

## Web Site Design, Self-Monitoring Style, and Consumer Preference

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This study aims to advance understanding of Internet interactions by considering the impact of Web site design and self-monitoring style on consumer preference. Four quasi-commercial Web sites were constructed containing identical information presented via a context-based (animated) or content-based (unanimated) design, and 2 advertisements of either image- or information-oriented style. Using a between-participants design, the study found that all individuals favored context-based over content-based Web site design. Matching advertising appeal to individual self-monitoring needs was found to increase Web site effectiveness of consumer preference for high self-monitors, and within Web site satisfaction and level of persuasion for low self-monitors. Results suggest that to reach their potential as a consumer-sensitive tool, Web sites must be engaging in their design and tailor their communications to accommodate individual differences.

The World Wide Web is estimated to contain over 6 billion unique, publicly available pages and to have a growth rate that exceeds 7 million pages each day (Cyveillance, 2003). The Internet is not, as often believed, a replacement for the real world, but rather a valid part of it (Amichai-Hamburger, 2002). For those who use the Internet, it provides a way to complete daily tasks, and to receive and send information, as well as providing a source of entertainment. Rust and Varki (1996) predicted that interactive media (e.g., the Internet, interactive television) will displace traditional mass media because of its increased proficiency in reacting to and satisfying individual communication needs.

Indeed, recent statistics have indicated that the Internet represents 10% of Europeans' media consumption, placing it ahead of magazines (8%) and just behind newspapers (13%; European Interactive Advertising Association [EIAA], 2003b). Further, the use of online advertising has been found to extend audience reach by 16% beyond the 48% reach achieved by television (EIAA, 2003a). Thus, the Internet has a very real influence over the way we

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shape our social and professional lives (Sproull & Faraj, 1995). Yet, paradoxically, given the extent of the Internet's potential within the marketplace, relatively little empirical research exists concerning the commercial effectiveness of Web site design (Howes, Miles, Payne, Mitchell, & Davies, 2001).

As consumers increasingly initiate the search for commercial information to aid their decision making, interactions need to be individually tailored and information-oriented, relying less on appeals to status and more on objective information that individuals can process usefully (Rust & Varki, 1996). Interactive media offer a solution in their unique capacity to direct personalized messages high in information content to addressable individuals (Blattberg & Deighton, 1991). Numerous companies take advantage of such interactive technology to "mass customize" their communications with consumers (Pine, 1993). Message customization is predominantly established using one of two information sources: a customer's demographics (e.g., gender) or a customer's previous behavior (e.g., past purchases). The former generally is used as a proxy for assumed differences in needs, values, and attitudes; whereas the latter generally is used as a predictor of future behavior. The capacity of hypermedia to customize itself by adapting to the exclusive needs and preferences of users has important implications for commercial consumer communication.

The current study adopts the perspective that although Web sites are developed primarily to provide information, in order to maximize impact and effectiveness, online presentation also must engage with and optimize a user's experience. The optimal experience theory (i.e., flow theory) proposed by Csikszentmihalyi (1975) has been recognized most recently in its capacity to facilitate the understanding of online behavior (Chen, Wigand, & Nilan, 1999; Hoffman & Novak, 1996; Novak, Hoffman, & Yung, 2000). The experience of *flow* was defined originally by Csikszentmihalyi as a "holistic sensation that people feel when they act with total involvement" (p. 36). The state of flow is characterized by a reduction of the focus of awareness, loss of self-consciousness, a sense of control over the environment (Csikszentmihalyi, 1975); and elevated levels of playfulness (Privette & Bundrick, 1987; Webster & Martocchio, 1992). The experience of flow during human-computer interactions has been found to promote increased learning and changes in attitudes and behavior (Ghani & Deshpande, 1994; Webster, Trevino, & Ryan, 1993) and, while online, to lead to a positive subjective experience and perceived behavioral control (Hoffman & Novak, 1996).

Previous online behavior research using flow theory has focused on general Internet experience. To advance the understanding of online behavior, Skadberg and Kimmel (2004) proposed the first flow model to maximize user experience while visiting a Web site. By examining the effects of various Web site components on users' experience, they concluded that flow has a

positive impact on learning, which in turn stimulates interest in acquiring more information and an expressed desire to take action. Further, Skadberg and Kimmel also found that improving the quality of flow's contributors (i.e., attractiveness and interactivity) can facilitate flow experience. This demonstrates that within the "electronic environment" of a Web site, flow is associated not only with informational retrieval, but also with situational interaction. Thus, with regard to commercial Web sites, an increase in visitor flow experience may lead to an increase in its effectiveness. The International Organization for Standardization (ISO) defines *effectiveness* as the accuracy and completeness with which specified users can achieve specified goals in particular environments (ISO 9241, 1998). Hence, in order to maximize a Web site's effectiveness, the goal should be to create a beneficial flow experience for its visitors. Essentially, the style of a Web site's human-computer interface is crucial to its success.

