The Presentation of Self in Virtual Life: Characteristics of Personal Home Pages

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By Zizi Papacharissi

This study focused on how individuals used personal home pages to present themselves online. Content analysis was used to examine, record, and analyze the characteristics of personal home pages. Data interpretation revealed popular tools for self-presentation, a desire for virtual homesteaders to affiliate with online homestead communities, and significant relationships among home page characteristics. Web page design was influenced, to a certain extent, by the tools Web page space providers supplied. Further studies should consider personality characteristics, design templates, and Web author input to determine factors that influence self-presentation through personal home pages.

Introduction

In the stream of enduring public fascination with the Internet, personal home pages present one of the latest trends. Growing numbers of people develop and maintain personal web pages to present aspects of their personalities online. Online enthusiasts establish virtual residences, aided by online companies or homesteads which offer free online space and tools for Web publishing in exchange for advertising banner display and usually registration of an e-mail address. More important, however, personal home pages present a new channel for mass communication. As Dominick pointed out, "prior to web pages, only the privileged—celebrities, politicians, media magnates, advertisers—had access to the mass audience."[1] Hosting a personal home page is more convenient and relatively affordable. It allows people to present a more multimediated self, using audiovisual components, together with text, to communicate to potential mass audiences. This study focuses on how individuals use personal home pages to present themselves online and analyzes the tools used in this new channel of mass communication.

While e-mail, web browsing, newsgroup discussions, and chat room conversations have been researched, personal Web publishing has not been investigated extensively, despite its growing popularity. Geocities, the largest homestead according to the search engine Google, provides Web publishing services to 5.5 million subscribers or homesteaders.[2] Moreover, personal home pages present researchers with the unique chance to study the audience as producers of media content rather than as consumers.[3] The identity expression opportunities provided through personal Web pages could have positive effects on our

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lives, or they could expand our cyber-circles while alienating us from our off-line social circles. Amid conflicting research on the social potential of the Internet, this study adds to the body of literature examining the role of the Internet as a revitalizer of social relations.[4] Beyond providing an avenue for identity expression, personal home pages set up a virtual meeting point through which family members and friends can stay in touch. These pages also provide a virtual homebase for online communities and help connect their members. It remains to be seen, however, whether social interaction online persists at the expense of or as a complement to offline interaction. This study presents an exploratory look at self-presentation through personal home pages with the objective of identifying, describing, and analyzing the characteristics of personal home pages. The study results should help us understand how individuals make use of this technology for self presentation and also evaluate the social potential of personal homepages.

Personal Home Pages and Self-Presentation

Self-presentation is not a new topic for researchers. Goffman's remarks in the seminal *The Presentation of Self in Everyday Life* remain refreshingly current and lucid.[5] He conceptualized the presentation of self in everyday life as an ongoing process of information management and distinguished between the expressions one *gives* and the expressions *given off*, specifying that expressions given off are more theatrical and contextual, usually nonverbal, and presumably unintentional. Expressions one gives are easier to manipulate than expressions one gives off. A person stages a daily "information game," whereby the impressions formed of him/her become a result of his/her expertise in controlling the information given and given off. Goffman referred to this game as a "performance."

A Web page provides the ideal setting for this type of information game, allowing maximum control over the information disclosed. The absence of nonverbal or other social cues restricts the information exchanged to the specific facts the Web page creator wants to communicate. Personal Web pages, lacking in media richness and social presence, restrain nonverbal communication. The expressions given off are either minimal, or carefully controlled, or both. Therefore, the Web page creator executes a carefully controlled performance through which self presentation is achieved under optimal conditions. Nevertheless, research has shown that it is possible to communicate nonverbal signals online, through the use of hyperlinks, emoticons, animations, and other technological conventions.[6] One's competence in manipulating such technology should influence how successful this online performance is.

Presentation of the self online has concerned scholars who study how people manipulate, reinvent, or reveal aspects of their identity in the context of online communities. Turkle's work has been pivotal in documenting identity reinvention and community construction.[7] Her research on multi-user domains or MUDs in particular revealed how users put their online personae to sleep when exiting a MUD and returning to their real life personae, thus cycling through different environments and identities. She contrasted this routine with traditional notions of identity,

which implied oneness, whereas "life on the screen" connoted multiplicity and heterogeneity.[8] The role of the computer as a prosthetic device that catapults one into cyberspatial interaction has been examined by Haraway, who has advocated eradication of what she considers mundane distinctions between human-animal, human-machine, and physical-nonphysical dimensions.[9] The anonymous and textual nature of cyberspace allows one to overcome identity fixes, such as gender, looks, and disabilities. People choose to explore certain sides of their personalities (e.g., assertiveness) more extensively online, or even invent virtual life personae different from their real life personalities.[10] For some researchers, the key point is that the individual and computer function as one, and it is because of the machine that the individual is able to reinvent him/herself online.[11]

Communication researchers have only recently shown interest in personal home pages as a medium of self-presentation. Smith, analyzing the rhetorical construction of self in personal Web sites, highlighted strategies Web page hosts use to present the self and invite communication in a case study of a personal Web site focusing on fuller figured people.[12] He traced how identity was projected and connections with online audiences made. Specifically, he constructed a taxonomy of web-based invitational strategies: feedback mechanisms (e-mail, guestbook, and others), vertical hierarchies (the position of items on the page, from top to bottom), personal expertise, external validation (awards bestowed upon the site), direct address, and personality.

