ARE HIGHLY TAILORED MESSAGES ALWAYS MORE EFFECTIVE?  
THE INFLUENCE OF CULTURAL PSYCHOLOGY ON WEB-BASED 
CUSTOMIZATION

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ABSTRACT

CONG LI: Are highly tailored messages always more effective? The influence of cultural psychology on Web-based customization
(Under the direction of Sriram Kalyanaraman)

Web-based customization is widely adopted in a variety of domains today. Current conceptualization of customization is to provide individualized messages to message recipients based on their particular needs or preferences. A growing body of empirical research has shown positive effects for customization, suggesting that customized messages generate stronger memory and a more favorable attitude than non-customized ones because they match message recipients’ need for unique self identity. However, such findings are centered around the Western notion of self which values individuality – prior studies have tested customization effects with only American people. Given that people from different cultures tend to have different views of self, positive customization effects might not be realized in those cultures that do not encourage unique self identity (e.g., East Asian cultures). To advance conceptual understanding of customization, this dissertation tested existing conceptual approaches to customization (tailoring, targeting, and generic) with two groups of participants from different cultures (Americans and Chinese). More specifically, a 3 x 2 full factorial between-subjects main experiment was designed. The customization factor was manipulated by exposing participants to Web sites with tailored, targeted, or generic messages. The culture factor was measured. The main experiment was conducted following a pilot study that
examined the effectiveness of customized message manipulation, measures, experiment procedures, and sampling method.

It was found that customized messages in general (including both tailored and targeted messages) generated stronger memory and a more favorable attitude than non-customized messages (generic messages). Furthermore, an interaction effect was detected between customization and culture on attitude. Tailored messages generated the most favorable attitude for American participants (individualists) because these messages matched their preferences for unique self identity. In contrast, targeted messages generated the most favorable attitude for Chinese participants (collectivists) since these messages matched their preferences for self-in-group identity. Such customization effects were mediated by three mediating variables: perceived relevance, perceived involvement, and psychological sense of community. Theoretical and practical implications of study findings were discussed. Study limitations and future research directions were also addressed.
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CHAPTER ONE
INTRODUCTION AND THEORY

A number of unique characteristics that differentiate the Web from other media have contributed to its rapid diffusion (Roberts, 2008). One such prominent feature is its ability to deliver individualized messages to Web users, a process known as “Web-based customization.” Indeed, customization is becoming a ubiquitous strategy within the online environment. For example, in the past, people used to receive generic, non-individualized media content from traditional mass media such as newspapers. Today, they can receive customized media content from various Web sites on the Internet. Such Web sites (e.g., My Yahoo!) deliver individualized information of a variety of topics based on Web users’ preferences (Kalyanaraman & Sundar, 2006; Nitish & Pereira, 2005) and personal needs (Gilmore & Pine, 2000).

With the increasing popularity of Web-based customization, a number of studies on its effects have been conducted. For example, Vesanen (2007) argued that customization creates many benefits for individuals, including a better preference match, better products, better service, better communication, and better experience. Several empirical findings support such statements, showing that customized messages can generate stronger memory traces (e.g., Beier, 2007; Campbell, et al., 1994; Skinner,
Strecher, & Hospers, 1994) and more favorable attitudes (e.g., Beier; Kalyanaraman & Sundar, 2006; Kreuter, Strecher, & Glassman, 1999).

As argued by Kalyanaraman and Sundar (2006) and Petty, Barden, and Wheeler (2002), the defining feature of customization is matching a message to some aspect of the message recipient’s self. A customized message can generate more favorable effects than a non-customized message because it tends to create a “match.” For instance, in Kalyanaraman and Sundar’s (2006) experiment, the content of a Web portal completely matched participants’ interests on various topics in the high-customization condition. Participants were found to generate the most favorable attitude toward the Web site in this condition since the Web content was completely based on their individual likes and desires, as opposed to the medium-customization and low-customization conditions, which did not cater to each participant as inimitable individuals.

Thus, by providing individualized messages and matching individual preferences, customization creates a sense of uniqueness for message recipients (because individual preferences are generally perceived to be unique). However, some important questions arise: Do people always observe a “match” when their individual interests or preferences are met by a message? Is it a universal rule that people want and need to be unique? Will individualized messages generate similar favorable effects if some message recipients do not have an inherent preference for uniqueness? In attempting to shed light on these questions, a literature review reveals that prior customization studies have tested customization effects with only one group of participants: American people. The current understanding that customized messages generate more favorable effects than non-
customized ones is largely embedded in the Western notion of the self which values individuality. However, it appears somewhat presumptuous to generalize such effects across other subpopulations (e.g., East Asian people) who may have a different perspective of the self – one that discourages the need to be unique or individualized. These concerns are especially salient in the context of Web-based customization since the Internet transcends traditional geographic barriers and espouses the notion of universal access. Users of the same Web site could include people from different cultures. Thus, a Web site with some customized content might generate very different effects for its users, depending on their “self” orientation.

Consistent with this viewpoint and as suggested by Lynch (1982), if the background factor “Type of Subject” interacts with the variables explicitly manipulated in an experiment, the study results lack external validity. Such interactions may lead to a complete re-conceptualization of the phenomena being studied and inspire theoretical progress. Evidence from cultural psychology suggests that such interactions are likely to occur between customization and customized message recipients. Many cultural psychologists have argued that systematic differences of norms and beliefs exist across different groups of people with different cultures (e.g., Hofstede, 1980, 1984, 2001; Markus & Kitayama, 1991, 1994; Nisbett, 2003; Triandis, 1989, 1995). A well-established distinction across cultures is based on the individualism – collectivism construct, suggesting that people who live in Western societies such as the U.S. (individualistic cultures) are more self-oriented (people see themselves as independent and unique), and people from East Asian countries such as China (collectivistic cultures)
are more group-oriented (people see themselves as fitting in groups) (e.g., Hofstede, 1980, 1984, 2001; Markus & Kitayama, 1991, 1994; Nisbett; Triandis, 1989, 1995). Based on these differences, it might not be surprising to see that customized messages generate more favorable effects than non-customized ones for Westerners since customized messages match those people’s need for unique self identity. However, the popular assumption in the literature that similar effects will occur across cultures (subpopulations) deserves further scrutiny. It is possible that people from Eastern cultures do not enjoy individualized messages (or at least not as much as would people from a Western culture) since self-in-group identity instead of unique self identity is encouraged in these cultures. Instead, they might hold a more favorable attitude to messages that emphasize the relationship between themselves and their groups.

This empirical possibility has largely been neglected in the literature. A few studies have touched upon this research direction with some preliminary survey data, but without solid conclusions (e.g., Sigala, 2006; Steenkamp & Geyskens, 2006). Prior experimental research has hardly tested customization effects with non-Western participants. However, it is important to include these subpopulations in the test of customization effects since the current conceptualization of customization might not just be incomplete but also somewhat incorrect.

To explore potential interactions between customization and customized message recipients, two customization approaches (and non-customization control) were incorporated in this dissertation. Generally, customized messages could be executed in two ways: tailoring and targeting, as opposed to generic communication (Kreuter &
According to Kreuter and Skinner (2000), targeting involves development of a communication approach for a defined population subgroup that takes into account characteristics shared by the subgroup’s members, whereas tailoring refers to a process of creating individualized communication messages or strategies for a single person. Therefore, the major distinction between the two customization approaches is that tailoring matches the message to a particular person (at the individual level), while targeting matches the message to a group of people (at the group level).

Based on the different perspectives of self between Westerners and Easterners (e.g., Hofstede, 1980, 1984, 2001; Markus & Kitayama, 1991, 1994; Nisbett, 2003; Triandis, 1989, 1995), culture is anticipated to influence the effects of different customization approaches. As argued by Markus and Kitayama (1994), people from individualistic cultures are motivated to feel unique in a positive manner and, when they are able to construct or locate such information, they will feel good. By contrast, people from collectivistic cultures are habitually motivated to fit-in with or align themselves with a group. Therefore, tailoring might generate more favorable effects for people from individualistic societies where an individual’s independent self-identity is prominent, while targeting might generate more favorable effects for people from collectivistic cultures where a person’s self-identity within a group is more important.

Previous research has provided some evidence of the impact of culture on online communication (e.g., Nitish & Pereira, 2005), but little research has explored the impact of culture on Web-based customization. Part of the significance of this dissertation lies in its challenge to the validity of existing findings of customization effects. If the
propositions forwarded here are supported, the current notion of customization may need
to be re-conceptualized. To test this idea, a pilot study and a subsequent main study are
proposed. Previous studies on the phenomenon of customization have only employed
participants from individualistic cultures and have not examined the “cultural
differences” factor. Thus, the pilot study is designed for participants from collectivistic
cultures (Chinese students). It is designed to be a single factor (customization: tailoring
vs. targeting) between-subjects experiment, aiming to test the efficacy of manipulation of
tailored and targeted messages, the reliability of measures and the general study
procedure, and the validity of sampling method of Chinese participants. Built on the pilot
study, the subsequent main study is a 3 (customization: tailoring vs. targeting vs. generic)
x 2 (culture: individualism vs. collectivism) full factorial between-subjects experiment,
including participants from both individualistic cultures (American students) and
collectivistic cultures (Chinese students). It aims to test the interaction effects between
customization and culture on some dependent measures. The remainder of Chapter One
reviews prior findings of customization effects, explains the differences between tailoring
and targeting, examines the underlying mechanism of customization effects, and
explicates the constructs of individualism and collectivism. Based on the literature review,
three hypotheses and a research question are proposed. Chapter Two describes a pilot
study that tests the effectiveness of manipulation of tailored messages and targeted
messages, measurement reliability, experimental procedures, and sampling method.
Based on the pilot study results, Chapter Three explains the design of the main study and
its results. Chapter Four discusses both pilot study and main study findings and their implications, addresses limitations, and suggests directions for future research.

Customization Effects

Since its wide adoption in several domains such as communication, marketing, and information science, customization has attracted substantial attention from both academia and industry. It also carries several other labels, such as personalization (Vesanen, 2007), one-to-one marketing (Peppers & Rogers, 1993), mass customization (Pine, 1993), tailoring (Kreuter & Skinner, 2000), and matching (Briñol & Petty, 2006). Some researchers (e.g., Kreuter, Bull, Clark, & Oswald, 1999; Murthi & Sarkar, 2003) have tried to explicate the distinctions among these terms, while others have used them interchangeably to carry similar meanings. However, the basic premise of the current conceptualization of customization is to provide individualized messages (or products or services) to people, irrespective of whether it is focused on media content (e.g., Kalyanaraman & Sundar, 2006), Web site interface design (e.g., Manber, Patel, & Robison, 2000), pricing (e.g., Chen & Iyer, 2002), or product promotion (e.g., Zhang & Krishnamurthi, 2004).

Customization and the Internet

Customization is one of the most prominent characteristics of the Internet. Web-based customization could be broadly defined as any action that adapts the information or
services provided by a Web site to the needs of a particular user or a set of users, based on the knowledge gained from the users’ navigational behavior and individual interests, in combination with the content and the structure of the Web site (Eirinaki & Vazirgiannis, 2003). By using advanced Web usage mining techniques, individuals’ Web experience could be easily customized (Srivastava, Cooley, Deshpande, & Tan, 2000). For example, people who shop on the Internet can be identified at the individual level. Moreover, their browsing patterns can also be tracked. That is, records can be constructed not only of what people buy, but also what they inspect and for how long. Thus, online shopping Web sites can use these data to provide customized information to their users (Alba, et al, 1997).

In usability research, scholars have employed customization elements such as user salutation, recommendation of hyperlinks, individualized content, and personalized negotiations to enhance user retention of a Web site (Eirinaki & Vazirgiannis, 2003), and to alleviate information overload (Pierrakos, Paliouras, Papatheodorou, & Spyropoulos, 2003; Murthi & Sarkar, 2003). Taking Amazon (www.amazon.com) for example, the Web site virtually creates a customized Amazon store for its customers, based on customer preferences, past customer searches, customer personal data, and customer lifestyle information (Nitish & Pereira, 2005).

Because customized messages can be computer generated on a mass scale, this approach is becoming increasingly important as a public health education tool, too (Kreuter, Bull, et al., 1999). For instance, health education messages can be communicated in a number of ways, from generic waiting room pamphlets providing
general information aimed at no specific person, to one-on-one counseling sessions with messages specifically tailored for each counselee (Ryan, Skinner, Farrell, & Champion, 2001). In fact, computer-customized health messages are frequently used for various health communication purposes. It originated in the end of the 1980s when demographic and behavioral variables of certain smoker groups were used to design smoking cessation self-help guides (Rimer & Kreuter, 2006).

Existing Findings on Effects of Customization

The effects of customization tactics have been well documented in the literature, such as on weight-loss (Kreuter, Bull, et al., 1999), mammography screenings (Skinner, et al., 1994), and dietary fat reduction (Campbell, et al., 1994). Most prior studies have provided evidence for positive customization effects (See Rimer & Kreuter, 2006 for a comprehensive review).

For example, Skinner and colleagues (1994) sought to determine whether printed customized physicians’ recommendation letters addressing women’s specific screening and risk status and perceptions about breast cancer and mammography were more effective than standardized printed recommendations. Participants were interviewed at baseline and randomly allocated to receive individually tailored or standardized recommendation letters. The follow-up telephone interview results showed that women who received tailored letters were more likely to remember them than were standardized letter recipients. Furthermore, more than half (53%) of the tailored letter recipients who
recalled the letter reported reading all or most of it, compared with 40% of standardized letter recipients.

As another example, Campbell and colleagues (1994) examined the impact of tailored and non-tailored nutrition education material on fat, fruit, and vegetable consumption. Adult patients from four North Carolina family practices were surveyed by mail at baseline and then randomly assigned to tailored or non-tailored interventions or to a control group. The tailored intervention consisted of individually computer-tailored nutrition messages, and the non-tailored intervention consisted of standard nutrition information. The control group did not receive nutrition messages. Participants were resurveyed four months post-intervention to assess effects. It was found that the patients who received tailored messages were more than twice as likely as those who received non-tailored messages to remember receiving the information. Moreover, those who remembered receiving a message were more likely to report having read all of it if the message was tailored than if it was not. Also, the tailored intervention produced significant decreases in total fat and saturated fat intakes compared to those of the control group. Total fat was decreased in the tailored group by 23%, in the non-tailored group by 9%, and in the control group by 3%.

In another study, Kreuter, Bull, and colleagues (1999) randomly assigned 198 participants to three different types of printed weight-loss information: (1) materials that were computer-generated and tailored to the individual, (2) standard pre-printed materials from the American Heart Association (AHA), (3) computer-generated materials containing the same content as the AHA materials but formatted to look identical to the
The tailored messages were based on participants’ beliefs about weight loss, motives for losing weight, and other such considerations. Participants were asked to list all the thoughts and ideas they had while reading the weight-loss materials. These thoughts were later coded on five dimensions including personal connections, self-efficacy, self-assessment, behavioral intention, and polarity. The statistical analyses showed that participants who received tailored materials listed more positive thoughts about the weight-loss materials, positive personal connections to the materials, positive self-assessment thoughts, and positive thoughts indicating behavioral intention than those who received either of the untailored materials. Moreover, compared to the two untailored groups, those in the tailored group rated the materials more favorably in terms of overall liking, being attention catching, being easy to understand, and the extent to which they agreed with the content of the materials.