Skadberg and Kimmel's (2004) analysis of optimal experience corresponds with Marchionini's (1989, 1995) model of information seeking in an electronic environment. Marchionini (1995) believed that browsing a Web site is dependent on interactions between domain (content), user characteristics and experiences (individual differences), system content, and interface (design and performance). With reference to interface design, information may be presented through a Web site via a content-based or a context-based approach.

*Content-based presentation* aims to convey its information in a formal, textual, one-dimensional manner: Most Web site information is presented in this way. In contrast, *context-based presentation* encourages visitor participation and engagement, and focuses on "situating conditions for interaction" (Skadberg & Kimmel, p. 16). It "emphasizes interactivity and attractiveness" (Skadberg & Kimmel, p. 16) and may be more spontaneous and nonsequential. For example, a news Web site may convey an issue by either using a traditional, standard textual article (context-based), or a video clip of a report alongside a textual summary (content-based). This research suggests collectively that to maximize the effectiveness of a Web site, its design must be attractive and interactive, and should accommodate differences in individual users.

### User Characteristics

Personality is a highly relevant factor in determining online behavior. Recent research has revealed that personality characteristics (e.g., extraversion, neuroticism; Hamburger & Ben-Artzi, 2000; need for cognition; Hamburger, Fine, & Goldstein, 2004) influence Internet use. In particular,

individuals with high need for closure prefer less interactive Web sites containing fewer hyperlinks, while individuals with low need for closure prefer a more interactive Web site with more hyperlinks. Moon (2002) established that personality characteristics may be regarded as highly effective customization criteria for online commercial interactions.

Together, the aforementioned research has established that personality and Web site design influence consumer preference. Despite being referred to as "one of the most popular measures to be introduced in recent years" (Briggs & Cheek, 1988, p. 663), the construct of self-monitoring (Lennox & Wolfe, 1984) does not appear to have been investigated within the context of hypermedia.

The theory of self-monitoring, first introduced over three decades ago, suggests that people differ meaningfully in the extent of their ability and propensity to engage in expressive control (Snyder, 1974, 1979, 1987). According to self-monitoring theory, those high in self-monitoring tendencies monitor and control the image that they project in social settings. These individuals are concerned with behaving in an appropriate manner, as dictated by the social situation. Therefore, they use available information in the environment to guide their own behavior. Accordingly, high self-monitors once were dubbed *social chameleons* to reflect their ability to change their *color* to adapt to different social environments (Snyder, 1974).

In contrast, those low in self-monitoring are less concerned with adjusting to social environments. These individuals tend to act in accordance with their inner beliefs. They value "being themselves," even if situational norms dictate otherwise. Their behavior generally is guided by information sourced internally (e.g., attitudes, feelings, dispositions; Snyder & Tanke, 1976). Hence, low self-monitors tend to show a great deal of consistency in their behavior across different situations.

The concept of self-monitoring exceeds merely demonstrating that individuals' concerns differ with regard to cultivating public appearances, affect, and self-presentational behaviors. Indeed, it is a fundamental aspect of people's lives (Gangestad & Snyder, 2000). An extensive literature exists on the role of self-monitoring in various diverse domains of individual and social functioning. Particularly relevant to the current study is research investigating the role of self-monitoring in consumer attitudes and behavior.

It has long been recognized that certain personality differences are associated with persuasibility (Hovland & Janis, 1959). To date, research has indicated that high self-monitors value consumer products for their strategic value in cultivating social images and public appearances, reacting favorably, for instance, to image-oriented advertising messages offering the possibility of bettering their image by conveying information about acquired and projected images obtained from the use of a specific product. In contrast, low

self-monitors judge consumer products in terms of their quality, and when stripped of their status-enhancing veneer. They react positively toward information-oriented advertising appeals that offer useful consumer information and provide opportunities to maximize consistency between their attitudes and behaviors (DeBono, 1987; DeBono & Harnish, 1988; DeBono & Packer, 1991; DeBono & Rubin, 1995; DeBono & Snyder, 1989; DeBono & Telesca, 1990; Shavitt, Lowrey, & Han, 1992; Snyder & DeBono, 1985).

Research investigating the trait of self-monitoring within the consumer marketplace thus far has limited its focus to traditional media. However, it seems likely that the interaction between personal self-monitoring tendency and consumer preference will act in a similar manner when in a hypermedia environment than when in a traditional media environment. While online, low self-monitors may well avoid or feel anxious in interactive Web sites; while high self-monitors are likely to flourish in highly engaging Web sites. The question then arises of whether it is possible to maximize Web site impact and Internet interactions by customizing design and content to suit numerous consumer criteria, including personality constructs such as self-monitoring tendency.

### Rationale and Hypotheses

The nature of the Internet provides it with a unique and powerful ability to tailor itself to and respond to the needs and wishes of individual users. Given current technology levels, commercial Web sites have the potential to customize their content and design to reflect and meet the needs of each individual consumer. Further, previous research confirms that Web site design and user personality influence Web site impact, and thus its effectiveness. In essence, the potential to maximize user positive experience—and thus effectiveness—is great. Personality characteristics of visitors may be inferred and subsequently used to tailor Web site content to achieve maximum effectiveness.