Dominick's content analysis of personal home pages found that the typical page had a brief biography, a counter or guest book, and links to other pages.[13] He viewed these links on personal home pages as means of social association. For example, by providing links to other sites—i.e., by listing their interests—people indirectly defined themselves. In addition, Web page hosts sought positive reinforcement for the work they had put into constructing the site by inviting visitors to e-mail them or sign and view their "guestbooks," collections of visitor signatures and comments. Most personal Web pages did not contain much personal information, and strategies used for self-representation online were similar to those used face-to-face.

Of course, self presentation is different in face-to-face and online interaction. Self-presentation offline is governed, as Goffman stated, by the need to control both expressions given and given off. Nonverbal elements enhance or validate verbal communication. If these two types of signals conflict, i.e., if the nonverbal fails to support the verbal, then self presentation is questioned by others and the individual is exposed. In cyberspace, however, it is easier to bridge the potential disparity between the expressions given and those given off.[14] The absence of nonverbal elements may render communication less rich, but simultaneously allows individuals to be more inventive with self presentation. There is greater control of expressions given off and thus less risk that identity manipulation may be exposed.

Of course, individuals still feel compelled to enrich self presentation online. They seek to manage expressions given and given off in a manner that simulates offline interactions, so as to make this online

performance more convincing and more satisfying. For example, if an individual seeks to come across as creative, a lighthearted tone and inclusion of animations, playful colors, or other interactive elements lend nonverbal support to that claim. A person who wishes to appear outgoing could provide links to pages of friends and photos of gatherings as evidence. This study seeks to understand how expressions given and given off are adapted and managed in an online context. The Web page characteristics analyzed represent expressions given and given off online. Beyond simply cataloguing them, the study interprets the quantitative findings to comprehend how these expressions interact and shape self-presentation online. Therefore, the research questions that guide this research are:

RQ1: What are Web page characteristics through which virtual actors pursue self presentation online?

RQ2: How are the characteristics of personal home pages related?

To answer these questions, a content analysis of personal homepages was conducted in order to distinguish between characteristics of homepages that represent expression given and expressions given off. Further analysis of relationships among Web page characteristics attempts to identify how these types of expression interact to produce and sustain an online presentation of the self, producing a convincing performance.

The Role of Personal Home Page Providers

Web page providers could influence self presentation through the online environment they create and present to their subscribers. In addition to design software and templates, Web page providers frequently create and promote Web page communities that resemble online neighborhoods. Net-based communities carry the promise of resurrecting and recreating lost communities and lost ties, of actually learning how to live in time and space without severing our social ties.[15] Online communities have been the subject of observation for several researchers, like Baym, who traced how individuals used the group to develop and reaffirm their own senses of self and identity.[16] For the purposes of this study, personal pages were randomly sampled from the following Web page providers: Yahoo! Geocities, America On Line (AOL) Hometown, Microsoft Network (MSN) Homepages, and EarthLink.[17]

AOL Hometown (hometown.aol.com) hosts pages created by AOL members and nonmembers, providing this service both as part of its ISP package and for free. As is customary, free Web page service requires giving out one's e-mail address and agreeing to display ads on one's personal page in exchange for a screen name, password, and Web page server space and tools. AOL Hometown is organized in categories which reflect the primary focus of the pages within and resemble typical portal classification. When people add pages to AOL Hometown, they pick a category, subcategory and community where they would like their page

to "live." Although AOL hosts several sophisticated member sites, most members confess, through their pages, that they are new to this form of expression. AOL personal Web sites usually consist of one single page, contain fairly simple HTML code, or use templates, typically with fewer animations or scripts than those provided by EarthLink or Geocities. In the spirit of simulating a real-life community, protecting members, and inoculating AOL from possible legal trouble, Hometown members receive a set of Community Guidelines. In addition, AOL attempts to foster community ties among Hometown members through the Member Hall of Fame, a display of "the best home pages of all time"; Picture Perfect, a service that allows users to post their web profiles online; Home Page Help, a newsletter with the latest home page tips; and Home Page Recipes or steps for building an effective Web page. This is a popular practice among Web page providers, initiated by Yahoo! Geocities, and reflects the belief that more personable and warm communities will attract more customers.

EarthLink Homepages (start.EarthLink.net/search) are provided only to EarthLink subscribers. Although this provider is not as keen on creating the illusion of an online community, it still offers a number of valuable Web publishing tools to subscribers at no additional charge. Members also have the option to add their page to one of the categories suggested by EarthLink, although there is little effort to personalize these categories or make them more user friendly. A quick browse reveals that EarthLink hosts, on average, more sophisticated home pages than AOL or MSN. Web sites are more extensive and more likely to contain advanced code. Members may also enter the monthly EarthLink Homepage Contest, whose winners are announced on the weekly EarthLink newsletter. This service also includes link and page validation software, advanced Web-building information, helpful advice on how to plan and publicize a site, and several other tools.