The aforementioned studies all examined customization effects in the print medium. A growing body of research also documented effects of customization in the online medium. For example, Ansari and Mela (2003) examined the impact of customization on permission-based E-mail communication. The authors found that the response rate (expected click-throughs) could be increased by 62 percent if the E-mail’s design was customized. Steenkamp and Geyskens (2006) found that customization is an important driver for the perceived value of a Web site. The authors used the example of Mypetstop Web site. Qualitative data (e.g., “This is a very personal site; it feels as if this site is directly talking to me and my cat.”) revealed that participants particularly liked the level of customization offered by the Web site. For example, the visitor’s pet was always
referred to by its name rather than by the impersonal “your pet.” In addition, visitors could use the FoodFinder function to find out what pet food products would be advisable for their pet after they had typed in the pet’s type, breed, age, special needs, and whether it is over-weighted. In a related vein, Burke (2002) conducted a survey and found that most respondents showed a positive disposition toward Web site customization features. For example, consumers were inclined to favor a Web site that kept track of their past purchases to provide proof of purchase for returns and warranty repairs. Respondents also liked having a Web site that saved shipping and billing information for future one-click ordering.

Web-based customization effects have also been examined in rigorous experimental studies. Kalyanaraman and Sundar (2006) investigated customization effects on a Web portal. In their experiment, different versions of MyYahoo! Web site were created to reflect low, medium, and high levels of customization. These sites were created based on participants’ responses to a pre-experiment questionnaire. In the low, medium, and high customization conditions, zero, 10 and 24 customizable units on the Web site matched individual users’ stated preferences respectively. It was found that participants who were exposed to the high-customized Web site showed a more favorable attitude toward the Web site than did the other two groups of participants. Higher levels of customization also led to participants’ lesser use of the edit and search functions of the Web site. Along similar lines, in Beier’s (2007) study, participants were exposed to a customized or non-customized news Web site based on their preferences to news stories. Participants in the customized condition exhibited a more favorable attitude toward the
Web site than those in the non-customized condition. Moreover, participants in the customized condition were able to recall more facts of the story than were participants in the non-customized condition.

*Tailoring and Targeting*

The essence of customization is matching a message to some aspect of the message recipient’s self (Kalyanaraman & Sundar, 2006; Petty, et al., 2002). There are different ways in which a message can be customized (matched), including the use of individually-tailored messages (matching at the individual level) and group-targeted messages (matching at the group level) (Briñol & Petty, 2006). In health communication, these two customization approaches are termed “tailoring” and “targeting” respectively (Kreuter & Skinner, 2000; Kreuter & Wray, 2003). Tailoring and targeting are two distinctly different communication strategies, though they have sometimes been misused in the existing literature (Kreuter & Skinner, 2000).

The distinctions between tailoring and targeting are somewhat similar to that between the high and medium levels of customization proposed in Kalyanaraman and Sundar’s (2006) study. According to Kreuter and Skinner (2000) and Kreuter and Wray (2003), targeted communication is intended to reach some population subgroup based on some characteristics presumed to be shared by all group members, while tailored communication is intended to reach one particular person based on specific characteristics of that person. Therefore, the units of assessment (subgroups vs. individuals), types of data collected (usually demographic vs. psychosocial), use of data
collected (using individual level data to characterize a subgroup vs. using individual level data to intervene with a specific individual) and final message (same content for all members of a subgroup vs. different content for each person) can be quite different for targeted communication and tailored communication.

Such ideas resonate with Murthi and Sarkar’s (2003) argument of segmentation marketing. According to Murthi and Sarkar, customization consists of three stages: learning, matching, and evaluation. In the matching stage, firms use the knowledge of customer preferences collected in the learning stage to design products that best reflect the market needs, and then market these products to the appropriate segment. This strategy could be implemented at the aggregate market level (a segment size of many) or at the individual level (a segment size of one). Eirinaki and Vazirgiannis (2003) also proposed a similar idea. They argued that the information and service provided by a Web site could potentially be adapted to the needs of one particular user or a set of users.

It is clear that targeted communication is based on the assumption that important differences between groups could be addressed by creating different versions of a communication (Rimer & Kreuter, 2006). Along similar lines, segmentation marketing implies that marketers can identify some common interests and characteristics shared by a group of consumers. Such consumer segmentations are usually realized by dividing up the marketplace by either combining certain consumer characteristics or selecting a subculture (Kotler, Armstrong, & Starr, 1991).

One example of segmentation marketing is that marketers can create commercial messages that carry a certain intended meaning for that segment, which evolves from
using cues such as culturally similar actors, shared cultural symbols, appropriate media placement, and preferred language or vernacular (Grier & Brumbaugh, 1999). In fact, Grier and Brumbaugh found that target and non-target audiences created different meanings based on the same commercial message. According to the authors’ arguments, targeted advertising messages are expected to be effective because specific advertising characteristics have been customized to the characteristics of a targeted consumer segment. Aaker, Brumbaugh, and Grier (2000) also found favorable effects of target marketing through their experiments. The positive effects of targeting occurred for distinctive consumers because of their strong feelings of similarity with the advertising source.

Health communication research has also shown that both targeting and tailoring can be more effective than a generic approach which does not take into consideration the characteristics of the message audience (e.g., Kreuter, et al., 1999). However, few studies have examined the relative effectiveness of targeting vis-à-vis tailoring (Kreuter & Skinner, 2000), although some researchers have attempted to quantify the differences between targeted mammography interventions and tailored interventions (Ryan, et al., 2001), in which they found two thirds of tailored intervention messages replicated targeted intervention content generated by a computer program.

**Underlying Mechanisms of Customization Effects**

Although the effectiveness of customization has been widely documented, a limited number of studies have examined the psychological mechanisms informing the
effects (Briñol & Petty, 2006). An important feature of customization is creating a “match” between a message and the audience’s characteristics (Briñol & Petty). As reflected in Whittler (1989) and Whittler and DiMeo’s (1991) studies on viewers’ processing of racial cues in advertising stimuli, stronger persuasion effects occurred when the actor featured in the advertisement was of the same race as the reviewers. As another example, Kalichman and Coley (1995) randomly assigned 100 black women to three types of health messages: only ethnicity-matched; ethnicity-gender-matched; and culturally-matched. The results showed that more matched communication messages elicited greatest perceptions of personal relevance and behavior changes. Therefore, the basic notion is that there are some situations in which some aspect of a message can be linked to some aspect of the message recipient’s self (such as race and gender), making the message personally relevant. Linking a message to almost any aspect of the message recipient’s self, such as one’s values, one’s outcomes, one’s self-conception, one’s identity, and so forth, can enhance self-relevance (Briñol & Petty). Based on this rationale, perceived personal relevance (“match”) and information salience could potentially increase people’s motivation to process the information and enhance message receptivity, thus influencing behavior (Rimer & Kreuter, 2006). According to Bettman (1979), motivation affects both the direction and intensity of behavior. The greater the processing motivation for a specific task, the more attention is focused on it (MacInnis & Jaworski, 1989).

As a matter of fact, previous studies have attributed positive customization effects to increased personal relevance, and other constructs such as increased involvement, Web
site interactivity, and novelty of the message, (e.g., Kalyanaraman & Sundar, 2006). In their experiment, Kalyanaraman and Sundar (2006) found that participants’ favorable attitudes toward highly customized portals were mediated by their perceptions of increased personal relevance, involvement, Web site interactivity and novelty of the content. Beier (2007) also detected mediation effects of personal relevance and Web site interactivity on Web users’ favorable attitudes toward customized news Web sites. Similarly, Oenema, Tan, and Brug (2005) found that perceived personal relevance, individualization, and interestingness mediated the relationship between customization and attitude. Finally, in a recent study, Updegraff, Sherman, Luyster, and Mann (2007) suggested that tailoring health messages to individual characteristics increased the tendency for recipients to carefully evaluate the messages. They found that strong messages received better evaluations than weak messages when their frames (loss or gain) matched the recipients’ motivational orientation. However, in mismatched conditions, recipients did not give messages close elaboration and did not discern strong messages from weak ones.

These findings are consistent with the framework of the Elaboration Likelihood Model (Petty & Cacioppo, 1981, 1986), which posits that an individual allocates an amount of processing effort to a message that is concomitant with both motivation and ability to process the stimulus. When a message increases in personal relevance, it becomes more important to form a reasoned opinion on it. Therefore, people are more motivated to devote the cognitive effort required to evaluate the true merits of the message. This largely explains why customized messages generate stronger effects in
cognition (e.g., Beier, 2007; Campbell, et al., 1994; Skinner, et al., 1994) and affect (e.g., Beier; Kalyanaraman & Sundar, 2006; Kreuter, Bull, et al., 1999).

Individualism and Collectivism

To further explore customization effects, two customization approaches, tailoring and targeting, are incorporated in this dissertation. A non-customization condition (generic communication) is also included in the main study as a baseline comparison. Culture is expected to have a significant impact on the effectiveness of tailored messages and targeted messages. Since an individual’s unique self identity is prominent in tailored messages and an individual’s relationship to a certain group is more salient in targeted messages, participants from different cultures which encourage different self identities might perceive tailored and targeted messages differently.

Culture

The notion of culture as a determinant of various social and economical processes is well established in the literature (Hofstede, 1980, 1984, 2001; Nisbett, 2003; Triandis, 1995), where culture was defined as “the collective programming of the mind that distinguishes the members of one group or category of people from another” (Hofstede, 2001, p. 9). It specifies the way of living that has proven effective in the past (Triandis, 1989).
Most conceptualizations of the term “culture” contain two common features. First, culture is regarded as a system — a collective and integrated whole consisting of ideas, behaviors, and products. Second, culture is also considered to be related and adjusted to the needs of humans. The survival of humans depends on their ability to adjust to their constantly changing environment. Therefore, culture is learned, and it is acquired by people to become members of a society. Culture is also shared, and cultural phenomena are not unique to a particular individual (Nalyor, 1996).

Numerous studies in cultural psychology have appeared in the last three decades, largely due to the cultural framework proposed by Hofstede (1980), in which he identified four cultural dimensions across more than 50 nations and regions: individualism, power distance, masculinity, and uncertainty avoidance. Subsequent research found a fifth dimension: long-term orientation (Hofstede, 2001).

**Basic Meanings of Individualism and Collectivism**

Among the five dimensions, the individualism – collectivism dimension has received most attention in academia (Triandis, 1995). No construct has a greater impact on contemporary cross-cultural psychology than individualism and collectivism (Triandis, 2001). The greatest strength of the individualism and collectivism framework is that the model focuses on a few central dimensions of cultural differences that explain the variability of behaviors in individuals from different parts of the world (Oyserman, Coon, & Kemmelmeier, 2002).
The core element of individualism is the assumption that individuals are independent of each other, while the core element of collectivism is the assumption that groups bind and mutually obligate individuals (Oyserman, et al., 2002). Based on Triandis’s (1995, p. 2) definition, individualism refers to:

“A social pattern that consists of loosely linked individuals who view themselves as independent of collectives; are primarily motivated by their own preferences, needs, rights, and the contracts they have established with others’ give priority to their personal goals over the goals of others; and emphasize rational analyses of the advantages and disadvantages to associating with others.”

Accordingly, in individualistic societies, people are not expected to share a tight bond with groups. They tend to look after themselves and their immediate family only (Hofstede, 1980, 1984, 2001; Hofstede & MaCrae, 2004; Mooij & Hofstede, 2002). In contrast, in collectivistic cultures, people belong to groups that look after them in exchange for loyalty (Hofstede, 1980, 1984, 2001; Hofstede & MaCrae; Mooij & Hofstede). As described by Triandis (1995, p. 2), collectivism is:

“A social pattern consisting of closely linked individuals who see themselves as parts of one or more electives; are primarily motivated by the norms of, and duties imposed by, those collectives; are willing to give priority to the goals of these collectives over their own personal goals; and emphasize the connectedness to members of these collectives.”

**Basic Meanings of Self**

The distinctions between individualism and collectivism are based on people’s different views of the “self” (Markus & Kitayama, 1991, 1994). In a well-cited work,
Markus and Kitayama (1991) discussed the construction of the self within different cultural contexts. People from individualistic and collectivistic cultures are presumed to differ in the ways that they construe the self as independent or interdependent, which affect psychological development and functioning.

The self is an organized locus of the various, sometimes competing, understandings of how to be a person, and it functions as an individualized orienting, mediating, interpretive framework giving shape to what people notice and think about, to what they are motivated to do, and to how they feel and their ways of feeling (Markus & Kitayama, 1994). It is the ways in which the person is made meaningful or given significance (Markus & Kitayama).

Self knowledge never begins from scratch (Neisser, 1997). Every social group is organized and held together by some specific psychological tendency (Bartlett, 1932), and this psychological tendency and the form of subjectivity that accompanies it derives from the cultural group’s commitment to a particular meaning or approach to selfhood (Markus & Kitayama, 1994). People live and grow up in some specific cultural setting. That setting is the context in which people develop their ideas about human nature in general and about themselves in particular (Neisser). Different cultures stress different kinds of self concepts and thus support the development of different selves (Neisser). As Taylor (1989, p. 35) described:

My self-definition is understood as an answer to the question who I am. And this question finds its original sense in the interchange of speakers. I define who I am by defining where I speak from, in the family tree, in social space, in the geography of social status and functions… We first learn our languages of moral and spiritual discernment by being brought into an ongoing
conversation by those who bring us up. The meanings that the key words first had for me are the meanings they have for us, that is, for me and my conversational partners together… So I can only learn what anger, love, anxiety, the aspiration to wholeness, etc. are through my and others’ experience for us, in some common space.

The self in North America and in much of Europe is defined as an independent, self-contained entity, which comprises a unique configuration of internal attributes (e.g., traits, emotions, motives, values, and rights) and behaves primarily as consequence of these internal attributes (Markus & Kitayama, 1991). An explicit social goal from this perspective is to separate one’s self from others and not to allow undue influence by others or connection to them. People with independent selves will be motivated to feel unique in a positive manner and, when they are able to construct or locate such information, they will feel good (Markus & Kitayama, 1994). This is consistent with Westerners’ long-standing belief that particular objects are in isolation from their context (Nisbett, 2003).

In individualistic societies, the independent self is usually prioritized above the group, and group membership is only valuable when it allows freedom of personal expression (Kim & Markus, 1999). Being true to the independent self is often portrayed as an act of courage in individualistic cultures, something that must be pursued even in the face of group pressure (Hornsey & Jetten, 2004). For example, the notion that standing out and being different is a virtue is widely portrayed in American media such as American movies (Kim & Markus).

In contrast, the self in East Asia, South America and Africa is defined as an interdependent entity (Markus & Kitayama, 1991). According to this perspective, the self
is not and cannot be separated from others and the surrounding social context. The self is interdependent with the surrounding social context, and it is the self-in-relation-to-other that is focal in individual experience (Markus & Kitayama, 1991). People with interdependent selves are habitually motivated to fit in a group. When people fit and find their proper place, they become part of the whole and are not distinctive. Working together harmoniously is a way of creating and affirming the self (Markus & Kitayama, 1994). This perspective is consistent with Easterners’ broad, contextual view of the world and their belief that events are highly complex and determined by many factors (Nisbett, 2003). Some linguistic facts also illustrate the social-psychological gap between East and West. For example, in Chinese there is no word for “individualism.” The closest one is the word for “selfishness” (Nisbett).