Despite this opportunity to customize Web sites, there appears to be no research in the open literature that has investigated the impact of Web site design and self-monitoring style on consumer preference. Advertising currently generates large amounts of revenue for a large proportion of online businesses, and represents an expanding, successful, promotional environment. Yet, previous research into the construct of self-monitoring tendency and advertisement persuasion has focused on traditional media and has yet to explore the realm of hypermedia. Hence, two main exploratory questions must be investigated. First, how do Web site design and user self-monitoring tendency influence Web site effectiveness? Second, does the robust relation-

ship between self-monitoring and susceptibility to image- or information-oriented advertising exist within hypermedia? The current study attempts to answer these questions using the theory of optimal experience or flow. The following are hypothesized:

*Hypothesis 1.* Participants visiting a context-based Web site will show higher levels of satisfaction, willingness to return, and persuasion than will participants visiting a content-based Web site.

*Hypothesis 2.* Levels of satisfaction, willingness to return, and persuasion from a Web site of context-based versus content-based design will differ significantly between high and low self-monitors.

## Method

### *Design*

The present study is based on a three-factor, between-participants design. Independent variables are Web site design (animated, context-based vs. unanimated, content-based), Web site advertising style (image-oriented vs. information-oriented), and participant self-monitoring tendency (high vs. low). Dependent variables are scores reflecting levels of Web site satisfaction, willingness to return to the Web site, and persuasion.

### *Participants*

An opportunistic sample of 80 individuals (43 females, 37 males) participated. Participants were between 18 and 60 years of age ( $M = 33.0$ ,  $SD = 12.2$ ) and received no remuneration. Individuals were Internet-literate, having at least 3 years' experience in "surfing the net" and were fluent in English. Participants were mostly (61.3%) employed part-time or full-time; 20.0% were students, 8.8% were homemakers or caregivers, 8.8% were retired, and 1.1% were unemployed. Years of education ranged from 11 to 20 years ( $M = 14.8$ ,  $SD = 0.87$ ). The sample was comprised of 57.5% high self-monitors and 42.5% low self-monitors. Their scores ranged from 4 to 18 ( $M = 11.1$ ,  $SD = 3.89$ ).

### *Materials*

*Web sites.* Using Microsoft® Front Page, four quasicommercial Web sites were constructed. Each Web site contained six pages of information concern-

ing a given motor vehicle. The study contained two main manipulations: Web site design and online advertising style.

*Web site design.* Information was provided on key features of the motor vehicle: the soft top; the rear load carrier; and the luggage volume-expansion system. Web sites differed only in their information presentation styles, employing either a context-based, animated design or a content-based, unanimated design.

While viewing the page concerning the soft-top feature, participants clicked on an internal hyperlink to obtain extra information. Subsequently, half of the participants received their requested information via a context-based presentation containing an animated display of its functionality (i.e., the soft top opening) alongside text. Meanwhile, the other half of the participants received the information by a content-based presentation containing the static final image of the aforementioned transient animation illustrating the feature and text.

*Online advertising style.* The Web sites contained two advertisements promoting the given car. The Web sites differed according to the persuasion style of both advertisements. Their textual persuasion messages were either image-oriented, promoting a given image or lifestyle; or information-oriented, providing product information.

### *Questionnaires*

*Preference questionnaire.* Web site satisfaction, willingness to return, and degree to which the “surfer” was influenced by the Web site were measured from the present sample by a 12-item written questionnaire developed specifically for this study. The questionnaire had high internal consistency (Cronbach’s  $\alpha = .91$ ). Other internal consistency values were as follows: level of Web site satisfaction (6 questions;  $\alpha = .91$ ), willingness to return to the Web site (2 questions;  $\alpha = .78$ ), and level of influence by the Web site (4 questions;  $\alpha = .81$ ).

*Self-monitoring questionnaire.* The final phase of the study took place 1 week after individuals reviewed the Web site to minimize possible context effects (Council, 1993). Participants completed Gangestad and Snyder’s (1985) 18-item, revised self-monitoring scale via e-mail to measure their self-monitoring tendencies. Participants indicated the degree to which each statement was applicable to themselves on a 5-point Likert scale. The self-monitoring scale has a classification accuracy (i.e., accuracy of correctly identifying an individual as a low or high self-monitor) of 87% (Gangestad & Snyder, 1985). Internal consistency of the self-monitoring scale in this study

was higher ( $\alpha = .76$ ) than that reported by Gangestad and Snyder ( $\alpha = .70$ ).

### *Procedure*

Once participants were randomly assigned to one of the four Web sites, they read the typed instructions that were presented on the first page of the Web site. These instructions outlined the hypothetical *car-purchasing scenario*, which asked the participants to imagine that they were considering purchasing a new car. Participants were informed that they would be required to browse a commercial automobile Web site on their own time and were assured that they needed no automotive expertise to complete the task. Additionally, they were told explicitly that there were no right or wrong answers and that all responses would be anonymous.

A week later, each participant received an e-mail asking him or her to complete the self-monitoring questionnaire. Participants then were thanked and debriefed via e-mail.