MSN Homepages (homepages.msn.com) resembles AOL, providing plain and simple templates and guidance catered to users new to Web publishing, indicating that perhaps the majority of the target audience is less experienced. MSN members may register their pages under certain categories, which resemble generic search engine classification (e.g., business, news and politics, computers and Internet, organizations, entertainment, people, and games). MSN has created several "streets" within these categories where Web homesteaders may choose to reside. For example, the category "entertainment" consists of "Lyric Lane," "Stage Street," and "Times Square," whereas the category "people" contains "Flirtation Walk," and "Twenties Circle." Several personal home pages have been picked as models, and serve as a guide for new members. Despite these efforts, Web sites within these categories are cryptically presented in alphabetical username order, with no description or page title, in a very chaotic fashion. Nevertheless, MSN emphasizes its commitment to keeping Home Pages a safe and friendly place by enforcing a Code of Conduct, which cautions members against spamming and giving out private information.

Yahoo! Geocities (Geocities.yahoo.com/home) fosters a community feel through graphical interfaces and the use of language and, compared

to the other providers, offers more creative and warm virtual lodgings. The neighborhood names reflect the overall theme of the resident pages, and include Area 51, Colosseum, Hollywood, Tokyo, The Tropics, and several others. Upon entering a particular neighborhood, visitors and members are presented with information on community leaders, landmark sites, newsletters, "hood happenings," and several other goings on about the neighborhood. For example, The Tropics, a neighborhood about travel, included suburbs such as the Coast, Cabana, Paradise, Island, Lagoon, and several others. Having entered a suburb, homesteaders are led to a page that features several icons of numbered blocks, each containing pictures of small houses. Block numbers may range from 1000 to 3000, and each block may contain several Web pages, much like a real-life street block contains several residences. Having selected a particular block, the user is guided to a page containing actual addresses and icons (matching the theme of the neighborhood) for each Web page listed. A long, winding road separates the Web page listings into two columns.

The Geocities home site undergoes frequent reconstruction, especially since its merger with Yahoo in 1999. The most recent version includes fewer graphics and is mostly textual. The streets, house icons, and block numbers have been replaced by a more conventional listing of pages (page title, brief description included, and smaller home icon included) in groups of twenty-five. Although Geocities has long been the most innovative of such providers, these recent makeovers have created a site that resembles Yahoo! 's portal and other Web page providers more closely, probably as a way of reaching a wider audience.

Method

Sample and Procedures. A randomly generated sample of 1,000 personal home pages, containing 250 randomly sampled pages from each provider, was used for the study. Only personal home pages were selected (pages affiliated with or constructed by a commercial organization or other institution were excluded). Owners of these pages were contacted and asked to fill out a survey, the results of which have been reported elsewhere.[18] Excluding 126 inactive addresses, 260 responded after one follow-up e-mail, thus yielding a 30% response rate.[19] These respondents allowed coders to visit and code their pages. Upon visiting several pages, the coders were frequently informed that the page had moved to a new domain, often under another provider or under a personal virtual domain. These updated links were followed and the page coded, thus further expanding the sample. The majority of those who responded to the survey and thus, whose sites were coded, were Geocities members (33.5%), followed by AOL Hometown (15.4%), personal virtual domains (15.0%), MSN (11.5%), Earthlink (11.9%), and other domains (12.7%), like Angelfire or Tripod.

Personal Home Page Characteristics. This study examined and coded respondents' entire personal Web sites, using two coders. Both were computer consultants and experienced computer and Internet users, which aided in identifying correctly Web design elements. The coders possessed extensive Web publishing knowledge and spent con-

siderable time browsing online directories to familiarize themselves with templates and other available Web publishing tools. Upon visiting the page, the coders marked the URL, the page title of the index page, and the number of pages that made up the site, including the index page. The coders reached complete agreement on the first two items and .97 intercoder reliability for the number of pages making up a site.[20] The site was classified into one of several content categories, assembled from previous research and preliminary browsing of personal Web sites. These categories distinguished among pages whose content dealt primarily with personal interests, creative expression, family, professional, support, and personal views of the Web page host. Examples of the content categories are provided in the discussion of findings. Intercoder reliability was .97.

Coders also recorded the number of feedback mechanisms hosts posted on their pages, like e-mail, surveys, or guestbooks, the number of awards received by a site, and membership to Web rings. Web rings are collections of pages owned by different people sharing a common theme and forming a small community; entering visitors may browse the pages of other members. These items were clearly identified and displayed, which led to complete coder agreement. The number of links was recorded (reliability= .89), and use of offensive material, defined as obscene or indecent images or text was noted, with complete intercoder agreement.

Several items were used to measure the interactivity of home pages to understand how respondents employed virtual tools for self-presentation. Interactivity is a pivotal and much debated concept used to evaluate the overall responsiveness of new media. Definitions and operationalizations of interactivity vary, depending on the context and the medium. Rogers understood interactivity as "the degree to which participants in a communication process can exchange roles and have control over their mutual discourse."[21] Laurel likened interactivity to the common interface enjoyed by theater audiences and actors, where both parties influence and shape the communication outcome.[22] Likewise, Rafaeli distinguished among variable degrees of medium responsiveness, recognizing two-way (noninteractive) communication, reactive communication, and fully interactive communication. [23] Building on previous definitions, Ha and James conceptualized interactivity on commercial sites on the basis of five dimensions: playfulness, (availability of) choice, connectedness to the audience, ability for information collection, and reciprocity.[24]

Even though some of this previous research reflects the concerns of commercial Web site developers, the concepts of playfulness, connectedness to the audience, and reciprocity can be particularly useful to the context of this study. Commercial sites exist to provide a particular service, whereas personal home pages frequently function as virtual homes for their owners, and interactive elements are frequently employed on a commercial site to attract and retain visitors to the site, and to increase customer satisfaction. Personal home page authors may share similar traffic concerns, but their primary goal is to use interactivity to complete a more effective self-performance online. Interactive ele-

ments could, for example, be used to project a more extroverted self, eager to interact with others online.