Therefore, to be nonconformist and to stand up against group pressure does not have a positive valence in collectivistic societies (Kim & Markus, 1999). A person being on his or her own, being separated or disconnected from others is not encouraged, and a desire for independence is cast as unnatural and immature (Markus & Kitayama, 1994). Within this tradition, an attempt to assert one’s individuality is often considered a disruption to group solidarity, and the willingness to integrate or to adjust one’s self to group norms is indispensable to the progress of the group (Kim & Markus).

Based on Triandis’s (1989, 1994) arguments, people carry both individualist and collectivist tendencies. The difference is that in some cultures the probability that individualist selves, attitudes, norms, values, and behaviors will be sampled or used is higher than in others. In fact, a person can sample a collectivist or individualist element
to construct a social situation. If individuals in a culture sample collectivist elements most of the time, across most situations, then the culture is called collectivistic culture (Triandis, 1994). Child-rearing patterns in individualistic cultures tend to emphasize self-reliance, independence, finding oneself, and self-actualization. Such child-rearing increases the complexity of the private self, and because there are more elements of the private self to be sampled, more are sampled. Thus, the probability that the private rather than other selves will be sampled increases with individualism. Conversely, in collectivistic cultures, child-rearing emphasizes the importance of the collective; the collective self is more complex and more likely to be sampled (Triandis, 1989).

Consequences of Different Perspectives of Self

These divergent views of the self – independent and interdependent – have a systematic influence on various aspects of cognition, emotion, and motivation (Markus & Kitayama, 1991). It has been widely tested and supported (See Oyserman, et al., 2002 for a comprehensive review on studies of individualism and collectivism).

For example, Kim and Markus (1999) conducted a series of studies to examine how core cultural ideas and values are expressed and fostered in everyday public messages, social interactions, and individual preferences. In their study 1, abstract figures were presented as stimuli to Chinese American and European American high school students. The figures were presented as groups of subfigures, of which one or more deviated from the rest. The results showed that European American students liked the unique subfigures more than Chinese American students did. The authors replicated the
results of study 1 in their study 2 with European American students and Korean students. As a follow-up, in their study 3, they designed a social episode to test how preferences for conformity and uniqueness were manifested through individual choice. In this study, European American and East Asian participants recruited at the San Francisco International Airport were asked to choose a pen from a group of five pens. As a result, East Asian participants in the study tended to pick the pens when their colors seemed common and European American participants liked to choose the pens when their colors looked unique.

As another example, in Aaker and Schmitt’s (2001) study, participants were presented with a mock advertising message for a brand of watches. The brand was either described as having primarily differentiation or assimilation associations. As predicted, Chinese participants had higher preference levels for the brand in the assimilation frame than the differentiation frame. In contrast, American participants had higher preference levels for the differentiation frame than the assimilation frame.

Moreover, Iyengar and Lepper (1999) found that the provision of individual choice was more crucial to Anglo American children, for whom the act of making a personal choice offered not only an opportunity to express and receive one’s personal preference, but also a chance to establish one’s unique self identity. For Asian American children, however, personal choice did not seem to be as critical. For them, having choices made by relevant in-group members instead of making their own choices was more intrinsically motivating as it provided a greater opportunity to promote harmony and to fulfill the goal of belonging to the group. In their study 1, for instance, 53 Anglo
American and 52 Asian American grade-school children were asked to engage in an anagrams task. One third of these students were allowed to choose which category of anagrams they would like to try (personal choice condition), one third were assigned that same category by an unfamiliar experimenter (experimenter choice condition), and one third were told that the relevant category had been chosen for them by their mothers (mom choice condition). The results indicated that the Asian American children actually performed best and appeared to enjoy the task most in the mom choice condition. In contrast, Anglo American children’s performance and intrinsic motivation were the highest in the personal choice condition.

The preceding examples clarify the extent to which culture shapes individual behavior. In this dissertation, a pilot study and a main study are designed to test the impact of culture on how people perceive three different types of customized/non-customized message (tailored, targeted, and generic). Since customization is an important feature of the Internet, it is valuable to test the effects in an online setting. As described by Hofstede (2001, p. 453), “electronic communication will not eliminate cultural differences, just as faster and easier travel has not reduced cultural rifts. The software of machine may be globalized, but the software of the minds that use the terminals is not.” With the manipulation of Web site content to be either tailored, targeted, or generic, culture is expected to exert impact on Web-based customization.

According to Markus and Kitayama (1991), the independent self view is most clearly exemplified in American culture, as well as in Western European cultures. The interdependent self view is exemplified in Asian cultures, Latin-American cultures, and
many southern European cultures. In this dissertation, America and China are chosen to represent individualistic (independent view of self) and collectivistic (interdependent view of self) cultures respectively. Based on a numerical rating, America possesses the most individualistic culture in the world, scoring 91 on this dimension. On the other hand, China is among the most collectivistic cultures with a score of 20 (Hofstede, 1993). A large proportion of prior cross-cultural research has used such a rating as proxies for individualism and collectivism (Oyserman, et al., 2002). Accordingly, American and Chinese students studying at the University of North Carolina at Chapel Hill are recruited to participate in the experiments. Multiple prior studies have examined the differences between European American people and Asian/Asian American people staying in America, and the results showed that European Americans are higher in individualism and lower in collectivism than Asians/Asian Americans in America (the effect size is especially large when comparing European Americans with Chinese) (Oyserman, et al.). To further ensure that the two student samples represent individualistic and collectivistic cultures respectively, two well established measures for individualism and collectivism (Singelis, 1994) are also used for a manipulation check of cultural differences.

Hypotheses and Research Question

Based on the literature review, several hypotheses are developed accordingly. Multiple prior studies have shown positive customization effects on cognition (e.g., Beier, 2007; Campbell, et al., 1994; Skinner, et al., 1994), affect (e.g., Beier;
Kalyanaraman & Sundar, 2006; Kreuter, Bull, et al., 1999), and behavior (e.g., Ansari & Mela, 2003; Campbell, et al.; Kalyanaraman & Sundar).

In this dissertation, message recall is selected to be the cognitive measure. Both recall and recognition are good measures for memory, and they serve different functions. Bettman (1979) suggested that the way in which information is to be used will indicate whether recall or recognition is appropriate. Based on the design of this dissertation (both pilot study and main study), participants will be involved in an intensive Web site viewing rather than some shallow information processing. Message recall seems to be more appropriate than recognition for such an information processing task.

Attitude is a focal area of persuasion research (Petty & Cacioppo, 1986), and it is strongly connected to cognition and behavior (MacKenzie, Lutz, & Belch, 1986). As both pilot study and main study for this dissertation are implemented in an online setting, attitude toward the Web site is chosen as the affective measure. Attitude toward the Web site is argued to be one of the major indicators of Web site effectiveness (Chen & Wells, 1999), which could be defined as Web users’ predisposition to respond in a favorable or unfavorable manner to a Web site when exposed to it (MacKenzie, Lutz, & Belch).

As with customization, three types of customized/non-customized message are included in this dissertation: tailored, targeted, and generic. Main effects of customization are expected, showing that tailored and targeted messages generate stronger memory (higher message recall) and a more favorable attitude (a more favorable attitude toward the Web site) than do generic messages. Behavioral measures are not adopted in this dissertation.
A unique contribution of this dissertation is in testing the interaction effects of customization and culture on the cognitive and affective measures. As argued by Markus and Kitayama (1991), the most desirable situations for individualists (people with an independent self view) are those that convey the sense that one is appropriately autonomous and unique. In contrast, for collectivists (people with an interdependent self view), the most desirable states are those that convey the sense that one is succeeding in his or her interdependent relationships or statuses. Since tailored and targeted messages are customized at the individual and group level respectively, it is predicted that tailored messages will generate highest recall for individualists (this refers to American participants in this dissertation), and targeted messages will generate highest recall for collectivists (this refers to Chinese participants in this dissertation). Since generic messages are not customized at any level and serve as the baseline, they are expected to generate lowest recall for both individualists and collectivists. Thus, the following hypothesis is generated:

**H1:** There will be an interaction effect between culture and customization on participants’ memory of the messages. American participants will generate highest recall for tailored messages, and Chinese participants will generate highest recall for targeted messages. Both groups of participants will generate lowest recall for generic messages.

Similarly, an interaction effect between culture and customization on participants’ attitudes toward the Web site is anticipated, leading to the following hypothesis:
**H2:** There will be an interaction effect between culture and customization on participants’ attitudes toward the Web site. American participants will generate the most favorable attitude toward the Web site with tailored messages, and Chinese participants will generate the most favorable attitude toward the Web site with targeted messages. Both groups of participants will generate the least favorable attitude toward the Web site with generic messages.

Prior studies have also suggested that favorable affective effects of customized messages were mediated by message recipients’ perceptions of increased personal relevance, involvement, novelty of the content, and Web site interactivity (Kalyanaraman & Sundar, 2006). Similarly, Beier (2007) detected mediation effects for personal relevance and Web site interactivity. Oenema and colleagues (2005) identified perceived personal relevance, individualization, and interestingness as mediators of customization effects. Based on these findings, it is expected that this study will observe mediation effects of perceived increase of personal relevance, involvement, novelty of the content, and Web site interactivity on the affective superiority of tailored and targeted messages over generic ones.

Kalyanaraman and Sundar (2006) also proposed another potential mediating variable, psychological sense of community. Targeted messages might enhance viewers’ feeling of group memberships since they are customized at the group level, which is a primary factor leading to a sense of community (McMillan & Chavis, 1986).
Furthermore, Kalyanaraman and Sundar argued that customized Web sites would evoke a sense of belonging and create an “us” versus “them” distinction relative to non-customized ones. Thus, psychological sense of community is also expected to exert a mediation effect. Accordingly, the following hypothesis is generated:

**H3:** The interaction effect of culture and customization on attitude toward the Web site will be mediated by perceived personal relevance, perceived involvement, novelty of the content, Web site interactivity, and psychological sense of community.

As argued by Briñol and Petty (2006), one of the most fundamental influences that a variable can exert on attitude is to affect the amount of thinking people do about a message. Increasing the amount of thinking can get people to carefully process the relevant information presented and therefore be influenced by it. A good measure for the amount of thinking is the total number of thoughts people go through in their minds while processing information. However, the impact of total number of thoughts on customized messages versus non-customized ones is unclear in the literature. Thus, a general research question is proposed:

**RQ:** How will the total number of thoughts influence participants’ memory and attitudes for customized and non-customized messages?
CHAPTER TWO

PILOT STUDY

Method

Since no known prior experimental studies have been conducted to test the impact of culture on customization effects, a pilot study was conducted (before testing the hypotheses and exploring the research question in the main study) to ensure the efficacy of customized message manipulation, measurement reliability, experimental procedures, and sampling method. The pilot study was designed as a single factor (message type: tailored messages vs. targeted messages) between-subjects experiment for participants from collectivistic cultures only. Thirty Chinese participants were randomly assigned to one of the two experimental message conditions, where they completed a pre-experiment questionnaire, viewed a Web site with some tailored messages or targeted messages, and completed a post-experiment questionnaire. The objectives of the pilot study are three fold: the primary goal is to check whether the manipulation of tailored messages and targeted messages is successful with Chinese participants, as no known prior studies have validated the manipulation method of customized messages with participants from collectivistic cultures. The second aim is to identify areas that refinements in measure and
experimental procedure are needed. The third purpose is to examine the validity of sampling Chinese Students studying in the U.S. to represent Eastern cultures.

Participants

Thirty Chinese students studying at the University of North Carolina at Chapel Hill were recruited to participate in the pilot study. The recruiting E-mail message was sent to the listserv of the Friendship Association of Chinese Students and Scholars at the University of North Carolina at Chapel Hill. Participation was voluntary. Each participant received $10 compensation for his or her time.

Of the 30 participants, 53.3% (N = 16) were male, and 46.7% (N = 14) were female. The mean age of participants was 27.87 (SD = 3.39). On average, they had stayed in the U.S. for 3.39 years (SD = 2.52), and had been back to visit China for 1.80 times (SD = 1.35). During their stay in the U.S., they had been visited by people from China for a mean of 1.30 times (SD = 1.79). The mean of participants’ reported communication with people in China through E-mail or telephone was 8.03 (SD = 1.64) on a 9-point scale (1 = “Very little,” 9 = “Very often”), and the mean of participants’ reported pride of being a Chinese was 8.40 (SD = .86) on a 9-point scale (1 = “Very little,” 9 = “Very much”).

The mean of participants’ reported Web usage was 2.41 hours per day (SD = 1.82). Participants also reported some use (hours per day) of online news Web sites (M = .99, SD = .52), newspaper (M = .23, SD = .27), television (M = .46, SD = .46), and radio
Moreover, 70% of participants had never used a customized Web site such as My Yahoo! before (Table 1).

**Stimulus Materials**

The stimulus materials of the experiment were created based on participants’ responses to a pre-experiment questionnaire (see Appendix A). In the pre-experiment questionnaire, participants were requested to list three social groups that they thought they belonged to in order of the groups’ importance to them. They were also asked to rate the importance of each group on a 9-point scale (1 = “Not at all important,” 9 = “Extremely important”). In addition, participants reported some common characteristics shared by all group members and some of their unique characteristics for each group.

To gauge participants’ specific news interests, they were requested to report their level of interest in 12 news categories on a 9-point scale (1 = “Not at all interested,” 9 = “Extremely interested”), including professional sports, college sports, movies, music, travel, politics, business and finance, technology, health, news happening in where they reside (e.g., Chapel Hill), news happening in China, and news happening in countries other than in China and the U.S.. Participants were also requested to list three favorite topics under each news category. Finally, they were asked to list three news topics that they thought best represented their unique news interests but not other people’s in their groups.

To understand the common news interests that participants shared with other group members, they were requested to report how often they talked about the interests
with other group members in the same 12 news categories on a 9-point scale (1 = “Not at all,” 9 = “Extremely often”). They also listed three favorite topics to talk about with other group members under each news category. Finally, they were requested to list three news topics that best represented the common news interests of all group members.

Based on participants’ responses to the pre-experiment questionnaire, 30 fictitious Web sites entitled “News Express” were created (one for each participant). The front pages of the Web sites provided participants with some study instructions, which led them to read a news story on the sites. The layout of the Web sites was exactly the same for both experimental conditions (tailored messages vs. targeted messages). However, there were certain differences between the two to reflect the customized message manipulation.

In the tailored message condition, participants were greeted by their names (e.g., “Hello, Lei Zhang”) on the front pages of the stimulus Web sites, and they were informed that they would read a news story created specially for them in the experiment (Figure 1). On the next Web page that contained the news story, these participants were greeted by their names again (e.g., “Welcome, Lei Zhang”). The news stories that they read were selected to be tailored to their particular news interests, but not to the common interests of all members in his or her group. To accomplish this goal, participants’ responses to the pre-experiment questionnaire were carefully examined and the news topics were selected accordingly. For example, one male participant (assigned to the tailored message condition) reported in the pre-experiment questionnaire that the musical band “Nirvana” best represented his unique interest. Such a topic clearly differed from the topics that he
often talked about with his group members (he reported the “Material Research Society” to be his primary group), which he reported to be focused on technology. Thus, a news story about Nirvana could be regarded as a tailored message for this participant. A story about the band was then selected for him by using the Google news search engine with “Nirvana” as the keyword (Figure 2). When participants finished reading the news stories on the stimulus Web sites, they were directed to the last pages of the sites, which told them to sit quietly and wait for the post-experiment questionnaire (Figure 3).