### *Data Analysis*

A median split was conducted on participant self-monitoring scores to place individuals in either the high or the low self-monitoring category. Consistent with past research on self-monitoring (e.g., Larkin & Pines, 1994), individuals with self-monitoring scores greater than or equal to 10 were regarded as *high self-monitors*, and those with scores less than or equal to 9 were regarded as *low self-monitors*.

## Results

### *Self-Monitoring*

The 60–40 split of high and low self-monitors in the general population (Gangestad & Snyder, 1991; Snyder, 1987) was reflected within the current sample, as 46 participants were classified as high self-monitors, while 34 were classified as low self-monitors ( $M = 11.1$ ,  $SD = 3.9$ ). Consistent with prior research (e.g., Gangestad & Snyder, 1985; Snyder, 1987), the distribution of self-monitoring scores in this study was bimodal, with peaks at scores of 16 (high self-monitors) and 8 (low self-monitors).

### *Manipulation Check*

An examination of the independent variables of self-monitoring and Web site advertising style reveals no significant effects on overall consumer



preference and its three components (Web site satisfaction, willingness to return, and persuasion). A 2 (Web site Design: context-based vs. content-based)  $\times$  2 (Advertising: image-oriented vs. information-oriented)  $\times$  2 (Self-Monitoring: high vs. low) ANOVA was conducted on the three dependent variables of consumer preference: Web site satisfaction, willingness to return, and persuasion. Means and standard deviations of the dependent variables as a factor of the independent variables are reported in Table 1. Post hoc analysis of interactions was conducted using the Tukey–Kramer method, which was selected for its capacity to deal with unequal sample sizes.

### *Web site Design*

Results for Web site design are depicted in Figure 1. There were significant main effects for level of Web site satisfaction,  $F(1, 79) = 9.49, p = .003$ ; and willingness to return to the site,  $F(1, 79) = 5.99, p = .017$ . After surfing a context-based Web site, participants reported greater Web site satisfaction ( $M = 5.23$ ) and more willingness to return ( $M = 5.65$ ) than did participants who visited a Web site of content-based design ( $M = 4.63$  and  $4.87$ , respectively). There was no significant main effect for level of persuasion ( $F < 1$ ).

### *Web site Design and Self-Monitoring*

The general pattern of preference, as found by the dual interaction between Web site design and self-monitoring tendency (an average of all three dependent variables), is presented in Figure 2. The dual interactions between Web site design and self-monitoring tendency had a significant effect on level of Web site satisfaction,  $F(1, 79) = 7.70, p = .007$ ; and an approaching significant effect on level of persuasion,  $F(1, 79) = 3.22, p = .077$ . There was no significant Web site Design  $\times$  Self-Monitoring interaction for level of willingness to return,  $F(1, 79) = 1.57, p = .215$ . Post hoc analysis of significant interactions shows the following patterns:

*Web site satisfaction.* High self-monitors experienced more satisfaction after visiting a Web site of context-based design ( $M = 5.42$ ), in comparison to content-based design ( $M = 4.44, p < .05$ ). Low self-monitors showed no significant differences in Web site satisfaction, regardless of whether they viewed a context-based ( $M = 4.98$ ) or a content-based site ( $M = 4.88, p > .05$ ).

*Persuasion.* Low self-monitors were persuaded more effectively by a Web site of content-based design ( $M = 5.71$ ) versus context-based design ( $M = 5.24, p < .05$ ). High self-monitors showed no significant differences in persuasion level, regardless of whether they viewed a context-based ( $M = 5.85$ ) or content-based Web site ( $M = 5.39, p > .05$ ).

Table 1  
*Self-Monitoring Styles, Web sites, and Consumer Preferences*

	High self-monitoring						Low self-monitoring											
	Context-based design			Content-based design			Context-based design			Content-based design								
	Image	Information	Total	Image	Information	Total	Image	Information	Total	Image	Information	Total						
<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>					
Satisfaction	5.64	0.88	5.22	0.94	4.33	0.67	4.51	0.62	4.74	0.43	5.25	0.92	4.60	0.75	5.28	0.65	4.93	0.85
Willingness to return	6.09	0.83	5.67	1.49	5.60	0.97	4.23	0.93	5.44	1.74	5.25	1.49	4.50	0.85	5.57	0.98	5.26	1.26
Persuasion	6.50	0.92	5.25	1.39	5.75	0.86	5.12	0.92	5.22	1.64	5.25	1.13	5.55	1.23	5.92	0.96	5.56	1.20
Preference (total <i>M</i> )	6.07	0.65	5.25	1.07	4.88	0.78	5.23	0.61	5.14	1.17	5.38	1.00	5.23	0.61	5.59	0.48	5.01	0.73