Therefore, the conceptualization of interactivity in this study also benefited from Steuer's explication of both vividness and interactivity as key components of online environments.[25] Steuer used these two dimensions to describe virtual environments like the Star Trek Holodeck or the imaginative environments created through books; both have much in common with the virtual homesteads that homepages represent for their owners. Interactivity and vividness were therefore used to render a more successful performance online, by creating a virtual environment or home through which specific personality aspects were projected, controlled, or exposed to a greater audience.

Consequently, vividness was operationalized as the degree to which the home page presented a sensorially rich environment. The vividness items were phrased in 5-point semantic differential form and asked coders to record the amount of text, ranging from (1) "little text" to (5) "just text" (.89 reliability); the degree to which the page attempted to create a graphical user interface (GUI) between the host and the user, ranging from (1) "not GUI oriented" to (5) "very GUI oriented" (.94); and the presence of graphics, ranging from (1) "no graphics" to (5) "many/wide variety of graphics" (.93). A highly vivid Web site could include an entry page, several graphics throughout the Web site pages, perhaps some animation, and some text, frequently organized in categories or different pages, so that the page would present more of a graphical user interface. A Web site low in vividness usually consisted of a single page and was mostly text.

Interactivity was operationalized as the degree to which the page could be manipulated but also as the degree to which the host of the page invited interaction with visitors, combining elements of connectedness and reciprocity to adapt Steuer's definition to this context. Therefore, four items were used to tap into interactivity, using a 5-point semantic differential scale. The coders recorded the degree to which the host directly addressed visitors, ranging from (1) "no address" to (5) "direct address" (.94); the degree to which the host solicited feedback from visitors, ranging from (1) "no feedback" to (5) "various different forms of feedback" (.94); whether the host just listed interests or used a more narrative structure to present interests (assuming that the narrative structure would engage the user more than a dry list of links), ranging from (1) "list" to (5) "narrative" (.94); and whether the content of the page could be manipulated, allowing the user to select among the different offerings of the site or even to interact with it and its host, ranging from (1) "content not manipulated at all" to (5) "content easily manipulated" (.96). A typical highly interactive Web site included surveys or contact forms, provided e-mail and ICQ author information, and adopted a narrative structure, through which the author directly addressed the audience, introduced the Web site and him/herself, explained the purpose of the Web site, and described its contents. A page low in interactivity was usually less inviting, contained fewer feedback mechanisms, and consisted of a list of interests or links for the author.

Innovation and sophistication were also measured by single 5-point items. Innovation was defined as the degree to which a person presented a page that diverted from standard templates and tools provided by the Web page service. This did not pertain to the sophistication of the code or the smoothness of the page because a page can be rough but still reflect an effort to move away from templates. Sophistication was measured by recording how advanced or complex the code of the page was. Coders looked through templates, tools provided by Web page services, and the HTML source code to make assessments. General Web authoring knowledge helped the coders determine how sophisticated a page truly was. Intercoder reliability for innovation reached .94 and for sophistication .95. Finally, the coders noted the amount of personal information provided by the host, on a 5-point scale, ranging from (1) "none" to (5) "a lot," with intercoder agreement at .93. A second item targeted the same concept, and asked the coders to record how well they thought they "knew" the person, ranging from (1) "hardly know this person at all" to (5) "know this person well" (.93).

A factor analysis on all items included in innovation, sophistication, vividness, interactivity, and personal measures was conducted to determine similarities and isolate differences among the specific concepts involved. These measures have not been previously used or grouped together, so the factor analysis was attempted to obtain more reliable and meaningful assessments, and assist in further statistical analysis. The results of the factor analysis are detailed in the following section, in response to RQ1.

Results

RQ1: Characteristics of Personal Home Pages and Self Presentation. Data collection indicated that the mean number of pages making up a web site was 7, with a standard deviation of 8 (figures have been rounded). Most pages coded tended to be personal (27.7% of sample) or interests (33.8%) pages. Slightly fewer were focused on creative expression (11.6%) or families (12.8%), and very few were profession-related (6.2%), support (4.1%), fan (1.7%), or personal views (2.1%). The average "interests" page contained a collection of the host's interests and links. A family page introduced a family online, usually with a photo album. A personal site contained a brief introduction of the person, a couple of links, and consisted usually of one page. Personal sites were fairly popular among AOL and MSN members, and generally less experienced hosts who were just starting to experiment with web authoring. Professional pages were primarily about the individual's line of work and usually contained a resume. The few personal views pages encountered were primarily about individuals' political views and were usually very textual. Creative expression pages were used to display an individual's poetry, art, and relevant interests. Support pages provided information and help for others struggling with depression, agoraphobia, and other distressful experiences or situations. Fan pages were devoted to an actor or artist that the host admired deeply.