On the other hand, in the targeted message condition, participants were greeted by their group memberships (e.g., “FACSS member”) on the front pages of the stimulus Web sites, and they were informed that they would be reading a news story created for all of their group members (Figure 4). In the pre-experiment questionnaire, participants reported three social groups that they belonged to and rated their importance. The first groups that participants listed were used for their group memberships in the experiment since these groups were the most significant ones. On the Web pages that contained the news stories, participants in the targeted message condition were greeted by their group memberships again (e.g., “Welcome, FACSS member”). The news stories that they read were chosen to be targeted to the common interests of all members in their groups. This was accomplished with the information provided by participants in the pre-experiment questionnaire, too. For example, one female participant who was assigned to the targeted message condition reported the NBA player Yao Ming as a common news topic among her group members (she considered the “Chinese Students at UNC” as her primary group), but she was not particularly interested in professional sports. Therefore, a news
story about Yao Ming would be a good targeted message for this participant. Accordingly, a news story about Yao Ming was selected for her by using the Google news search engine with “Yao Ming’ as the keyword (Figure 5).

The same procedure was adopted for each participant, depending on what experimental condition that they were assigned to. In total, 30 Web sites were created for the pilot study, with 15 tailored news stories and 10 targeted news stories. All the selected news stories were carefully edited to be of similar length (from 581 words to 622 words) to avoid any confounding length effect.

**Manipulation Checks**

To check the manipulation of tailored messages, participants were requested to report their agreement with two statements (Kalyanaraman & Sundar, 2006) on a 9-point scale in the post-experiment questionnaire (1 = “Strongly disagree,” 9 = “Strongly agree”) (See Appendix B, Part C, Question 30 and 31):

- The content featured on the Web site targeted me as a unique individual.

- This Web site was “personalized” according to my interests.

Similarly, to check the manipulation of targeted messages, participants were requested to report their agreement with another two statements (with their proper group memberships inserted in the statements) on a same 9-point scale (1 = “Strongly disagree,” 9 = “Strongly agree”) (See Appendix B, Part C, Question 32 and 33). For example, for the male participant who listed the “Material Research Society” as his primary group, the two statements were:
The content featured on the Web site targeted me more as a Material Research Society member rather than a unique individual.

This Web site was “personalized” according to all Material Research Society members’ common interests.

Another example, for the female participant who reported the “Chinese Students at UNC” to be her primary group, the two statements read:

- The content featured on the Web site targeted me more as a UNC Chinese student community member rather than a unique individual.

- This Web site was “personalized” according to all UNC Chinese students’ common interests.

Dependent Variables

Recall. Participants’ cognitive processing of the messages was measured with free recall. After viewing the Web sites with customized messages, participants were requested to list all the things that they could remember about the news stories that they had read. They were informed to be as specific as possible and not to worry about grammar and spelling (See Appendix B, Part A).

Attitude toward the Web site. As the primary affective dependent variable, the measure of attitude toward the Web site was adopted from Kalyanaraman and Sunder (2006). Participants were requested to indicate how well 11 adjectives (e.g., appealing; useful) described the Web site that they had viewed on a 9-point scale in the post-
experiment questionnaire (1 = “Strongly disagree,” 9 = “Strongly agree”) (See Appendix B, Part B).

**Mediating Variables**

*Perceived relevance.* To measure participants’ perceived relevance of the customized messages, they were requested to rate their agreement with six statements (Kalyanaraman & Sundar, 2006) in the post-experiment questionnaire on a 9-point scale such as “The content in the Web site said something important to me,” where 1 represented “Strongly disagree” and 9 represented “Strongly agree” (See Appendix B, Part C, Question 1 to 6):

*Perceived involvement.* The measure of perceived involvement was adopted from Kalyanaraman and Sundar (2006), too. Participants were asked to report their agreement with four statements such as “I got emotionally involved in this Web site” in the post-experiment questionnaire on a 9-point scale (1 = “Strongly disagree,” 9 = “Strongly agree”) (See Appendix B, Part C, Question 11 to 14).

*Novelty of the content.* To measure how novel participants perceived the customized messages to be, they were requested to rate their agreement with four statements (Kalyanaraman & Sundar, 2006) in the post-experiment questionnaire including “This Web site was typical of most Web sites you see today” on a 9-point scale
where 1 representing “Strongly disagree” and 9 representing “Strongly agree” (See Appendix B, Part C, Question 7 to 10).

*Psychological sense of community.* The measure of psychological sense of community was also adopted from Kalyanarman and Sundar’s (2006) study. Participants reported their agreement with six statements in the post-experiment questionnaire on a same 9-point scale (1 = “Strongly disagree,” 9 = “Strongly agree”) such as “This Web site made me feel that I was part of a community” (See Appendix B, Part C, Question 18 to 23).

*Web site interactivity.* Another potential mediating variable, perceived Web site interactivity, was also measured in the post-experiment questionnaire. The measure was adapted from Sundar, Kalyanarman, and Brown’s (2003) study. Participants reported their agreement with three statements on a 9-point scale (1 = “Strongly disagree,” 9 = “Strongly agree”) such as “The content of the Web site was interactive” (See Appendix B, Part C, Question 15 to 17).

*Thought Listing*

*Total number of thoughts.* In the post-experiment questionnaire, participants were asked to list any thoughts they went through their minds while viewing the Web sites. They were provided with 20 boxes and instructed to list any one thought in each box. After thought listing, participants were further asked to rate their confidence about those
thoughts with four statements (Petty, Briñol, & Tormala, 2002) on a 9-point scale (1 = “Not at all,” 9 = “Extremely”) such as “How confident are you in the thoughts you listed above” (See Appendix B, Part D).

Control Variables

Participants’ gender and age were collected in the pre-experiment questionnaire. Their birth locations were also collected. Chinese students studying in the U.S. were recruited for the pilot study and they were assumed to carry Eastern cultures as did people staying in China. To ensure that participants in the pilot study were tightly connected to China and had not been fully assimilated to Western cultures, some cultural assimilation items from Marks et al. (1987) study were modified and adopted in the pre-experiment questionnaire. Participants were asked to report how long they had stayed in the U.S., how many times they had visited China in the last five years, and how many times they had been visited by people from China in the last five years. In addition, participants were requested to report the frequency of their communication with people in China on a 9-point scale (1 = “Very little,” 9 = “Very often”). Participants were also requested to report how much pride they had being a Chinese on a 9-point scale (1 = “Very little,” 9 = “Very much”) (See Appendix A, Part E).

Some other control variables were measured in the post-experiment questionnaire, too. Participants reported their media usage in hours per day including browsing the Web, reading online news Web sites, reading newspapers, watching television, and listening to
radio. Participants were also asked whether they had used customized Web sites such as My Yahoo! before (See Appendix B, Part E, Question 4 to 8).

Since the news stories for participants to read in the experimental sessions were selected through Google news search engine, prior exposure to these stories might potentially confound the study results. Therefore, participants’ familiarity with the stories was measured with a statement “How familiar are you with the content of the article” on a 9-point scale in the post-experiment questionnaire (1 = “Not at all familiar,” 9 = “Extremely familiar”) (See Appendix B, Part E, Question 3).

Moreover, the source of the news stories was not revealed to participants in the experiment. Potentially, some participants might suspect the stories that they read were fictitious although they were all real. To control for any confounding credibility effect, perceived message credibility was measured in the post-experiment questionnaire (adapted from Metzger et al. 2003). Participants were requested to report their agreement with six statements such as “I trust the information presented on the Web site” on a 9-point scale (1 = “Strongly disagree,” 9 = “Strongly agree”) (See Appendix B, Part C, Question 24 to 29).

Finally, message valence could potentially influence participants’ responses. Due to the scope of this dissertation, the message valence variable was not manipulated. Instead, it was measured in a categorical manner in the post-experiment questionnaire. Participants were asked to report whether the news stories that they had read were positive, neutral, or negative based on their own perceptions (See Appendix B, Part E, Question 2).
Individual Difference Variables

Although participants for the pilot study all came from the same cultural framework (Eastern cultures) and there was no other cultural group to compare, there were certain within-group variances. To gauge these individual differences, two well established measures for interdependent self-construal (collectivism) and independent self-construal (individualism) were used in the pre-experiment questionnaire (Singelis, 1994). The measure of collectivism asked participants to rate their agreement with 12 statements on a 9-point scale (1 = “Strongly disagree,” 9 = “Strongly agree”) such as “It is important for me to maintain harmony within my group.” The measure of individualism asked participants to rate their agreement with another 12 statements on a same 9-point scale (1 = “Strongly disagree,” 9 = “Strongly agree”) such as “I am comfortable with being singled out for praise or rewards” (See Appendix A, Part D).

Procedure

The recruiting E-mail message was sent to the listserv of the Friendship Association of Chinese Students and Scholars at the University of North Carolina at Chapel Hill. After 30 voluntary participants were recruited, each of them received a copy of the pre-experiment questionnaire. The experimenter told participants that the questionnaire was a survey of college students’ news preferences. The questionnaire’s connections to the other parts of the study were not mentioned in order to avoid any
potential biases. Participants were required to complete the questionnaire to the best of their knowledge and return it within a few days.

One week after participants returned their pre-experiment questionnaires, they were contacted again and invited to the Media Effects Laboratory in the School of Journalism and Mass Communication at the University of North Carolina at Chapel Hill. Each participant came in a session scheduled specifically for him or her. No study session had more than four participants at a time.

Upon arrival, each participant was greeted by the experimenter and asked to sign an informed consent form (See Appendix C). They were told that the researcher was interested in knowing people’s opinions on different news stories. Thus, they would be asked to view a news story on a designated Web site and provide some responses based on the content that they viewed. Participants were then exposed to the front page of a stimulus Web site, from where they began to view it based on their own pace. After they finished viewing the Web site, they were asked to fill out a paper and pencil post-experiment questionnaire. After completion of the questionnaire, participants were thanked, debriefed, and given $10 dollars in compensation. The experimental sessions each lasted about 30 to 40 minutes.

Results

Manipulation Checks
Two independent t-tests were performed to fulfill the primary objective of the pilot study: checking the manipulation of customized messages. The results indicated that the manipulation of both tailored and targeted messages in the pilot study was successful.

*Tailored messages.* The two statements used to check the manipulation of tailored messages were averaged to form a single “tailoring” index. This index was reliable (Pearson’s $r = .84$, $p < .01$).

To check whether participants in the tailored message condition perceived the messages to be more individually tailored than did participants in the targeted message condition, an independent t-test was performed with the “tailoring” index as the dependent variable and the message type as the grouping variable. The t-test result confirmed that participants in the tailored condition perceived the messages to be more individually tailored ($M = 6.27$, $SD = 1.27$) than participants in the targeted condition ($M = 4.00$, $SD = 2.38$), $t(28) = 3.25$, $p < .01$ (two-tailed).

*Targeted messages.* The two statements used to check the manipulation of targeted messages were also averaged to form a single “targeting” index (Pearson’s $r = .63$, $p < .01$).

To check whether participants in the targeted message condition perceived the messages to be more group targeted than did participants in the tailored message condition, another independent t-test was conducted with the “targeting” index as the dependent variable and the message type as the grouping variable. It was shown that
participants in the targeted condition did perceive the messages to be more group targeted $(M = 5.17, SD = 1.72)$ than participants in the tailored condition $(M = 3.37, SD = 1.78)$, $t(28) = 2.82, p < .01$ (two-tailed) (Table 2).

**Dependent Variables**

Although the primary goal of the pilot study was to determine the efficacy of customized message manipulation, some analyses of the dependent variables and individual difference variables were also conducted to shed some preliminary light on the possible directions for the main study.

**Recall.** Participants’ responses to the free recall section in the post-experiment questionnaire were coded by two Chinese graduate students who studied at the University of North Carolina at Chapel Hill. The coding was based on how many unique facts that participants had listed in the free recall section. Unique facts could be a sentence, a phrase, or a word, depending on how participants responded in this section. For example, “This is a news about if Tyler H. wanna join NBA soon” was coded as a unique fact. However, “And it still falls down, no one knows what is the bottom” was coded as two unique facts. The inter-coder reliability was .75. Differences of coding were resolved by discussions.

To test whether participants in the tailored and targeted message condition significantly differed in their memory of the messages, regression analyses were performed. Although all participants in the pilot study were from Eastern cultures, it
was still valuable to include individual cultural difference variables (collectivism and individualism) in the analyses since there were certain variances within the same culture. To conduct regression analyses, a dummy coded variable for message type was first created with 1 representing tailored messages and 0 representing targeted messages. Next, the 12 statements measuring collectivism (interdependent self-construal) were averaged to form a single index of “collectivism.” The index was reliable (Cronbach’s α = .80) and unidimensional. Similarly, the 12 statements measuring individualism (independent self-construal) were averaged to form a single index of “individualism.” The index was reliable (Cronbach’s α = .82) and it was also unidimensional. Next, two interaction variables were created by computing the products of the dummy coded message type variable and the “collectivism” index, and the dummy coded message type variable and the “individualism” index. Finally, multiple regression analyses were performed, testing main effects of message type, collectivism, and individualism. Interaction effects between message type, collectivism, and individualism were also tested.

A simple linear regression analysis revealed that message type was not a significant predictor of message recall, $t(28) = -.81, p = .42$. The equation was as followed:

$\text{Recall} = b_0 + b_1 \times \text{message type (dummy coded)}$

$\text{Recall} = 10.73 - 1.00 \times \text{M}$

When the “collectivism” index and the interaction variable between collectivism and message type were included in the regression equation, it was shown that the
interaction effect of collectivism and message type on message recall was statistically significant, $t(26) = -2.09, p < .05$, while the main effects of message type and collectivism were not (Table 3). The sign of the interaction effect suggested that participants who were more “collectivism-oriented” (who scored higher on the collectivism measure) had higher recall for the targeted messages, while participants who were less “collectivism-oriented” had higher recall for the tailored messages. Following Aiken and West’s (1991) suggestions, the mean of collectivism and one standard deviation below and above the mean were plotted for an illustration, as in Figure 6. The equation was as followed:

$$\text{Recall} = b_0 + b_1 \times \text{message type (dummy coded)} + b_2 \times \text{collectivism} + b_3 \times \text{message type (dummy coded)} \times \text{collectivism}$$

$$\text{Recall} = 7.04 + 17.21 \times M + .60 \times C - 2.81 \times M \times C^*$$

* $= p < .05$. ** $= p < .01$. *** $= p < .001$.

When the “individualism” index and the interaction variable between individualism and message type were included in the regression equation, no significant main effects or interaction effect were detected (Table 4). The equation was as followed:

$$\text{Recall} = b_0 + b_1 \times \text{message type (dummy coded)} + b_2 \times \text{individualism} + b_3 \times \text{message type (dummy coded)} \times \text{individualism}$$

$$\text{Recall} = 8.65 - 2.35 \times M + .33 \times I + .21 \times M \times I$$
*Attitude toward the Web site.* The 11 items that measured participants’ attitudes toward the Web site in the post-experiment questionnaire were averaged to form an “Asite” index, which was highly reliable (Cronbach’s α = .94) and unidimensional.

To test whether participants in the tailored message condition generated statistically different attitudes toward the Web site than participants in the targeted message condition, regression analyses were conducted. The “collectivism” and “individualism” index were also included in the analyses, testing for potential main effects of these individual difference variables and their interactions with message type.