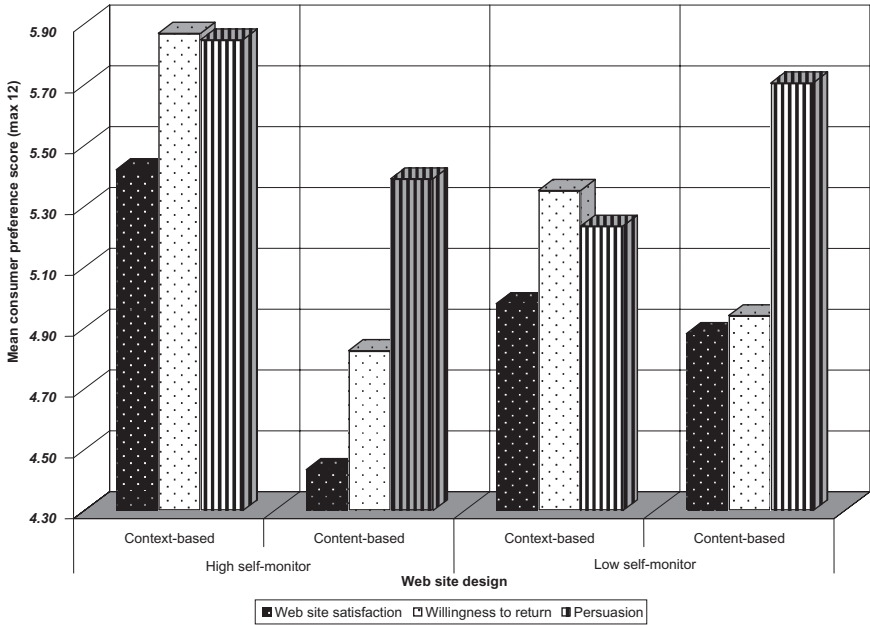


Figure 1. Mean levels of Web site satisfaction, willingness to return, and persuasion with regard to Web site design and self-monitoring tendency.

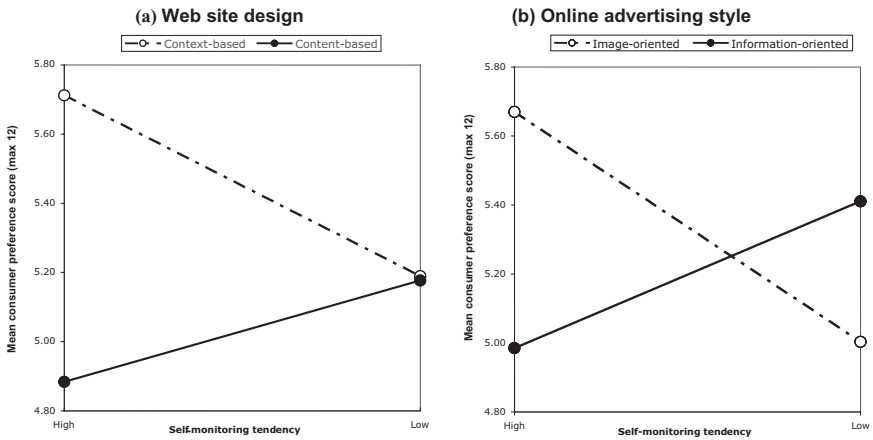


Figure 2. Mean levels of overall consumer preference as a function of self-monitoring tendency: (a) Web site design; and (b) online advertising style.

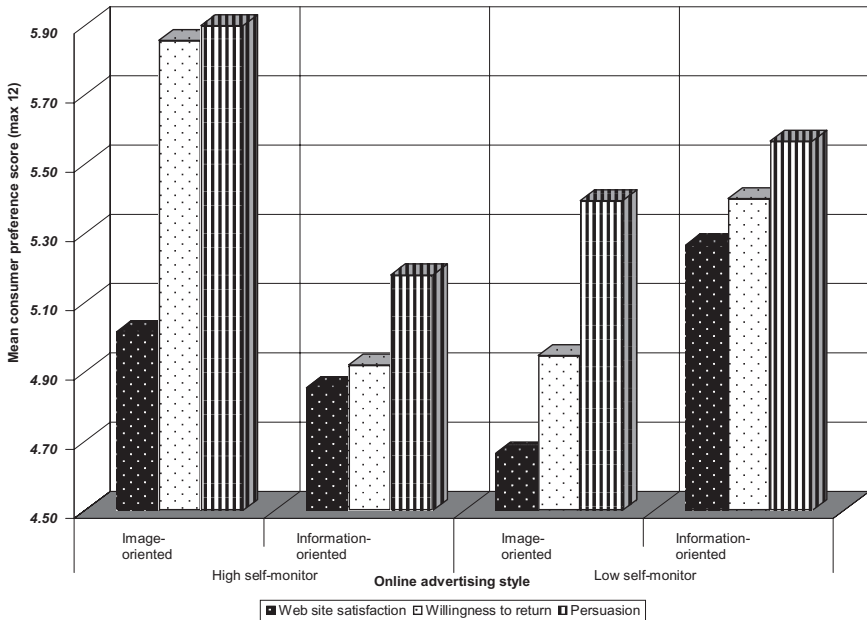


Figure 3. Mean levels of Web site satisfaction, willingness to return, and persuasion with regard to online advertising style and self-monitoring tendency.

*Online Advertising Style*

The results for Web site advertising style are illustrated in Figure 3. They show no significant main effects for level of Web site satisfaction,  $F(1, 79) < 2.00, p = .165$ ; willingness to return,  $F(1, 79) < 0.80, p = .382$ ; or persuasion,  $F(1, 79) < 2.00, p = .165$ .

