	Internal Control	Powerful Others	Chance Control
GOVERNMENT REGULATION: (positive score is "Disagree with Regulatation")					
R11 The government should pass a law making it a crime for commercial distributors to post content on the Web that is considered "harmful to minors."	.072*	.160*	.083*	-.056	-.008
R25 The government should pass a law requiring software filters to be installed on all computers connected to the Internet in schools and libraries that receive government funding for Internet connections.	.100*	.190*	.099*	-.108*	-.039
R26 The government should pass a law requiring software filters to be installed on all computers connected to the Internet in schools and libraries, regardless of whether they receive government funding for Internet connections.	.102*	.215*	.102*	-.088*	-.052
R32 It should be required by law that content on the Internet be rated according to a particular standard so that it can potentially be automatically blocked from view.	.052	.172*	.072*	-.121*	-.048
R33 It should be a criminal offense for anyone to post content to the Internet without first rating it and rating it accurately.	.045	.155*	.083*	-.117*	-.047
R34 By law in the United States, all computers with television tuners are required to come instale with the "V-Chip" after 1999.... In you opinion, do you believe the use of such V-chips and rating systems in PC-TV's should be mandated by law?	.051	.185*	.078*	-.115*	-.038

*p<.05

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