Most pages (89%) had not received awards, 2% had been recognized by authorized or official sources, and 9% by unauthorized sources. Although the numbers are not significant, unauthorized awards are a

TABLE 1

Factor Analysis of Web Page Characteristics

	Component		
	1	2	3
Creativity			
•Innovation	.93	.00	-.10
•GUI page	.91	.11	-.16
•Use of graphics	.89	.00	-.00
•Inviting feedback	.65	.30	.27
•Content manipulated	.87	.23	-.17
•Sophistication	.94	.00	-.00
Personal Information			
•Amount of personal information on page	.15	.96	.16
•How well do you think you know this person?	.14	.96	.18
Expressiveness			
•Use of text	-.33	-.00	.83
•Direct address	.23	.45	.71
•List/Narrative	-.11	.19	.89

Note: A principal components analysis, with a varimax rotation, an eigenvalue of 1 or greater, and a 50/50 criterion yielded the above factors. After the varimax rotation, the three factors explained 83.34% of the retained variance. Factor 1, innovation, explained 43.14%; factor 2, personal information, 20.39%; and factor 3, expressiveness, 19.80% of the retained variance.

testament to the sense of community that several of these hosts shared and promoted. The most popular feedback form was e-mail (featured on 220 pages), followed by a counter (108) that marked how many times the page had been visited; a guestbook that displayed comments and signatures of visitors (99); ICQ/AOL panels that provided an e-mail address, chat capabilities, and other features (30); subscription to a listserv (12); and a contact form, usually in the form of a mini-survey (3). Fewer members used buttons that indicated whether they were online/offline at the time, message boards, discussion boards, trivia games, and more extensive surveys. Forty-seven pages of those coded belonged to a Web ring, thus testifying to the growing popularity of online home page communities.

The mean number of links listed on Web sites was 27 (s.d. = 35) on the entire Web site, not just the index page. Some hosts provided only a couple of links, while others used the site to display their interests through many links to relevant sites, often present on several different pages that made up a personal Web site. This explains the high mean and standard deviation. Most links were related directly to the content of the page, so that the links would point to similar content (e.g., if the page was about a member's family, links would point to the member's friends' family pages). Entertainment (music, reading, movies) links were popular, as were Web authoring resources. Most pages did not contain offensive material, though two pages contained mild nudity. Most hosts did not use metaphors to describe their sites, but those who did referred

to their pages as their home or world, frequently referring to the index page as the foyer, a subsequent chat page as the living room, and so on. The tendency to claim this cyber-territory as one's own private space and to use real space metaphors to describe it was prevalent.

As noted, a factor analysis was conducted among the items used to measure interactivity, vividness, innovation, sophistication, and personal information to determine any overlap or similarities between certain items. It yielded three primary factors. The first factor was a combination of innovation, graphics, graphical interface, sophistication, and content manipulation items. Even though this factor included some vividness and interactivity items, it appeared that these items combined pointed to pages that, more than anything, were very innovatively and creatively similar. The mean score for this 6-item "creativity" factor was 2.55 (s.d. = 1.08), and the coefficient alpha was .94. The second factor contained the two items that tapped into the amount of personal information displayed on the page, and was named "personal information" (M = 2.78, s.d. = 1.03, alpha=.98). Finally, the third factor combined three items on the use of text, direct address, and a list/narrative structure. Because these items reflected a tendency to use the page as a forum to write and express one's beliefs, it was named "expressiveness" (M = 3.20, s.d. = 0.97, alpha= .80). Table 1 presents the results of the factor analysis in detail.

RQ2: Relationships among Personal Home Page Characteristics. Depending on the nature of the variables, Spearman correlations and one-way ANOVAs were used to investigate relationships among the characteristics of personal homepages. One-way ANOVAs were used to determine how Web page location and content category were related to the three factors representing clusters of Web page characteristics for this sample: creativity, personal information, and expressiveness. The majority of Web pages analyzed came from Geocities, and the remaining were fairly equally divided among Earthlink, AOL, MSN, and other providers. The most creative pages were most likely to be hosted by Geocities, or under their own domain, while the least creative pages were located in AOL and MSN directories ($F[5, 235] = 22.50, p < .001$). On the contrary, the most expressive pages were located in the AOL and MSN directories, while the majority of pages found in the remaining directories were moderately or not very expressive ($F[5, 235] = 9.58, p < .001$). No significant relationships were noted between personal information and page location. These results revealed clear differences between Web page provider and Web page design, which are elaborated upon in the following section.

In addition, fan and creative expression pages were the most likely content categories to be creative; personal and personal views pages the least ($F[7, 233] = 11.79, p < .001$). Family, creative expression, and support pages were the most likely to include more personal information; fan pages were the least likely to display that type of information ($F[7, 233] = 5.27, p < .001$). Profession-related pages were the least likely to be expressive, whereas personal views, support, and personal pages were the most likely content categories to be expressive ($F[7, 233] = 4.26, p < .001$).

Spearman correlations were used to examine relationships among the three factors and other Web page characteristics as appropriate. Significant relationships were noted among these three factors, the number of links posted on a site, and the total number of pages a site consisted of. Specifically, creativity was positively related to the total number of links posted on a site ($r = .50$, $p < .001$) and the total number of pages making up a personal Web site ($r = .63$, $p < .001$). Personal information was also positively related to these two characteristics, although with lower correlations (links $r = .15$, $p < .05$, pages $r = .31$, $p < .001$). Finally, expressiveness was negatively related to the total number of links ($r = -.29$, $p < .001$) and the total number of pages within a Web site ($r = -.19$, $p < .01$). In addition, one-way ANOVAs conducted between these two characteristics and the location of home pages revealed that fewer links and pages within a site were more likely to be hosted under AOL Hometown and MSN Homepages. Personal Web sites that featured more links and pages were more likely to be found under Yahoo! Geocities or personal domains. Those providing more links and thus presenting a more creative home page seemed to be interested in combining expressions given and given off for self presentation online. Conversely, those building mostly expressive pages seemed to rely solely on direct expressions, or expressions given. However, these relationships also underline Web page provider differences and are discussed further in the following section.