*Online Advertising Style and Self-Monitoring*

The general pattern of preference, as indicated by the dual interaction between Web site advertising style and self-monitoring tendency, is presented in Figure 2. The dual interactions between Web site advertising style and self-monitoring tendency had a significant effect on levels of Web site satisfaction,  $F(1, 79) = 4.33, p = .041$ ; willingness to return,  $F(1, 79) = 8.59, p = .12$ ; and persuasion,  $F(1, 79) = 4.72, p = .033$ . Post hoc analysis of these interactions shows the following patterns:

*Web site satisfaction.* High self-monitors experienced more satisfaction ( $M = 5.64$ ) from a content-based Web site containing image-oriented adver-

tisements than did low self-monitors ( $M = 4.74$ ,  $p < .05$ ). Conversely, low self-monitors experienced more satisfaction ( $M = 5.29$ ) from a content-based Web site containing image-oriented advertisements than did high self-monitors ( $M = 4.51$ ,  $p < .01$ ).

*Willingness to return.* High self-monitors were more willing to return to a Web site containing information-oriented advertising ( $M = 5.86$ ), as opposed to image-oriented advertising ( $M = 4.92$ ,  $p < .05$ ). Low self-monitors showed no significant differences in their willingness to return to a Web site containing advertising of an information-oriented ( $M = 5.40$ ) versus an image-oriented style ( $M = 4.94$ ,  $p > .05$ ).

*Persuasion.* High self-monitors were persuaded more effectively when Web site advertising style was image-oriented ( $M = 6.14$ ), as opposed to information-oriented ( $M = 5.18$ ,  $p < .05$ ). Low self-monitors showed no significant differences in their levels of persuasion by Web site advertising of information-oriented ( $M = 5.57$ ) versus image-oriented style ( $M = 5.39$ ,  $p > .05$ ).

#### *Web site Design, Online Advertising Style, and Self-Monitoring*

As presented in Figure 4, the triple interaction between Web site design, advertising style, and self-monitoring tendency had a significant effect on levels of willingness to return to the Web site,  $F(1, 79) = 7.86$ ,  $p = .049$ . To

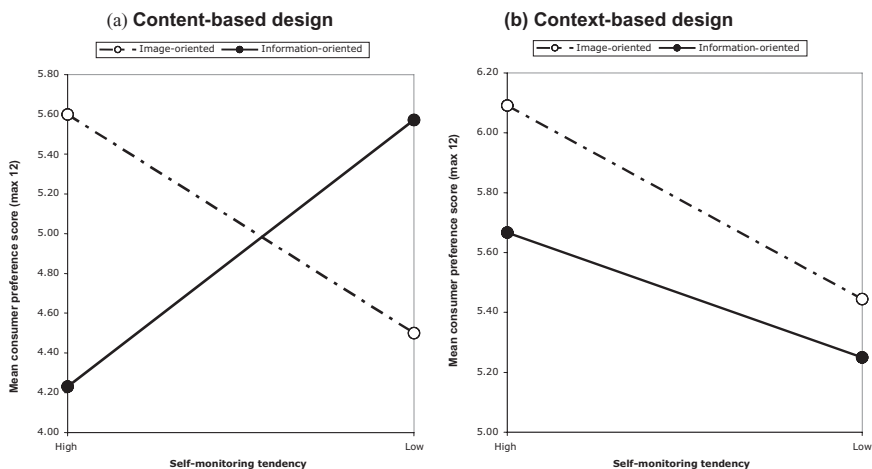


Figure 4. Willingness to return to Web site as a function of self-monitoring tendency: (a) content-based design; and (b) context-based design.

understand better the source of the triple interaction, a simple effects analysis splitting the Web site design variable was performed.

The dual interaction between advertisement style and self-monitoring tendency had a significant effect on level of willingness to return to a Web site of content-based design,  $F(1, 39) = 14.19, p < .0001$ , yet not on willingness to return to a site of context-based design,  $F(1, 39) < 1.00, p = .79$ . Post hoc analysis of the triple interaction shows the following pattern:

*Willingness to return.* After visiting a Web site of content-based design, high self-monitors reported more willingness to return when it contained advertising of image-oriented ( $M = 5.60$ ) versus information-oriented style ( $M = 4.23, p < .01$ ); whereas low self-monitors showed the inverse pattern ( $M = 4.50$  and  $5.57$ , respectively;  $p < .01$ ). After visiting a Web site of context-based design, high and low self-monitors reported no significant differences in their desire to return, regardless of whether it contained image-oriented ( $M = 6.09$  and  $5.67$ , respectively) or information-oriented style advertising ( $M = 5.67, p > .05; M = 4.23, p < .01$ ).

Additional evidence of a similar pattern for the dependent variables was found. Each of the three dependent variables significantly correlated with one another; namely, satisfaction and willingness to return ( $r = .390, p < .01$ ); satisfaction and persuasion ( $r = .388, p < .01$ ); and willingness to return and persuasion ( $r = .673, p < .01$ ).