First, a simple linear regression was conducted to test the main effect of message type. It was revealed that message type was not a significant predictor of attitude toward the Web site, $t(28) = 1.62, p = .12$. The equation was as followed:

$$\text{Asite} = b_0 + b_1 \times \text{message type (dummy coded)}$$

$$\text{Asite} = 5.11 + .82 \text{ M}$$

Next, the “collectivism” index and the interaction variable of collectivism and message type were included in the regression analysis. It revealed that the main effect of collectivism was statistically significant, $t(26) = 2.39, p < .02$, but the main effect of message type and the interaction effect of collectivism and message type were not (Table 5). The sign of the main effect suggested that participants who were more “collectivism-oriented” had a better attitude toward tailored and targeted messages on average compared to participants who were less “collectivism-oriented,” as illustrated in Figure 7. The equation was as followed:
Asite = $b_0 + b_1 \times \text{message type (dummy coded)} + b_2 \times \text{collectivism} + b_3 \times \text{message type (dummy coded) x collectivism}$

Asite = $.61 + 1.47 \ M + .73 \ C^* − .15 \ M \times C$

$* = p < .05. \ ** = p < .01. \ *** = p < .001.$

Finally, the “individualism” index and the interaction variable between individualism and message type were included in the regression analysis. No significant main effects or interaction effect were detected (Table 6). The equation was as followed:

Asite = $b_0 + b_1 \times \text{message type (dummy coded)} + b_2 \times \text{individualism} + b_3 \times \text{message type (dummy coded) x individualism}$

Asite = $2.27 + 3.39 \ M + .45 \ I − .40 \ M \times I$

**Mediating Variables**

Measures of five potential mediating variables (perceived relevance, perceived involvement, novelty of the content, psychological sense of community, and Web site interactivity) were included in the post-experiment questionnaire. Each measure was examined for reliability and unidimensionality.

*Perceived relevance.* The six statements that measured participants’ perceived relevance were averaged to form a single relevance index. The index was reliable (Cronbach’s $\alpha = .87$) and unidimensional.
Perceived involvement. The four statements that measured participants’ perceived involvement were averaged to form a single involvement index. The index was highly reliable (Cronbach’s $\alpha = .92$) and also unidimensional.

Novelty of the content. The measure of novelty was good too. The four statements were averaged to form a single novelty index, which was reliable (Cronbach’s $\alpha = .91$) and unidimensional.

Psychological sense of community. The six statements that measured psychological sense of community were averaged to form a single community index. The index was reliable (Cronbach’s $\alpha = .89$) and unidimensional.

Web site interactivity. Finally, the three statements that measured participants’ perceived interactivity of the Web site were also averaged to form a single interactivity index. The index was reliable (Cronbach’s $\alpha = .78$) and unidimensional.

Due to the limitation of the sample size in the pilot study ($N = 30$), there was a lack of statistical power in the mediation analysis. However, multiple regression analyses on these mediating variables were still performed, looking for any potential suggestions for the main study.

Multiple regression analyses tested the main effects of message type and individual difference variables as well as interaction effects of the two, on each mediating
variable. However, no statistically significant effect was detected. Taking perceived relevance for example, three multiple regression analyses were performed, but not suggesting any statistically significant effect. The equations were as followed:

Equation 1: \( \text{Relevance} = b_0 + b_1 \times \text{message type (dummy coded)} \)

\[ \text{Relevance} = 5.90 + .60 \times M \]

Equation 2: \( \text{Relevance} = b_0 + b_1 \times \text{message type (dummy coded)} + b_2 \times \text{collectivism} + b_3 \times \text{message type (dummy coded)} \times \text{collectivism} \)

\[ \text{Relevance} = 1.92 + 4.85 \times M + .648 \times C - .69 \times M \times C \]

Equation 3: \( \text{Relevance} = b_0 + b_1 \times \text{message type (dummy coded)} + b_2 \times \text{individualism} + b_3 \times \text{message type (dummy coded)} \times \text{individualism} \)

\[ \text{Relevance} = 5.53 - .59 \times M + .648 \times I + .19 \times M \times I \]

Although multiple regression analyses did not reveal any significant effect, correlation analyses showed that perceived relevance, perceived involvement, psychological sense of community, and Web site interactivity were significantly correlated with attitude toward the Web site (relevance: Pearson’s \( r = .71, p < .00 \); involvement: Pearson’s \( r = .42, p < .02 \); community: Pearson’s \( r = .48, p < .01 \); interactivity: Pearson’s \( r = .45, p < .01 \)). The correlation between novelty and attitude toward the Web site was not significant (Pearson’s \( r = .02, p = .93 \)). None of these five mediating variables was significantly correlated with message recall.
**Thought Listing**

*Total number of thoughts.* Besides the abovementioned five possible mediation variables, participants were also requested to complete a thought listing task in the post-experiment questionnaire. The total number of their thoughts was coded by the same two Chinese graduate students who coded participants’ free recall. The inter-coder reliability was perfect and there was no discrepancy.\(^iv\)

Multiple regression analyses were conducted to test the main effects of message type and individual difference variables as well as the interaction effect of the two on the total number of thoughts. No significant effect was found. However, the total number of thoughts was significantly correlated with message recall (Pearson’s \(r = .37, p < .04\)), but it was not with attitude toward the Web site (Pearson’s \(r = .17, p = .38\)).

**Control Variables**

To test potential effects of control variables, some independent t-tests, correlation analyses, and multiple regression analyses were performed.

*Gender and age.* No significant effect of gender or age was found on the dependent variables. Male participants in the study did not differ significantly from female participants on their message recall, \(t(28) = 1.48, p = .15\) (two-tailed), and on attitude toward the Web site, \(t(28) = .24, p = .81\) (two-tailed). Age was not correlated with either message recall (Pearson’s \(r = .24, p = .20\)) or attitude toward the Web site (Pearson’s \(r = -.02, p = .92\)).
Media usage. None of the media usage variables (Web browsing, online news Web site reading, newspaper reading, television watching, and radio listening) was significantly correlated with message recall or attitude toward the Web site. Whether participants had used customized Web sites before did not significantly influence their message recall, \( t(28) = 0.82, p = 0.42 \) (two-tailed), or their attitudes toward the Web site, \( t(28) = 1.04, p = 0.31 \) (two-tailed).

Cultural assimilation. Participants’ total time staying in the U.S. was found to be positively correlated with their scores on the “individualism” index (Pearson’s \( r = 0.41, p < 0.02 \)), which confirmed the validity of the index. No other significant correlation was detected.

Message familiarity. Participants’ familiarity with the news stories that they viewed was not significantly correlated with message recall (Pearson’s \( r = -0.05, p = 0.78 \)) or attitude toward the Web site (Pearson’s \( r = 0.03, p = 0.90 \)).

Message credibility. The six statements that measured participants’ perceived message credibility in the post-experiment questionnaire were averaged to form a highly reliable (Cronbach’s \( \alpha = 0.95 \)) and unidimensional index. It was significantly correlated with attitude toward the Web site (Pearson’s \( r = 0.42, p < 0.02 \)), but it was not correlated with message recall (Pearson’s \( r = -0.12, p = 0.55 \)).
Message valence. In the post-experiment questionnaire, 16 participants reported that they perceived the messages that they read to be positive, and 14 participants reported that the messages to be either neutral or negative. An independent t-test result revealed that participants who perceived the messages to be positive generated a more favorable attitude toward the Web site ($M = 6.05, SD = 1.58$) than did participants who perceived the messages to be neutral or negative ($M = 4.90, SD = .93$), $t(28) = 2.47, p < .02$ (two-tailed), but they did not significantly differ in terms of message recall, $t(28) = -1.53, p = .14$ (two-tailed).

Since message credibility and valence had significant impacts on participants’ attitudes toward the Web site, an additional multiple regression analysis with attitude toward the Web site as the dependent variable was conducted to see whether the previously detected effect remained significant. The two control variables, credibility and valence (a dummy coded variable was created for message valence with 1 representing positive messages and 0 representing neutral and negative messages), were included in the regression equation for statistical control. The result indicated that the inclusion of these two control variables did not change the direction or significance of the previously detected collectivism main effect. The regression equations with and without control variables were as followed:
Previous equation: \( A_{site} = b_0 + b_1 \times \text{message type (dummy coded)} + b_2 \times \text{collectivism} + b_3 \times \text{message type (dummy coded)} \times \text{collectivism} \)

\[
A_{site} = .61 + 1.47 M + .73 C^* - .15 x M x C \\
^* = p < .05. \quad ^{**} = p < .01. \quad ^{***} = p < .001.
\]

New equation: \( A_{site} = b_0 + b_1 \times \text{message type (dummy coded)} + b_2 \times \text{collectivism} + b_3 \times \text{message type (dummy coded)} \times \text{collectivism} + b_4 \times \text{credibility} + b_5 \times \text{valence (dummy coded)} \)

\[
A_{site} = -1.55 + 5.01 M + .79 C^* - .72 x M x C + .23 C' + .82 V \\
^* = p < .05. \quad ^{**} = p < .01. \quad ^{***} = p < .001.
\]

**Additional Analyses**

In the pre-experiment questionnaire, participants listed three social groups that they thought they belonged to in the order of the groups’ importance. Paired t-test results suggested that the first groups that participants listed were perceived to be more important \((M = 7.77, SD = 1.12)\) than the second groups \((M = 6.53, SD = 1.81)\) \(t(29) = 4.72, p < .00\), and than the third groups \((M = 5.92, SD = 1.98)\), \(t(24) = 5.94, p < .00\). These results confirmed the validity of using the first groups for participants’ group memberships in the Web site design and the post-experiment questionnaire.

In the pre-experiment questionnaire, participants reported their level of interest in 12 news categories. Based on the descriptive statistics, the top three news categories were
travel ($M = 7.20, SD = 1.75$), movies ($M = 7.03, SD = 1.69$), and news happening in China ($M = 6.77, SD = 1.89$). The bottom three news categories were news happening in countries other than China and U.S. ($M = 4.63, SD = 1.85$), politics ($M = 4.70, SD = 2.60$), and business and finance ($M = 5.43, SD = 2.40$). Participants also reported the frequency on how often they talked about the interests with their group members within each of those 12 news categories. The three most talked about news categories among groups members were news happening in where they resided ($M = 6.27, SD = 1.93$), travel ($M = 6.13, SD = 2.15$), and news happening in China ($M = 6.03, SD = 1.88$). The three least talked about news categories among group members were news happening in countries other than in China and the U.S. ($M = 3.87, SD = 2.02$), professional sports ($M = 4.17, SD = 2.53$), and business and finance ($M = 4.40, SD = 2.39$) (Table 7).

Discussion

The primary intent of the pilot study was to examine the effectiveness of customized message manipulation. More specifically, the method using participants’ pre-experiment questionnaire responses to create tailored and targeted messages needed to be validated. Based on the results of the manipulation checks, the procedure of creating tailored and targeted messages according to participants’ responses to the pre-experiment questionnaire was shown to be successful.

The secondary objective of the pilot study was measurement and experimental procedure refinement. All the multi-item scales used in both the pre-experiment
questionnaire and the post-experiment questionnaire were illustrated to be reliable. As expected, they were also unidimensional. No further measurement refinement was deemed necessary for the main study.

The entire experimental procedure was also carefully examined and the results were satisfactory. No participant had trouble understanding the experimental instructions although there were a few missing data in the pre-experiment questionnaires. According to the feedback provided by participants after debriefing, none of them guessed the purpose of the study correctly beforehand. Most of them expressed big interest for the whole experimental procedure and the general research area of Web-based customization.

However, the length of the pre-experiment questionnaire was a source of concern. Several participants expressed fatigue after completion of the lengthy questionnaire. Based on their comments, the two questions asking for their unique personality characteristics and common characteristics shared by all group members were a bit confusing and difficult to answer. As a result, there were quite a few missing data and some “I do not know” responses for those two questions. In addition to that, listing three favorite topics under each news category for themselves and for all group members was redundant because several news topics could overlap. This largely explained why some participants provided “same to the previous section” responses when they were requested to list favorite topics. Moreover, the pre-experiment questionnaire asked participants to list three news topics that best represented common interests of all group members, but it did not indicate which group it referred to. Finally, wording of some questions needed to be refined to avoid confusion.
Another purpose of the pilot study was to validate the sampling method of Chinese participants. Although many prior studies had used Asian participants staying in the U.S. as opposed to the American participants in some cross-cultural comparisons, it was still necessary to ensure that the Chinese participants recruited for this study could legitimately represent Eastern cultures. According to the measures in the pre-experiment questionnaire, this assumption was confirmed. All the participants in the pilot study were born in a city in China. Most of them had not been in the U.S. for more than four years. They were very tightly connected to China, as illustrated by going back to visit people in China, hosting people from China in the U.S., communicating with people in China through E-mail and telephone. Moreover, News happening in China was one of the most favorable news topics among the participants and they were very proud of being Chinese. All of these results suggested that the Chinese participants in the pilot study were not assimilated to Western cultures, at least not much.

The inclusion of the collectivism and individualism measures in the pre-experiment questionnaire was also very informative. As expected, the correlation analysis revealed that the longer a participant stayed in the U.S., the higher he or she scored on the individualism measure. This confirmed the validity of such a measure. Although all the participants in the pilot study came from the same country, there were certain within-culture individual differences, as reflected in the collectivism and individualism indexes. As a matter of fact, multiple regression analyses revealed an interesting main effect of collectivism on attitude toward the Web site and an interaction effect of collectivism and message type on message recall.
On average, more collectivism-oriented Chinese participants held a more favorable attitude toward the Web site than less collectivism-oriented participants, no matter whether the Web site delivered tailored messages or targeted messages. Although an interaction effect between collectivism and message type on attitude toward the Web site was not observed in the pilot study, the main effect looked promising. Since the main study planned to include two cultural participant groups (both Chinese participants and American participants), larger variances on the collectivism measure were expected and a significant interaction effect looked possible.

Regarding message recall, an expected interaction effect between collectivism and message type was observed. More collectivism-oriented Chinese participants generated higher recall toward targeted messages, and less collectivism-oriented Chinese participants generated higher recall toward tailored messages. Such findings were expected to be replicated in the main study.

To provide more useful hints for the main study, additional analyses were also performed on the mediation variables and control variables. Due to the limit of sample size, no significant mediation effect was detected. However, four mediation variables were found to be significantly correlated with attitude toward the Web site. With a larger sample size in the main study, more detailed mediation analyses could be performed.

Control variables did not influence the two dependent variables, except message credibility and valence. However, when these two control variables were included in the regression analysis, they did not change the direction or significance of the previously
found effect. Thus, no special care of control variables seemed necessary for the main study, although all of them were still kept in the questionnaires.

Finally, participants’ responses to the pre-experiment questionnaire provided some useful information on how to manipulate generic messages for the main study. A generic message was operationalized as a sort of message not of particular interest of any person or group in this dissertation. For the main study, some messages within the category of “news happening in countries other than China and U.S.” seemed to be a good choice for a generic message manipulation because it was both the least interested topic among pilot study participants and among their group members.