Discussion

The content analysis procedure used to examine the characteristics of personal home pages revealed that individuals used a variety of design tools to present themselves, attract visitors, and solicit feedback through their Web sites. The design elements were combined to stage an online performance through which the individual's personality or aspects of it were revealed. Web authors used both direct textual expression and indirect expressive elements, including hyperlinks, images, animations, color, and font type to construct what Goffman referred to as the "front" of a performance. The front is defined as the expressive equipment employed by an individual during self-presentation, and includes a "setting," or an array of background items that supply the "scenery and stage props for the spate of human action played out."[26] Similarly, Web authors employed Web templates or combined Web publishing elements to set the stage for their virtual performance, and created a virtual front to define the terms of this performance.

Goffman divided the stimuli which make up this personal front into "appearance," the stimuli which function to inform us of the performer's social status, and "manner," the stimuli which function to warn others of the interaction role the performer will expect to play.[27] Within the virtual environment of a personal Web site, appearance was asserted with a variety of social status markers, predominantly hyperlinks. The frequent use of links reflected an effort to present the interests of the author, as well as to structure an identity for the author by associating him/her with certain types of sites available online. Moreover, it presented an attempt to express social status in an environment where more

traditional status markers like appearance, accents, and other nonverbal behaviors were absent. In face-to-face situations, people who meet for the first time frequently go through the social ritual of exchanging likes and dislikes, such as favorite drinks, movies, hobbies, and other interests. Listing links on a Web site seemed to be the Web page equivalent of that social ritual. Beyond simply stating their likes and dislikes directly, Web authors preferred to enhance the presentation of that aspect of their personalities with hyperlinks to relevant sites. This was a gesture offered in support of the textual statements made and an indirect attempt to state one's place within society (or even disinterest in such social markers).

The textual statements, along with the use of color, font type, and space, served the purpose of conveying a certain "manner" to be associated with the individual. Specifically, the tone and language use of the textual content communicated personality traits like aggressiveness, extroversion, compassion, and other qualities the author may wish to project. Most authors preferred to communicate social status indirectly, through the use of hyperlinks, while also displaying a tendency to describe personality traits directly, as evidenced in expressive home pages.

Feedback mechanisms like e-mail, guestbooks, counters, and other methods all reflected, on the one hand, a desire for interpersonal communication and, on the other, a need for social approval. Needs for communication and approval that are frequently manifested in off-line communication are similarly demonstrated in communication through personal Web sites. The use of guestbooks could even be interpreted as a request for affirmation that the presentation of self has been well received and that the management of expressions given and given off has resulted in a successful performance. As Goffman argued, the performer may implicitly request that his/her observers confirm that the "character they see actually possesses the attributes he appears to possess," a need communicated in the online setting through the use of interactive mechanisms like guestbooks, counters, and short surveys.[28]

More interesting, a certain need for affiliation was demonstrated by membership in Web page communities. It could be argued that this need for affiliation was more prominent among members who proudly displayed their community affiliation through the use of banners or other statements on their pages. The need for affiliation and belonging should also be more prominent among those who decide to connect their sites and develop Web rings within a particular community. This was also related to the nature of the greater community that hosted the Web page. For example, Geocities members tended to display an overall eagerness to help and declared their community affiliations proudly. Earthlink members were fairly experienced but did not share such a sense of community. AOL and MSN attracted mostly those new to Web hosting, or those who tackled Web authoring at some point but were not as committed to maintaining their page as Geocities members were.

Several members of Geocities or other providers proudly proclaimed that they had recently abandoned their MSN or AOL online lodgings, making condescending remarks about the bland nature of services these two providers offered. The affiliation with a particular

web ring community, or even a specific Web provider, became part of projecting a certain self image and linking one with a certain social group, even if that particular group only existed online. Similarly, the use of animations, more sophisticated templates, music files, and other elements (provided by Geocities and others, but not always by MSN and AOL, or designed by the Web author) was aimed at projecting an image of technological competence. Several authors incorporated an inordinate number of such "bells and whistles," displaying what ranged from uncontrolled enthusiasm to blatant exhibitionism. On the other hand, those much more proficient in Web design displayed this savvy by avoiding the mass produced templates, animations, and other "recipes," and asserting their individuality and creativity with original HTML code. These qualitative observations are supported by the quantitative differences noted between AOL/MSN and Geocities/other personal homepages.