## Discussion

The results support Hypothesis 1 in that participants experienced greater consumer preference while visiting a Web site of context-based design, in comparison to a content-based design. This pattern was found for the three dependent variables, but was statistically significant for the satisfaction variable and willingness to return. Past research investigating online behavior supports this finding (e.g., Chen et al., 1999; Ghani & Deshpande, 1994; Hoffman & Novak, 1996; Marchionini, 1989, 1995; Novak et al., 2000; Privette & Bundrick, 1987; Skadberg & Kimmel, 2004; Webster & Martocchio, 1992; Webster et al., 1993).

In accordance with Skadberg and Kimmel's (2004) conclusions, participants in the present study may have preferred visiting Web sites of context-based design as they experienced greater flow as a result of increased situational interactivity, greater cognitive challenge, heightened sense of playfulness that leads to higher perceived behavioral control, increased learning, changes in attitudes and behavior, and a positive subjective and exploratory experience. The findings also may be interpreted with respect to the importance of screen design in the human-computer interface.

In agreement with Szabo and Kanuka (1998), participants may have favored context-based Web sites because they had a more effective screen design for that given environment. Interface design is a multidimensional construct and comprises layout (object grouping, movement), consistency (formatting, interactions), color (familiarity, interest), and spatial display (object placement, focal points). Effective screen design will meet its intended goals. In a commercial setting, a Web site's interface design should promote and enable automatic processing to reduce cognitive load, while poor screen design would enable manual and, therefore, less efficient processing that may hinder consumer communication (Heines, 1984). By employing an animated style, the context-based Web site may have held participants' attention and communicated to them more successfully, thereby generating greater consumer preference. In contrast, the content-based Web site may have required a higher cognitive load from its users and, thus, communicated less effectively, manifesting in reduced consumer preference.

Interestingly, no significant differences were found in levels of persuasion from Web sites of context- versus content-based design. It is possible that Web site design influenced participants' evaluative, rather than behavioral responses. Indeed, to state one's preference for a Web site based on aspects of its design is essentially different from being persuaded to purchase a product from it.

### *Web site Design and Self-Monitoring*

The results constitute a partial confirmation of Hypothesis 2 in that high and low self-monitors would experience significantly different levels of consumer preference from a Web site of a context-based versus content-based design. Indeed, high self-monitors experienced significantly more satisfaction from a Web site of context-based design, but low self-monitors showed no such significant differences. Additionally, low self-monitors were persuaded more effectively by a Web site of content-based versus context-based design; while high self-monitors showed no such significant differences. No significant differences were found between high and low self-monitors' willingness to return to a Web site as a function of its design. These findings support previous research (e.g., Marchionini, 1995).

The findings offer support for the belief that high self-monitors possess higher levels of sensation-seeking than do low self-monitors (Bell, Schoenrock, & O'Neal, 2000). Within the current study, a highly interactive context-based Web site design, playful and animated in nature, was more effective when viewed by visitors with high self-monitoring tendency, compared with those with low self-monitoring tendency. It is possible that a low self-monitor

may have found the hyper-interactivity as more of a distraction than an attraction.

Furthermore, as those with low self-monitoring tendency showed no real preference for a context- or content-based Web site design, it is also possible that the domain of hypermedia itself may be more effective for high self-monitors, and more traditional print media may be more effective for low self-monitors. Nonetheless, these conclusions must be approached with caution, as more research is required to confirm beliefs that self-monitors have a high need for sensation. Future studies may benefit from incorporating a sensation-seeking questionnaire to draw more definite conclusions.

These findings are inconsistent with the belief that all participants should experience greatest flow while browsing a context-based site, opposed to a content-based site (Skadberg & Kimmel, 2004). However, it is possible that user differences, including self-monitoring tendency, may have altered participants' flow experience.

#### *Online Advertising Style and Self-Monitoring*

The results constitute a partial confirmation that matching Web site advertising style to user personality increased Web site effectiveness. This pattern was found across all three dependent variables. It was statistically significant for high self-monitors' levels of satisfaction, willingness to return, and persuasion; and low for self-monitors' level of satisfaction. The willingness to return and persuasion variables of low self-monitors were only a tendency.

High self-monitors reported greater preference toward a Web site containing image- versus information-oriented advertising, and vice versa for low self-monitors. The results are consistent with previous research investigating consumer attitudes and behavior of high and low self-monitors (e.g., DeBono, 1987; DeBono & Harnish, 1988; DeBono & Packer, 1991; DeBono & Rubin, 1995; DeBono & Snyder, 1989; DeBono & Telesca, 1990; Shavitt et al., 1992; Snyder & DeBono, 1985).

These findings are interpretable in terms of the generalized interpersonal orientations characteristic of high and low self-monitors described by Snyder (1974, 1979, 1987). In accordance with Snyder and DeBono (1985), the favorable response of high self-monitoring participants to image-oriented advertising may represent "a striving to be a pragmatic creature of one's situations, to project images appropriate to one's circumstances" (p. 593). Similarly, low self-monitoring participants responding favorably to information-oriented advertising may be on "a quest to be a principled being, one with congruence between one's actions and underlying attitudes, values, and dispositions" (p. 593).