To sum up, the pilot study was successful in general, whose multiple functions were all fulfilled. Based on the results of the pilot study, there were no radical changes needed for the customized message manipulation, measures, experimental procedures, and sampling method. The major revision would be focused on the pre-experiment questionnaire, aiming to make it more precise and concise.
CHAPTER THREE

MAIN STUDY

Method

Built on the pilot study, a main study was employed. The main study was designed to be a 3 (Message type: tailored messages vs. targeted messages vs. generic messages) x 2 (Culture: individualism vs. collectivism) full factorial between-subjects experiment, where the factor message type was manipulated. Two groups of participants (American students vs. Chinese students), representing individualistic and collectivistic cultures respectively, were randomly assigned to one of the three message conditions. Each condition had an equal sample size of 20.

Pre-experiment Questionnaire Changes from Pilot Study

Based on the findings of the pilot study, customized message manipulation, experimental procedures, sampling method, and variable measurements all worked fine. The major concern was how to make the pre-experiment questionnaire more concise and avoid participants’ confusion and fatigue. Therefore, the following changes were made for the main study.
Deletion of two questions. In the original pre-experiment questionnaire, participants were asked to list some common characteristics shared by their group members and some unique characteristics of their own. Based on participants’ feedback, these two questions were somewhat confusing and hard to respond to. In fact, participants provided some missing data and some “I do not know” or “N/A” responses. Thus, the following two questions were excluded from the main study.

- What are the common characteristics shared by all group members including you? Please list one common characteristic for each of the above three groups.

- What are the characteristics that you do NOT share with other group members and make you different? Please list one of your unique characteristics for each group.

Regrouping questions. In the original pre-experiment questionnaire, participants were requested to list three social groups that they thought they belonged to in order of their importance. They were also asked to rate the groups’ importance on a 9-point scale. These questions proved to be informative. However, they were placed in the first section of the original pre-experiment questionnaire. Participants recommended relocating these two questions and putting them together with those questions that measured common news interest among all group members, so as to be clearer about which group was referred to. Their advice was taken. These two questions were moved from the first section in the pre-experiment questionnaire to the second for the main study.
Rewording of questions. The questions that asked for participants’ particular news interests and their group members’ common interests were rewritten since these questions looked redundant and confusing. Since these questions were the primary source for our message manipulation, participants were requested to provide five responses instead of three for the main study. The original questions in the pre-experiment questionnaires read:

- Among all the news topics that you have listed above from Question 2 to Question 13 (including professional sports, college sports, movies, music, travel, politics, business and finance, technology, health, news happening in where you reside, news happening in China, news happening in countries other than China and U.S.), which topics do you think best represent the unique interest of you but NOT of other people in your group? Please list three of them in order.

- Among all the news topics that you have listed above from Question 2 to Question 13 (including professional sports, college sports, movies, music, travel, politics, business and finance, technology, health, news happening in where you reside, news happening in China, news happening in countries other than China and U.S.), which topics do you think best represent the common interest of ALL group members? Please list three of them in order.

And they were revised to:
Among all the news topics that you have listed above from Question 2 to Question 13, what topics do you think best represent the unique news interest of you but NOT of other people? Please list five of them in order.

What news topics do you think best represent the common news interest of ALL group members of the first group that you have listed (that is to say, what news topics do you think will attract all group members’ attention)? Please list five of them in order. (Please try to be specific with the news topics. DO NOT list news categories in general. For example, if you think all group members are interested in UNC Men’s Basketball, do not list it as “sports” or “basketball,” list it as “UNC Men’s Basketball.”)

Two versions of pre-experiment questionnaire for participants. Since all participants in the pilot study were from China, there was only one version of the pre-experiment questionnaire. However, the sample in the main study included both Chinese students and American students. Their versions of the pre-experiment questionnaire were slightly different (See Appendix D and Appendix E).

When measuring participants’ particular news interests and all their group members’ common interests within 12 news categories, the last two categories were “News happening in China” and “News happening in countries other than China and U.S..” in the pre-experiment questionnaire used in the pilot study. This was the same for Chinese participants in the main study. However, for American participants in the main
study, the two categories were changed to “News happening in U.S.” and “News happening in countries other than U.S.”

In the last section of the pre-experiment questionnaire used in the pilot study, participants were measured with some cultural assimilation items such as how long they had stayed in the U.S., and how often they communicated with people in China through E-mail and telephone. This stayed the same for Chinese participants in the main study. For American participants in the main study, there was apparently no need to apply these measures. Instead, they were asked to report which countries other than U.S. they had been to and for how long. Such information would help us manipulate generic messages in the main study. The three questions for American participants read as followed:

- Have you ever traveled outside the U.S.?
- If you have traveled outside U.S., what countries have you been to? Please also tell us when you went to those countries and for how long?
- What is the longest period of time that you have lived outside the U.S.?

Participants

A total of 120 participants were recruited for the main study, including 60 American students and 60 Chinese students. The American participants included both undergraduate and graduate students. They were all originally born in the United States. The undergraduate students were recruited from a few undergraduate classes in the School of Journalism and Mass Communication at the University of North Carolina at Chapel Hill. The graduate students were recruited through an E-mail message sent to the
listserv of graduate students in the same school. The Chinese participants were both undergraduate and graduate students, too. They were all originally born in China and now studying at the University of North Carolina at Chapel Hill. They were recruited from an E-mail message sent to the listserv of the Friendship Association of Chinese Students and Scholars at the University of North Carolina at Chapel Hill or through some personal contact. None of them had participated in the pilot study. All participation was on a voluntary basis. Each participant received $10 compensation after participation.

Of the 60 American participants, 31.7% (N = 19) were male, and 68.3% (N = 41) were female. Among the 60 Chinese participants, 65.0% (N = 39) were male, and 35.0% (N = 21) were female. A Chi-square test showed that the differences of gender proportion in the two participant groups were significant, \( \chi^2(1, N = 120) = 13.39, p < .01 \).

The mean age was 24.52 (SD = 8.07) for American participants and 27.73 (SD = 4.34) for Chinese participants. An independent t-test suggested that Chinese participants in the main study were significantly older than American participants, \( t(117) = 2.70, p < .01 \) (two-tailed), although the difference was minimal.

American participants reported (in hours per day) their Web usage (\( M = 2.52, SD = 1.27 \)), online news Web site reading (\( M = .89, SD = .55 \)), newspaper reading (\( M = .50, SD = .45 \)), television watching (\( M = .47, SD = .50 \)), and radio listening (\( M = .21, SD = .36 \)). Chinese participants reported similar media usage patterns (Web: \( M = 2.92, SD = 1.47 \); online news Web site: \( M = 1.29, SD = .85 \); newspaper: \( M = .36, SD = .57 \); television: \( M = .36, SD = .53 \); and radio: \( M = .21, SD = .32 \)). Independent t-tests did not reveal any significant differences regarding media usage between the two participant
groups except online news Web site reading. Chinese participants spent more time reading online news Web sites than American participants, $t(117) = 3.12, p < .01$ (two-tailed), although the difference was again very minimal. The two participant groups did not differ in terms of customized Web site usage, with 70.0% of American participants and 68.3% of Chinese participants having never used a customized Web site before, $\chi^2(1, N = 120) = .04, p = .84$.

Very similar to the pilot study, the mean length of stay in the U.S. for Chinese participants in the main study was 3.64 years ($SD = 2.70$). During their stay in the U.S., they had been back to China for a mean of 1.96 time ($SD = 2.04$) and been visited by people from China for a mean of 1.29 times ($SD = 1.72$). The mean of Chinese participants’ reported communication with people in China through E-mail and telephone was 8.33 on a 9-point scale ($SD = 1.43$) and the mean of their reported pride of being Chinese was 8.43 on a 9-point scale ($SD = 1.21$). All these results suggested that the Chinese participants in the main study had very similar characteristics compared to the Chinese participants in the pilot study (Table 1).

**Stimulus Materials**

The results of the pilot study confirmed the validity of the customized message manipulation. Therefore, the same procedure was adopted for the main study. Based on participants’ responses to the pre-experiment questionnaire, news stories that reflected tailored and targeted messages were carefully selected through the Google news search engine. For the tailored message condition, a total of 40 Web sites were created with 39
unique news stories, one Web site for each participant who was assigned to this condition (See Figure 8 and Figure 9). For the targeted message condition, a total of 11 Web sites were created with 10 news stories (See Figure 10 and Figure 11).

Based on the pilot study findings, some news happening in countries other than China and U.S. would be a good reflection of a generic message for the main study. Thus, a news story about oil crisis management happening in Latin America was carefully selected for this experimental condition. The story was focused on how Brazil refused to share Bolivian natural gas with Argentina for its energy crisis. No participant in the main study reported to have been to any of the three abovementioned countries before. No participant listed any of these three countries as his or her favorite travel destination or favorite news topics either. And, no participant reported these countries to be of particular interest of their group members. Therefore, this news story was a good reflection of a generic message since it was not tailored to any particular participant or targeted to any group that participants belonged to.

One Web site was then created for all participants in the generic message condition. On the front page of the Web site, participants were greeted by the term Web user (“Hello, Web user”) instead of their names (as did participants in the tailored message condition) or their group memberships (as did participants in the targeted message condition). They were told that they would be reading a news story created for the general public instead of a news story created for them (as did participants in the tailored message condition) or a news story created for all their group members (as did participants in the targeted message condition) (See Figure 12). On the next Web page
that contained the oil crisis news story, participants were greeted by the term Web user again ("Welcome, Web user") (See Figure 13).

Similar to the pilot study, all the news stories used in the main study were carefully edited to be of similar length to avoid length effect. The longest story in the main study was 645 words, and the shortest one was 587. All of the Web sites in the main study carried the same layout with the pilot study.

Manipulation Checks

The four statements used for manipulation checks in the pilot study were illustrated to be effective. Thus, they were adopted in the main study without any further revisions.

Variable Measures

All the dependent variables, individual difference variables, and mediating variables used in the pilot study were reliable. Therefore, they were used again in the main study without change.

There were some slight changes to the control variables from the pilot study. As mentioned earlier, there were two versions of the pre-experiment questionnaire in the main study, one for American participants, and the other for Chinese participants. American participants were not measured with culture assimilation items, while Chinese participants were.
Procedure

All experimental procedures employed in the main study were precisely the same as those in the pilot study, except the changes to the pre-experiment questionnaire. Participants’ experimental sessions lasted approximately 20 to 40 minutes.

Results

Manipulation Checks

Two one-way ANOVA tests were performed to check the manipulation of customization in the main study. The results confirmed that the manipulation of all three message types was successful.

*Tailored messages vs. others.* As in the pilot study, the two statements used to check the manipulation of tailored messages were averaged to form a single “tailoring” index (Pearson’s $r = .63$, $p < .01$).

To check whether participants in the tailored message condition perceived the messages they viewed to be more individually tailored than did participants in the targeted message and generic message conditions, an one-way ANOVA test was performed with the message type as the grouping variable and the “tailoring” index as the dependent variable. The ANOVA results confirmed this expectation, $F(2, 117) = 43.20$, $p < .01$. Post hoc analyses using the Bonferroni method showed that participants in the tailored message condition scored significantly higher in the “tailoring” index ($M = 5.84$, $p < .01$).
than participants in the targeted message condition \((M = 4.68, SD = 1.69), p < .01\), and than participants in the generic message condition \((M = 2.20, SD = 1.36), p < .01\).

**Targeted messages vs. others.** Similarly, the two statements used to check the manipulation of targeted messages were also averaged to form a single “targeting” index. The reliability of this index was acceptable \((Pearson’s r = .79, p < .01)\).

To check whether participants in the targeted message condition perceived the messages to be more group targeted than did participants in the tailored message and generic message conditions, another one-way ANOVA test was conducted with the message type as the grouping variable and the “targeting” index as the dependent variable. The expectation was confirmed too, \(F(2,117) = 108.71, p < .01\). Post hoc analyses using the Bonferroni method revealed that participants in the targeted message condition scored significantly higher in the “targeting” index \((M = 6.93, SD = 1.63)\) than participants in the tailored message condition \((M = 2.69, SD = 1.57), p < .01\), and than participants in the generic condition \((M = 2.26, SD = 1.49), p < .01\) (Table 8).

**Manipulation Check for Cultural Differences**

Although the sampling method of Chinese participants had been validated in the pilot study, those individual difference variables and cultural assimilation measures were still included in the main study to ensure that these participants could actually represent Eastern cultures although they were currently staying in the U.S..
Using the same procedure applied in the pilot study, the 12 statements in the pre-experiment questionnaire measuring collectivism were averaged to form a “collectivism” index. It was reliable (Cronbach’s α = .83) and unidimensional. The 12 statements in the pre-experiment questionnaire measuring individualism were also averaged to form an “individualism” index, which was reliable (Cronbach’s α = .73) and unidimensional, too.

As expected, Chinese participants in the main study scored significantly higher ($M = 6.53$, $SD = 1.04$) than American participants ($M = 6.16$, $SD = 1.17$) on the collectivism index, $t(118) = 1.87$, $p < .03$ (one-tailed). Meanwhile, Chinese participants did not score significantly lower ($M = 6.16$, $SD = .98$) than American participants ($M = 6.42$, $SD = 1.00$) on the individualism scale, although the $p$-value was close to significance, $t(118) = -1.430$, $p = .08$ (one-tailed).x

Hypotheses Testing

To test the hypotheses, ANOVA and ANCOVA tests, multiple regression analyses, and some advanced mediation analysis tactics were applied.

Recall. H1 predicted an interaction effect between message type and culture on participants’ memory of the messages, with American participants generating highest recall for tailored messages and Chinese participants generating highest recall for targeted messages. Although the pilot study results suggested such a direction, this hypothesis was not completely supported by the main study data.
Message recall was coded by the same two Chinese graduate students who conducted the coding for the pilot study. Since they had been trained in the pilot study and provided satisfactory inter-coder reliability, the 120 post-experiment questionnaires in the main study were divided into two and each of them coded 60. No inter-coder reliability was further calculated for the main study.

To test H1, a two-way ANOVA test was performed with recall as the dependent variable and message type and participant group as the two factors. No significant interaction effect was detected, $F(2, 114) = .49, p = .62, \eta^2 = .08$. However, both message type, $F(1, 114) = 9.63, p < .01, \eta^2 = .08$, and participant group, $F(2, 114) = 6.02, p < .01, \eta^2 = .10$, had a significant main effect on recall (Table 9). Post hoc analyses using the Bonferroni method revealed that American participants generated higher message recall ($M = 11.12, SD = 3.32$) than did Chinese participants ($M = 9.27, SD = 3.45$), $p < .01$. It also showed that participants in both the tailored message condition and the targeted message condition generated higher recall (tailored: $M = 11.33, SD = 3.65$; targeted: $M = 10.43, SD = 3.42$) than did participants in the generic message condition ($M = 8.83, SD = 3.00$), $ps < .01$ (Figure 14), while the difference of recall between participants in the tailored message condition and the targeted message condition was not significant, $p = .66$.

Attitude toward the Web site. H2 predicted an interaction effect between message type and culture on participants’ attitudes toward the Web site. More specifically, American participants were hypothesized to generate a more favorable attitude toward
Web sites with tailored messages and Chinese participants were hypothesized to generate a more favorable attitude toward Web sites with targeted messages.