The most creative pages or sites were more likely to reside under Geocities or personal domains. These sites also tended to feature more links and contain more pages, also reflecting the moderate to high correlations between creativity and these two factors. In contrast, the least creative pages or sites were hosted by AOL and MSN, and contained fewer links and pages. AOL and MSN pages tended to be more expressive, which meant that the author spent more time with a more textual, rather than hypertextual, description of him/herself. These Web authors engaged in direct expression and presentation of the self and tended not to incorporate the indirect elements of self presentation, or expressions given off. Even when pictures or hyperlinks were present, they were limited in numbers and presented in a pedestrian manner. Specific design tools and templates supplied by Web page providers could also influence the design of personal home pages. In particular, AOL and MSN suggest a single page template for their new members, which prompts authors to provide a brief personal introduction and just a few links. This was the layout that several expressive pages followed. The tools provided by these services to less experienced users guided them to a less interactive and more textual personal home page, although ultimately, it was up to the authors to decide what their pages looked like. Less creative pages were located in AOL and MSN, not just because those services provided less creative tools, but also perhaps because they tended to attract less experienced authors.

Conversely, Geocities, a pioneer in providing personal home page space, offered a more interactive site, more imaginative home page categories or neighborhoods, and perhaps attracted more experienced and more committed users. More experienced users might be more familiar with the complexities of maintaining a multi-page Web site, or organizing and maintaining links on a Web site. Geocities has redesigned its site numerous times, to finally arrive to a version that resembles the look and categorization of AOL and MSN more closely. The need to affiliate with a particular Web page community revealed the tendency to direct one's self-performance to a specific audience, one that the Web author potentially shared common interests with. Therefore, the author elected to conduct and project the sense of self to a specific audience to

which he/she performed. Goffman specified that "audience segregation," or the need to direct one's self-performance to one specific audience, is an essential part of impression management and helps to convey the sense that both the performance and the actor's relationship to the current audience have something special and unique about them.[29] By crafting a performance within a specific community, then, rather than projecting it to the entire virtual sphere, the author is able to assert uniqueness and establish differences from other groups and communities, while reaping the benefits of community affiliation.

To summarize, the study results highlight an interesting trend. Personal home page authors try to present an online portrait of themselves, working with a pallette of design elements like guestbooks, banners, favorite links, and other Web addons. Some also make a conscious effort to create and affilliate with online communities. These efforts, however, are frequently compromised by the online environment these authors find themselves in, and their own expertise with Web design. Thus, home page providers inadvertently style self-presentation online, providing rules, suggestions, and ideas for how this information game can be played. Geocities members tend to assemble more creative portraits and become more involved in communities, while AOL and MSN members simply follow the limited tools provided by their Web page providers. These results are not definitive, and additional research on Web author personality characteristics and design tools, coupled with Web author interviews, could further illuminate this process and ground these assertions.

Nevertheless, this raises the greater question of the extent to which portals, Web page, and Internet service providers influence our online experience. As our entry points to the Internet, they may curtail or expand our expectations, uses, and understanding of Internet potential. Portals do display a great deal of information, but they still only present a "slice" of the Internet. In addition to the limits this places on information access, to what extent does a portal affect user Net-related behaviors? Portals do present an effort to name, map, and categorize the Net, which may render the medium more user friendly but may also influence the way we view its potential. In writing about references to cyberspace as "a new world," Gunkel and Gunkel voiced this concern that the "future of cyberspace . . . will be determined not only through the invention of new hardware and software, but also through the names we employ to describe it."[30]

This question should be taken up by future research, which could examine how expertise with computers, the Internet, and Web publishing, as well as some personality traits and cultural context, influence self-presentation through personal home pages. Researchers should also look into new forms of community that emerge among personal Web page authors. Future studies could consider how growing convergence in site expectations and formats influences individual users and communities. Geocities has been redesigning its site, each time producing a version more similar to those of AOL and MSN. As a result, general portal categories occupy a central place on the index page, and the distinct communities that Geocities was known for are downplayed. One

such consequence for communities may be that several members create and/or join Web rings. These research directions could help further illuminate the personal uses of homepages and the mass communication potential of the Web. Personal Web sites represent a new channel of mass communication that allows everyone to become a producer of media content, providing people with access to a mass audience that they would otherwise be unable to reach.

NOTES

1. Joseph R. Dominick, "Who Do You Think You Are? Personal Home Pages and Self Presentation on the World Wide Web," *Journalism & Mass Communication Quarterly* 77 (winter 1999): 647.

2. "1.6 Billion Served: The Web According to Google," *Wired*, December 2000, 118-19.

3. Dominick, "Who Do You Think You Are?"

4. Robert Kraut, Michael Patterson, Vicki Lundmark, Sara Kiesler, Tridas Mukophadhyay, and William Scherlis, "Internet Paradox: A Social Technology that Reduces Social Involvement and Psychological Well-being?" *American Psychologist* 53 (September 1998): 1017-1031; J. Katz and P. Aspden, "A Nation of Strangers?" *Communications of the ACM* 40 (December 1997): 81-86.

5. Erving Goffman, *The Presentation of Self in Everyday Life* (Garden City, NY: Doubleday, 1959).

6. Joseph B. Walther, "Interpersonal Effects in Computer-mediated Interaction: A Relational Perspective," *Communication Research* 19 (February 1992): 52-90; J. B. Walther, "Computer-mediated Communication: Impersonal, Interpersonal, and Hyperpersonal Interaction," *Communication Research* 23 (February 1996): 3-43.