The current study found that low self-monitors' level of willingness to return to a Web site was dependent on the interaction between Web site design and advertising style. Specifically, low self-monitors demonstrated a preference for information-oriented advertising while surfing a content-based Web site; whereas, the inverse pattern was demonstrated in a context-based site. These results can be understood in terms of the association between need for sensation and self-monitoring proposed by Bell et al. (2000). Since low self-monitors present low sensation seeking, they may have been relaxed while in the less interactive content-based site, and thus were able to show their true attitudes. Conversely, once in the interactive context-based site, feelings of increased anxiety might have prevented them from revealing their true inner beliefs and attitudes.

#### *Limitations and Future Research*

A number of fundamental assumptions underlie the dispositional construct of self-monitoring. The core assumptions are that people differ in their ability and propensity to control their self-presentation and that both factors are highly correlated (Snyder, 1979). Thus, high self-monitoring individuals have both the ability and the propensity to monitor self-presentation, whereas low self-monitors have neither. However, the validity of such assumptions is questionable.

Naturally, there exists the possibility of alternative combinations of self-monitoring ability and propensity. Individuals may exist who possess the ability but lack the propensity, or vice versa. Of particular interest are the behavioral implications of the two self-presentational patterns of individuals: high self-monitoring propensity but low corresponding ability; and high self-monitoring ability but low propensity. The former pattern may be associated with shyness and social withdrawal, whereas the latter may describe individuals who use self-monitoring ability to achieve personal control over situations.

Baumeister (1986) drew a distinction between private, public, and collective conceptions of self. It is assumed that all three are present in each of us, but with differing complexity and salience. Thus, individuals may have sampled differentially across these three conceptions of self during the evaluative task of rating the quasi-commercial Web site alongside the experimenter, and during the completion of Gangestad and Snyder's (1985) self-monitoring scale 1 week later, alone. Further, larger participant numbers equal in high and low self-monitoring individuals would be needed to ensure greater reliability and generalizability of findings.

A possible limitation within the study design could be the use of a self-report instrument to measure participant attitudes. Self-report techniques become less useful when people hold socially undesirable beliefs that they may want to hide or deny (Campbell, 1963). Although these results provide conceptual inferences, it would be more useful if individuals' attitudes could be measured with more objective indicators. One such measurement is facial electromyography (EMG). Permitting precise measurements of both intensity and direction of attitudes without the participant's knowledge, findings from future studies employing EMG would benefit from increased validity. However, such techniques would raise other ethical issues.

Certainly, further research on the role of personality in hypermedia is needed before any firm conclusions are drawn. An obvious direction for this research lies in identifying any number of variables that could explain, modify, or even reverse the results obtained in the experiment presented herein. Some of these variables might reflect other individual differences, both personality-based (e.g., intelligence, need for cognition, innovators, locus of control, attachment, and risk taking) and non-personality-based (e.g., gender, participant expertise). Other variables to be examined would be situational in nature (e.g., level of involvement).

### *Implications for Web site Design*

This research has implications for Web site development practitioners, researchers, and others in human behavior and information technology. The outright preference of consumers is a context-based Web site design. Web site design, therefore, should aim to be more context-based to attain its full commercial potential. Its prime goal should be the facilitation of an individual's online experience and well-being, in order to achieve greater effectiveness in communication.

As consumers increasingly initiate the search for information, online advertising appeals will become predominantly information-oriented versus image-oriented (Rust & Varki, 1996). Hence, criteria that may affect a user's susceptibility to image- versus information-oriented advertising (e.g., self-monitoring tendency) may become crucial. To compensate for an information-oriented appeal's lack of effectiveness with users of high self-monitoring, the advertisement may need to increase its interactivity and attractiveness to regain an increased level of flow within the user. Moreover, the finding that matching online advertising style to user personality increases both evaluative and behavioral consumer preference supports Moon's (2002) conception of personality as a novel criterion for mass customization of a company's consumer communications.

Currently, few persuasive messages in the interactive marketplace, and even fewer Web site designs, are customized on the basis of consumer personality. Respecting an individual's personality type may increase the extent to which the communication is able to tailor itself to the specific needs and wishes of the user, thereby intensifying the degree to which receivers perceive messages as valuable. Thus, the site may contain many hyperlinks, or none at all. Since their last visit, the site may have remained constant or may have undergone radical changes. The focus of user interaction may be social or informational. There may or may not be colors. The computer may address the user formally or informally. The creation of an online environment that aims to consider personality and to enhance user well-being unquestionably will serve to benefit the user.

From a technical perspective, the form of customization discussed earlier is entirely feasible, given current technology, particularly when consumers engage in frequent text-based interaction with the company. The ability to infer the personality type of others is something at which humans are remarkably adept (Williams, Munick, Saiz, & FormyDuval, 1995). At the most elementary level, embedding this capability into a computer would require nothing more than programming to infer a user's personality type, based on the language used by the customer in his or her messages to the company. This investigation suggests that implementing such technology may have significant benefits for marketers.

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