To test H2, the 11 adjectives that measured attitude toward the Web site were first averaged to form the index of Asite. The index was highly reliable (Cronbach’s $\alpha = .95$) and unidimensional. Next, a two-way ANOVA test was conducted with message type and participant group as the two factors and Asite as the dependent variable. The ANOVA test results supported the H2 prediction. A significant interaction effect between message type and participant group on attitude toward the Web site was observed, $F(2, 114) = 6.05, p < .01$, $\eta^2 = .10$, (American/tailored messages: $M = 6.18$, $SD = 1.25$; American participants/targeted messages: $M = 5.20$, $SD = 1.30$; American/generic message: $M = 4.39$, $SD = 1.13$; Chinese/tailored messages: $M = 5.32$, $SD = 1.60$; Chinese/targeted messages: $M = 6.45$, $SD = 1.43$; Chinese/generic message: $M = 4.60$, $SD = 1.41$), as illustrated in Figure 15. A significant main effect of message type was also discovered, $F(2, 114) = 12.00, p < .01$, $\eta^2 = .17$, with participants generating a more favorable attitude toward the Web site in both the tailored ($M = 5.75$, $SD = 1.48$) and targeted message conditions ($M = 5.82$, $SD = 1.49$) than participants in the generic message condition ($M = 4.50$, $SD = 1.26$) based on post hoc analysis using the Bonferroni method (Figure 16). The main effect of participant group on attitude toward the Web site was not significant, $F(1, 114) = .65, p = .42$, $\eta^2 = .01$, (American: $M = 5.26$, $SD = 1.41$; Chinese: $M = 5.46$, $SD = 1.64$) (Table 10).

Based on the significant interaction effect detected in the ANOVA test, further contrast analyses were needed to determine where the significant differences existed.
Two contrast coded variables for message type were created. The first variable aimed to test the difference between tailored messages and targeted messages, ignoring the generic messages, which was labeled “targeting – tailoring.” Participants in the tailored message condition were coded as -1 for this variable. Participants in the targeted message condition were coded as +1, and participants in the generic message condition were coded as 0. The second variable aimed to examine the difference between non-customized message (generic messages) and customized messages (average of tailored messages and targeted messages), which was labeled “generic – (tailoring + targeting)/2.” Accordingly, participants in the generic message condition were coded as +1 for this variable, and both participants in the tailored message and targeted message conditions were coded as -.5. Another contrast coded variable was created for participant group. It planned to test the difference between American participants and Chinese participants, and was labeled “American – Chinese.” American participants were coded as +1 and Chinese participants were coded as -1 for this variable. Two interaction variables were further created by computing the products of “America – Chinese” by “targeting – tailoring” and “generic – (tailoring + targeting)/2” respectively.

With all three contrast coded variables and two interaction variables created, a multiple regression analysis was performed with Asite as the dependent variable and the five abovementioned variables as predictors. It was found that the contrast coded variable “generic – (tailoring + targeting)/2” \( (p < .01) \) and the interaction variable of “America – Chinese” by “targeting – tailoring” \( (p < .01) \) were significant predictors of attitude toward the Web site, while others were not (Table 11). The regression equation was as followed:
Asite = \( b_0 + b_1 \times \text{“American – Chinese”} + b_2 \times \text{“targeting – tailoring”} + b_3 \times \text{“generic – (tailoring + targeting)/2”} + b_4 \times \text{“American – Chinese”} \times \text{“targeting – tailoring”} + b_5 \times \text{“American – Chinese”} \times \text{“generic – (tailoring + targeting)/2”} \)

Asite = 5.36 – .10 A + .04 T – .86 G*** – .53 A x T*** – .82 A x G

* = \( p < .05 \). ** = \( p < .01 \). *** = \( p < .001 \).

The negative sign of the effect of “generic – (tailoring + targeting)/2” suggested that the average of attitude toward the Web site in the tailored message and targeted message condition was more favorable than that in the generic message condition. Meanwhile, the negative sign of the interaction effect between “American – Chinese” and “targeting – tailoring” suggested that there existed significant differences between American participants and Chinese participants regarding their attitudes toward targeted messages and tailored messages. More specifically, the difference between Chinese participants’ attitudes toward targeted messages and tailored messages was positive and it was negative for American participants. In other words, Chinese participants held a more favorable attitude toward the Web sites with targeted messages and American participants held a more favorable attitude toward the Web sites with tailored messages, which matched the prediction. Regarding the Web sites with generic messages, no significant difference between the two participant groups was detected, which was the least favorable for both.
**Mediating variables.** Before analyses were conducted on five mediating variables, the statements in the post-experiment questionnaire measuring each of the five variables were averaged to form single indexes. The procedure was the same as the pilot study. All the indexes appeared to be reliable and unidimensional (Perceived relevance: Cronbach’s α = .87; Perceived involvement: Cronbach’s α = .91; Novelty of the content: Cronbach’s α = .88; Psychological sense of community: Cronbach’s α = .93; Web site interactivity: Cronbach’s α = .80).

H3 predicted that the interaction effect of message type and participant group on attitude toward the Web site was mediated by these five mediation variables. The analyses here would include both mediation and moderation since a moderation effect (interaction effect) of culture on attitude toward the Web site was already discovered in the previous analyses. The classic mediation and moderation approach introduced by Baron and Kenny (1986) was used in this study. The results were further tested with other newly-developed advanced techniques.xiv

In the conceptualization of this dissertation, message type (customization) was the primary independent variable, participant type (culture) was the moderator, and attitude toward the Web site was the dependent variable. Five variables (perceived relevance, perceived involvement, novelty of the content, psychological sense of community, and Web site interactivity) were suspected to be mediation variables. Therefore, each of them was added in the regression model to test any potential mediation effect.

As suggested by Baron and Kenny (1986), five multiple regression analyses were conducted first, with five potential mediation variables each as the dependent variable.
Both message type and participant group (contrast coded) and their interaction terms were included in the regression equations. The previously found significant main effect of “generic – (tailoring + targeting)/2” and the interaction effect between “American – Chinese” and “targeting – tailoring” on attitude toward the Web site were also found on perceived relevance, perceived involvement, and psychological sense of community. The specific regression equations were as followed:

Mediation variable = $b_0 + b_1 \times \text{“American – Chinese”} + b_2 \times \text{“targeting – tailoring”} + b_3 \times \text{“generic – (tailoring + targeting)/2”} + b_4 \times \text{“American – Chinese”} \times \text{“targeting – tailoring”} + b_5 \times \text{“American – Chinese”} \times \text{“generic – (tailoring + targeting)/2”}

Relevance = 5.94 + .11 A + .02 T – 1.40 G** – .41 A x T** – .37 A x G
Involvement = 4.27 – .02 A – .05 T – 1.42 G*** – .49 A x T** – .03 A x G
Novelty = 5.18 + .12 A – .18 T + .24 G + .18 A x T – .23 A x G
Community = 3.71 – .37 A** – .03 T – 1.27 G*** – .58 A x T*** + .03 A x G
Interactivity = 3.35 – .47 A** – .13 T + .53 G*** – .21 A x T – .10 A x G

* = p < .05, ** = p < .01, *** = p < .001.

Since novelty of the content and Web site interactivity were not significantly predicted by the interaction effect (the product term “American – Chinese” x “targeting – tailoring”), these two variables were excluded from further mediation analyses. The other three variables, perceived relevance, perceived involvement, and psychological sense of community remained for the next steps in the analysis.
In the original regression model with attitude toward the Web site as the dependent variable, a significant main effect of “generic – (tailoring + targeting)/2” and an interaction effect between “American – Chinese” and “targeting – tailoring” were detected as followed:

**Model 1:** \( A_{site} = b_0 + b_1 \times \text{“American – Chinese”} + b_2 \times \text{“targeting – tailoring”} + b_3 \times \text{“generic – (tailoring + targeting)/2”} + b_4 \times \text{“American – Chinese”} \times \text{“targeting – tailoring”} + b_5 \times \text{“American – Chinese”} \times \text{“generic – (tailoring + targeting)/2”} \)

\( A_{site} = 5.36 - .10 \ A + .04 \ T - .86 \ G^{***} - .53 \ A \times T^{***} - .82 \ A \times G \)

* = \( p < .05 \)  ** = \( p < .01 \)  *** = \( p < .001 \)

Now, it was necessary to determine whether those significant effects would completely or partially disappear if mediation variables were included in the equation, which was the basic idea of mediation. Thus, perceived relevance, perceived involvement, and psychological sense of community were each added into the equation as followed:

**Model 2:** \( A_{site} = b_0 + b_1 \times \text{“American – Chinese”} + b_2 \times \text{“targeting – tailoring”} + b_3 \times \text{“generic – (tailoring + targeting)/2”} + b_4 \times \text{“American – Chinese”} \times \text{“targeting – tailoring”} + b_5 \times \text{“American – Chinese”} \times \text{“generic – (tailoring + targeting)/2”} + b_6 \times \text{Relevance} \)

\( A_{site} = 2.78 - .15 \ A + .03 \ T - .25 \ G - .35 \ A \times T^{*} + .15 \ A \times G + .44 \ x \text{Relevance} \)

**Model 3:** \( A_{site} = b_0 + b_1 \times \text{“American – Chinese”} + b_2 \times \text{“targeting – tailoring”} + b_3 \times \text{“generic – (tailoring + targeting)/2”} + b_4 \times \text{“American –} \)
Chinese” x “targeting – tailoring” + \(b_5\) x “American – Chinese” x “generic – (tailoring + targeting)/2” + \(b_6\) x Involvement

\[
\text{Asite} = 3.60 - .09 \text{A} + .06 \text{T} - .28 \text{G} - .33 \text{A x T}^* - .02 \text{A x G} + .41 \text{I}^{***}
\]

**Model 4:** \(\text{Asite} = b_0 + b_1\) x “American – Chinese” + \(b_2\) x “targeting – tailoring” + \(b_3\) x “generic – (tailoring + targeting)/2” + \(b_4\) x “American – Chinese” x “targeting – tailoring” + \(b_5\) x “American – Chinese” x “generic – (tailoring + targeting)/2” + \(b_6\) x Community

\[
\text{Asite} = 3.71 + .06 \text{A} + .05 \text{T} - .29 \text{G} - .27 \text{A x T}^* - .02 \text{A x G} + .44 \text{C}^{***}
\]

\(* = p < .05, ** = p < .01, *** = p < .001.\)

Comparing Model 1 to Models 2, 3, and 4 respectively, it was discovered that (1) perceived relevance, perceived involvement, and psychological sense of community were all significant predictors of attitude toward the Web site; (2) the significant main effect of “generic – (tailoring + targeting)/2” disappeared when mediation variables were inserted into the equations; (3) the interaction effect of “American – Chinese” and “targeting – tailoring” remained significant with mediation variables in the equation, but its magnitude “seemed” to be smaller. To further test whether the drops of magnitude of the interaction effect from Model 1 to Models 2, 3, and 4 were significant or not, an online calculator for the Sobel test developed by Preacher and Leonardelli (2001) was used. The results showed significant drops for all three mediation variables (Perceived relevance: \(p < .02\); Perceived involvement: \(p < .02\); Psychological sense of community: \(p < .01\)). Some researchers had questioned the normality assumption of the Sobel test and provided other advanced mediation analysis methods such as bootstrapping (Preacher &
Hayes, 2004). Hence, the bootstrapping tactic was also applied to the same data. It did not change any of the conclusions from the abovementioned Sobel tests. Based on all these results, it was concluded that perceived relevance, perceived involvement, and psychology sense of community completely mediated the main effect of customization (generic vs. average of tailoring and targeting) and partially mediated the interaction effect between culture and customization approaches (American/Chinese x tailoring/targeting) on attitude toward the Web site, thus partially supporting H3.

However, there were certain arguments around theory-driven analysis and data-driven analysis.\textsuperscript{xv} Although perceived relevance, perceived involvement, and psychological sense of community were considered theoretically distinguishable constructs in this dissertation, they did show significantly high correlations with each other in the dataset (Pearson’s $r$ ranged from .55 to .78, $ps < .01$). Therefore, all the statements measuring relevance, involvement, and community were averaged to form a single index of “overall mediation” (Cronbach’s $\alpha = .94$).\textsuperscript{xvi} The following multiple regression analyses revealed that this “overall mediation” index completely mediated the main effect of customization and the interaction effect between culture and customization approaches on attitude toward the Web site:

\[
\text{Overall mediation} = b_0 + b_1 \times \text{“American – Chinese”} + b_2 \times \text{“targeting – tailoring”} + b_3 \times \text{“generic – (tailoring + targeting)/2”} + b_4 \times \text{“American – Chinese” x “targeting – tailoring”} + b_5 \times \text{“American – Chinese” x “generic – (tailoring + targeting)/2”}
\]

Overall mediation = 4.68 – .10 A – .02 T – 1.36 G*** – .49 A x T** – .12 A x G
Asite = \(b_0 + b_1 \times \text{“American – Chinese”} + b_2 \times \text{“targeting – tailoring”} + b_3 \times \text{“generic – (tailoring + targeting)/2”} + b_4 \times \text{“American – Chinese”} \times \text{“targeting – tailoring”} + b_5 \times \text{“American – Chinese”} \times \text{“generic – (tailoring + targeting)/2”} + b_6 \times \text{Overall mediation} \)

Asite = 2.40 – .04 A + .05 T – .00 G – .22 A x T + .07 A x G +.63 x O***

* = p < .05, ** = p < .01, *** = p < .001.

In summary, although several different analytical methods were performed in the mediation analysis, \(^{xvii}\) the overall patterns of results were similar to each other. Perceived relevance, perceived involvement, and psychological sense of community significantly mediated the interaction effect of culture and customization approach on attitude toward the Web site (Figure 17). It is considered a mediated moderation effect.\(^{xviii}\)

\textit{Research Question}

\textit{Total number of thoughts.} The total number of thoughts was coded by the two Chinese graduate students who completed the coding for message recall. It was found to be significantly correlated with message recall (Pearson’s \(r = .43, p < .01\)), but not with attitude toward the Web site (\(p = .32\)).

To explore the function of total number of thoughts, a two-way ANOVA test was conducted with message type and participant group as the two factors and the total number of thoughts as the dependent variable. The main effect of participant group was significant, \(F(1, 114) = 8.73, p < .01, \eta^2 = .07\), suggesting that American participants generated more thoughts (\(M = 8.73, SD = 3.16\)) than Chinese participants (\(M = 6.93, SD\))
= 3.43). No other significant effect was discovered (Table 12). Since the total number of thoughts was significantly correlated with message recall, another ANCOVA test was performed with message recall as the dependent variable, message type and participant group as the two factors, and the total number of thoughts as a covariate. It did not change any of the previously discovered significant results, and it was not further discussed.\textsuperscript{xix}

\textit{Control Variables}

Similar to the pilot study, a few control variables were examined to detect any potential effect.

\textit{Gender and age}. An independent t-test revealed no significant difference between male participants ($M = 5.30$, $SD = 1.63$) and female participants ($M = 5.40$, $SD = 1.44$) regarding their attitudes toward the Web site, $t(118) = -.36$, $p = .72$ (two-tailed). However, female participants generated more message recall ($M = 10.88$, $SD = 3.50$) than male participants ($M = 9.45$, $SD = 3.37$), $t(118) = 2.29$, $p < .02$ (two-tailed). An additional analysis was conducted using gender for statistical control, but it did not change any of the previously detected significant results.\textsuperscript{xx}

Correlation analysis showed that age was not correlated with either message recall or attitude toward the Web site.
**Media usage.** Correlation analyses were conducted on media usage variables to message recall and attitude toward the Web site. The only significant correlation was between online news reading and message recall (Pearson’s $r = -.19, p < .04$). Including this variable in the analysis for statistical control did not change any previous findings, and it was not further discussed.