7. Sherry Turkle, *The Second Self: Computers and the Human Spirit* (New York: Simon & Schuster, 1984); Sherry Turkle, *Life on the Screen: Identity in the Age of the Internet* (New York: Simon & Schuster, 1995); Sherry Turkle, "Parallel Lives: Working on Identity in Virtual Space," in *Constructing the Self in a Mediated World: Inquiries in Social Construction*, ed. D. Grodin and T. R. Lindlof (Thousand Oaks, CA: Sage, 1996), 156-75.

8. Sherry Turkle, "Constructions and Reconstructions of Self in Virtual Reality: Playing in the MUDs," in *Culture of the Internet*, ed. Sara Kiesler (Mahwah, NJ: Erlbaum, 1997), 143-55.

9. Donna Haraway, *Simians, Cyborgs, and Women: The Reinvention of Nature* (New York: Routledge, 1991).

10. Jay D. Bolter, "Virtual Reality and Redefinition of Self," in *Communication and Cyberspace: Social Interaction in an Electronic Environment*, ed. L. Strate, R. Jacobson, and S. B. Gibson (Cresskill, NJ: Hampton Press, 1996), 105-120.

11. Allucquére R. Stone, *The War of Desire and Technology at the Close of the Mechanical Age* (Cambridge, MA: MIT Press, 1996).

12. Michael J. Smith, "E-merging Strategies of Identity: The Rhetorical Construction of Self in Personal Web Sites" (Ph.D. dissertation, Ohio University, 1998).

13. Dominick, "Who Do You Think You Are?"

14. Goffman, *The Presentation of Self in Everyday Life.*

15. David Holmes, "Virtual Identity: Communities of Broadcast, Communities of Interactivity," in *Virtual Politics: Identity & Community in Cyberspace*, ed. D. Holmes (Thousand Oaks, CA: Sage, 1997), 26-45; Steven G. Jones, "Understanding Community in the Information Age," in *Cybersociety: Computer-mediated Communication and Community*, ed. S. G. Jones (Thousand Oaks, CA: Sage, 1995), 10-35; L. Sproull and S. Faraj, "Atheism, Sex, and Databases: The Net as a Social Technology," in *Culture of the Internet*, ed. Sara Kiesler (Mahwah, NJ: Erlbaum, 1997), 35-51.

16. Nancy Baym, "The Emergence of Community in Computer-mediated Communication," in *Cybersociety: Computer-mediated Communication and Community*, ed. Jones, 138-63; Nancy Baym, "Interpreting Soap Operas and Creating Community: Inside an Electronic Fan Culture," in *Culture of the Internet*, ed. Sara Kiesler (Mahwah, NJ: Erlbaum, 1997), 103-120.

17. There is no comprehensive directory of personal home pages, so these providers were selected to obtain a representative population of home pages from which to sample. These providers are popular, offer extensive services, and even though they may target differing demographic groups, taken together they provide a relatively representative snapshot of the homestead population. Future research could seek to expand or vary this selection.

18. For the online survey, I obtained a random sample of 1,000 potential respondents (250 from each provider, using a random interval and a random starting point for each provider) from the publicly available member directories of personal Web page providers. All providers attracted a comparable volume of homesteaders, which justified this choice. Upon visiting selected pages, I obtained the e-mail address of the individual host, and e-mailed the host explaining the purpose of my study and asking for his/her cooperation. It is popular practice that Web page hosts provide an e-mail contact address as means of soliciting feedback on their page.

19. The low response rate may be explained by the fact that some Web page hosts created a page at some point, but were no longer as involved with their pages. The lack of responses could indicate loss of interest in maintaining one's home page rather than disinterest in this research project. Even though this study did not measure the characteristics of those who did not respond to the survey, it should be noted that several of the Web sites sampled were very basic in design and not regularly updated. Those no longer interested in maintaining and updating their Web sites might be less likely to respond to the survey. The goal of the sampling procedure was to study individuals actively involved in maintaining a personal Web site; this goal was accomplished, despite the low response rate. In addition, online surveys present a fairly new research method, so there is no literature available on how to construct them and what response rate to expect. The growing use of spam has made Internet users cynical about mass e-mailings, which is why additional follow-up e-mails were not expected to increase the response rate significantly and

were not attempted.

20. Reliability for all content analysis variables was calculated using the Perreault and Leigh reliability index: $I_r = \{[(F_o/N)-(1/k)][k/(k-1)]\}^{0.5}$, for $F_o/n>1/k$, where F_o is the observed frequency of agreement between coders, N is the total number of judgments, and k is the number of categories. This index accounts for coder chance agreement, the number of categories used, and is sensitive to coding weaknesses. Reliability scores can range from 0 to 1, with higher scores indicating greater intercoder agreement. See William D. Perreault and Laurence E. Leight, "Reliability of Nominal Data Based on Qualitative Judgments," *Journal of Marketing Research* 26 (May 1989): 135-48.

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25. Jonathan S. Steuer, "Defining Virtual Reality: Dimensions Determining Telepresence," *Journal of Communication* 42 (fall 1992): 73-93.

26. Goffman, *The Presentation of Self in Everyday Life*, 22.

27. Goffman, *The Presentation of Self in Everyday Life*.

28. Goffman, *The Presentation of Self in Everyday Life*, 41.

29. Goffman, *The Presentation of Self in Everyday Life*, 49.

30. David J. Gunkel and Ann H. Gunkel, "Virtual Geographies: The New Worlds of Cyberspace," *Critical Studies in Mass Communication* 14 (June 1997): 123-37.