**Message familiarity.** Message familiarity was not significantly correlated with message recall ($p = .06$), although it was close to the significance level.

**Message credibility.** The six statements measuring message credibility were averaged for a single index of credibility. It was highly reliable (Cronbach’s $\alpha = .95$) and unidimensional.

It was significantly correlated with attitude toward the Web site (Pearson’s $r = .51, p < .01$), but not with message recall ($p = .06$). The inclusion of credibility in the regression analysis did not change any of the previously found results. Thus, it was not further discussed.

**Message valence.** Message valence was found to have significant influences on both message recall and attitude toward the Web site. Participants ($N = 55$) who perceived the messages to be positive generated higher recall ($M = 11.09, SD = 3.55$) than did participants ($N = 65$) who perceived the messages to be either neutral or negative ($M = 9.43, SD = 3.29$), $t(118) = 2.66, p < .01$ (two-tailed). Participants who perceived the
messages to be positive also held a more favorable attitude toward the Web site \((M = 6.23, SD = 1.30)\) than did participants who perceived the messages to be neutral or negative \((M = 4.61, SD = 1.31)\), \(t(118) = 6.80, p < .01\) (two-tailed).

To control for the effect of message valence, a dummy coded variable was created with 1 representing positive messages and 0 representing the rest. Regression analysis including this new dummy coded valence variable showed that the main effect of customization (generic vs. average of tailoring and targeting) on attitude toward the Web site turned marginally significant (from \(p < .01\) to \(p = .07\)) but the interaction effect between customization approach and culture (American/Chinese x tailoring/targeting) remained significant. It did not change the previously found results regarding message recall.

**Additional Analysis**

One alternative explanation for the detected significant interaction effect between message type and participant group on attitude toward the Web site was that Chinese participants might perceive their groups to be more important than American participants. To rule out this possibility, an independent t-test was performed. The result did not suggest any significant difference between the two participant groups (Chinese: \(M = 8.02, SD = 1.05\), American: \(M = 8.20, SD = 1.22\)), \(t(116) = -.87, p = .39\) (two-tailed).

**Summary of Results**
In summary, the data analysis results provided full support for H2 and partial support for H1 and H3. A summary of hypotheses, research question, and relevant findings was presented in Table 13. Consonant with the predictions, Web sites with targeted messages elicited the most favorable attitude from Chinese participants, while Web sites with tailored messages elicited the most favorable attitude from American participants. Both groups of participants generated the least favorable attitude toward the Web sites with generic messages. Although such an interaction effect was not found on message recall, the main effect of customization on recall was significant. Participants recalled more facts of tailored and targeted messages compared to generic messages.
Three of the five expected mediation variables, perceived relevance, perceived involvement, and psychological sense of community, illustrated a mediation effect. More specifically, they fully mediated the main effect of customization on attitude toward the Web site. And, they partially mediated the interaction effect of culture and customization on attitude toward the Web site, which was considered a mediated moderation effect.
Total number of thought, and some control variables were also examined in the analyses. Although some of these variables showed correlations with message recall or attitude toward the Web site, none of them significantly changed the overall pattern of findings.
CHAPTER FOUR

DISCUSSION

Interpretation of Findings

This dissertation examined individuals’ responses to three types of customized/non-customized messages: tailored, targeted, and generic. Significant differences were detected between two participant groups representing different cultures on measures of cognition and affect.

The most interesting and significant finding of this dissertation is the interaction effect between culture and customization on participants’ attitudes toward the Web site. More specifically, American participants perceived Web sites with tailored messages to be most favorable, compared to Web sites with targeted messages and generic messages. This finding is consistent with some prior research conclusions (e.g., Kalyanaraman & Sundar, 2006), which revealed that highest levels of customization led to the most positive (favorable) attitude. However, Chinese participants perceived Web sites with targeted messages to be most favorable, compared to both Web Sites with tailored messages and generic messages. Such results sound counter-intuitive, but can be well explained by existing cross-cultural psychology theories. According to cross-cultural psychologists, people live and grow up in some specific cultural setting (e.g., Neisser,
Different cultures stress different kinds of self concepts and support the development of different selves (Neisser, 1997). As argued by Markus and Kitayama (1991), individuals with an independent view of the self tend to seek information that confirms or enhances their internal and private attributes. The most desirable situations for these people are those that allow them to verify and express the important internal attributes and that convey the sense that they are appropriately autonomous. Tailored messages constitute such a situation, and thus generate the most favorable attitude from American participants who are believed to have an independent self perspective. In contrast, for people with an interdependent view of the self, they expect the most desirable states to be those that allow them to be responsive to their context or that convey the sense that they are succeeding in their interdependent relationships or statuses. Targeted messages fulfill this function, and generate the most favorable attitude from Chinese participants who are expected to be interdependent.

Moreover, generic messages illustrated a baseline effect in this dissertation. The affective effect of generic messages was the least favorable for both American participants and Chinese participants. Such a finding supported the existing notion that customized messages in general (including both tailored and targeted messages) had certain superiority over non-customized ones (e.g., Vesanen, 2007).

Secondly, the cognitive effect of customized messages in general was found to be stronger than non-customized ones. This finding is consistent with prior studies on customization (e.g., Beier, 2007; Campbell, et al., 1994; Skinner, et al., 1994). It is also consistent with the framework of the Elaboration Likelihood Model (Petty & Cacioppo,
1981, 1986), although the model was not explicitly tested in this dissertation. The findings of this dissertation imply that customized content can strengthen viewers’ attention, no matter how it is customized, or the degree to which it is customized. In other words, viewers tend to devote more cognitive resources to process information that is customized to them in either a tailored or a targeted manner and display higher scores on memory, as opposed to information that is not customized to them.

Notably, such an effect was discovered for both American participants and Chinese participants in the main study. Since no prior study (to the best of our knowledge) has tested customization effects with participants from Eastern cultures, this finding is informative. Culture seems not to influence the intensity of people’s cognitive processing of customized messages. People from collectivistic cultures tend to be more attentive to customized messages than generic messages, similar to those people from individualistic cultures.

We also found that American participants generated higher message recall than Chinese participants. This finding should not be interpreted as a main effect of culture on people’s cognitive information processing. As observed in the main study, American participants in general completed the experiment quicker than Chinese participants, although we did not statistically measure how long it took for each participant. A plausible explanation for such a result is that American participants and Chinese participants differed in their capability of processing information in English. In fact, all the stimulus materials and questionnaires in both pilot study and main study were designed and written in English. Possibly, Chinese participants were relatively slower
and less efficient in comprehending and memorizing the stimulus content, which lead to lower message recall (and total number of thoughts). To avoid such a potential confounding effect, future research needs to present customized messages to participants in their first language (as discussed later).

This dissertation also made a contribution to the literature on the underlying mechanism of customization effects. Both conventional and more newly developed mediation analysis tactics were employed, suggesting mediating effects of three variables: perceived relevance, perceive involvement, and psychological sense of community. This partly replicated prior study findings (e.g., Kalyanaraman & Sundar, 2006). The three variables were found to fully mediate the more favorable attitude of customized messages over non-customized ones. That is to say, participants perceived customized messages to be more personally relevant, to be more involving, and to solicit more feelings of a sense of community, all of which lead to a more favorable attitude. In addition, a mediated moderation effect was also discovered. The three mediating variables were found to partially mediate the moderating effect of culture on customization on attitude toward the Web site. Put another way, the observed interaction effect between culture and customization on attitude toward the Web site could partly be explained by the influence of perceived relevance, perceived involvement, and psychological sense of community. Chinese participants perceived targeted messages to be more personally relevant, more involving, and creating more feelings of community compared to tailored messages. However, it was exactly the opposite for American participants, who perceived tailored messages to be more personally relevant, more
involving, and creating more feelings of community. It is interesting to note that such an effect was considered mediated moderation, but not moderated mediation. No different mediators for two participant groups were discovered. Instead, all three mediating variables exerted mediation influences on both participant groups.

In addition, the total number of thoughts that participants went through their minds while going over the stimulus Web sites were measured. The only significant result detected was that American participants generated more thoughts than Chinese participants. A possible explanation for such a finding is similar to what has been discussed earlier with message recall. This should not be considered a reflection of the main effect of culture on individuals’ cognitive information processing. Instead, the result was probably due to the linguistic information processing imbalance between the two participant groups.

Finally, several control variables were included in both the pilot study and the main study. One consistent finding in both studies was on message valence. Participants tended to generate a more favorable attitude toward the Web site when they perceived messages on the Web site to be positive compared to when they perceived messages on the Web site to be neutral or negative. However, further analysis with message valence statistically controlled in data analysis did not dethrone any of the major conclusions.

Theoretical Implications
This dissertation looks into a research area that has hardly been examined in the literature and forces us to rethink existing approaches to customization. As Lynch (1982) pointed out, if the background factor of participant interacted with the primary independent variable manipulated in a study, the study results and related theories would face the challenge of lacking external validity. This was found to be the case on customization effects in this dissertation. Based on what was unearthed in both the pilot study and the main study, the hitherto (almost) universal assumption that highly customized (individualized) messages are always good was challenged and needs to be reconsidered.

As reflected in the literature, multiple prior studies have shown that customized messages could generate more positive effects than non-customized messages such as stronger memory (e.g., Beier, 2007; Campbell, et al., 1994; Skinner, et al., 1994) and a more favorable attitude (e.g., Beier; Kalyanaraman & Sundar, 2006; Kreuter, Bull, et al., 1999). The findings from this dissertation confirmed that Web sites with customized messages in general (both tailored messages and targeted messages) elicited more positive responses (memory and attitude) than did those Web sites with non-customized messages (generic messages).

However, this dissertation opens up some new research directions instead of focusing on the comparison between customized and non-customized messages. As described by Kreuter and Skinner (2000), there exists two different customization approaches: tailoring and targeting. Whether the two customization approaches generate similar or different effects remains underexplored in the literature. This dissertation tested
the effects of tailored and targeted messages with both participants from Western and Eastern cultures. These two different customization approaches apparently functioned very differently for people from individualistic and collectivistic cultures.

To reiterate what was pointed out earlier in the literature review, most prior customization studies were built upon an explicit or implicit notion that customization was equal to tailoring. However, based on the study findings in this dissertation, such a conceptualization is problematic. It is true to say that tailoring is customization, but it is not the case vice versa. In fact, customization refers to different concepts for people from different cultures. For people from Western cultures, customization means tailoring. However, for people from Eastern cultures, customization refers to targeting instead.

What really is customization? Briñol and Petty (2006) suggested that the essence of customization was to create a “match” between a message and the message recipient. It was shown in this dissertation that the term “match” contained different meanings for people from different cultures. For people from an individualistic cultural framework, a message “matches” them if it fits into their individual tastes. In this case, the more tailored a message is, the more customized it is. On the other hand, for people from a collectivistic culture tradition, a message “matches” them if it falls into the scope of their group preferences. Thus, in this situation, the more targeted a message is, the more customized it is.

Some researchers might argue that for participants who are from collectivistic cultures, their “individual preferences” or “individual needs” are some messages that fit their “group preferences.” Hence, a “targeted” message for these people could still be
theoretically regarded as a “tailored” message for them. While this may indeed be true, this dissertation does not intend to alter the meanings of the previously established terms such as tailoring and targeting. Rather, the primary purpose here is to add the concept of culture to existing conceptualizations of customization. People from different cultures actually understand and perceive customization in very different ways. A highly individually-tailored message may be perceived to be highly customized by a Westerner. However, such information may not be perceived as highly customized by an Easterner. On the other hand, a group targeted message could possibly be considered highly customized information for an Easterner, but not for a Westerner. At the heart of it all, it depends on how the message matches the message recipient’s view of the self (independent vs. interdependent).

As explained above, an interesting interaction effect between culture and customization was found on participants’ attitudes toward the Web site in the main study. However, such an interaction effect was not discovered on participants’ message memory in the main study, even though it was in the pilot study. A possible explanation for this inconsistency lies in participants’ different capabilities for processing information written in English. More specifically, there were only Chinese participants in the pilot study. Although all the pilot study stimulus materials and questionnaires were presented in English (as it was in the main study), it did not significantly influence study results since participants were all on a similar level of language proficiency. However, it was a different situation for the main study. Two groups of participants were recruited in the main study, and stimulus materials and questionnaires were presented in their first
language (for American participants) and second language (for Chinese participants) respectively. Chinese participants were relatively less efficient in processing the stimulus materials, as may be evident from the results. Thus, it is possible that even though Chinese participants viewed Web sites with targeted messages in the most favorable way, slower reading speed and comprehension of English prevented them from memorizing more content on the Web sites. If the main study stimulus materials and questionnaires were all presented in the participants’ first languages (English and Chinese respectively), it is possible that the similar interaction effect of culture and customization on message recall as found on attitude toward the Web site would be detected.

This dissertation also found that the three variables, perceived relevance, perceived involvement, and psychological sense of community, mediated the interaction effect of customization and culture on attitude toward the Web site. It is important to note that customization effects were mediated by same variables for both people from individualistic and collectivistic cultures. In the typical individualistic cultures, an individual perceives other people’s business as none of his or hers. On the contrary, in the typical collectivistic cultures, an individual tends to care about other people’s business too. Therefore, it is interesting to observe in the main study that participants from collectivistic cultures evaluated targeted messages to be more “personally relevant” than tailored messages even though those messages were not that “personal.” It is also interesting that participants from individualistic cultures considered tailored messages more as a “community” than targeted messages even though they were creating “a community of one person.”
There were no expected mediation effects found with two other proposed variables: novelty of the content and Web site interactivity. A possible explanation for not finding a mediation effect for novelty is the rapid evolution of Web technologies. As the customization feature of the Internet is being adopted more and more, the customization idea permeates a vast number of industries from automobile to grocery shopping (Gilmore & Pine, 2000). It is likely that people view customized messages on the Internet as a standard feature today and do not consider customized Web sites “novel” anymore. The reason why a mediation effect for Web site interactivity was not found could be due to the design of our experimental procedure. Kalyanarman and Sundar (2006) argued that Web users would view customized Web sites to be more interactive than non-customized ones if they had control over the type of information they elected to receive. In this dissertation, the participants did not know that the messages they viewed on the stimulus Web sites were selected based on their responses to the pre-experiment questionnaire. Therefore, it was possible that they were unaware of their “control,” and thus did not perceive customized Web sites as more interactive. In other words, the participants in this dissertation were “passive customization receivers” instead of “active customization seekers.” If the experimental procedure in this dissertation were designed to be an “active” way for participants, study results might be very different. Whether tailored and targeted messages will generate similar effects as found in this dissertation when participants actively seek such information remains a very interesting research question.
Since this dissertation touches upon a new line of research, the exploration of how to manipulate customized messages in an experiment is also very suggestive. No known prior study to our knowledge has examined individuals’ group preferences by using a pre-experiment questionnaire. This “passive” method was shown to be successful, which is different from “active” methods such as on-site customization. According to Ansari and Mela (2003), portal sites such as Netscape and Altavista enable users to self-customize the site. Users of such sites can specify keywords of interest to filter news stories, can provide lists of stocks for which they require regular information, or can manipulate the page views themselves. The method used in this dissertation applied similar rationale, by filtering news content to individuals’ individual or group preferences. However, the method differs with on-site customization since data about participants’ individual and group news preferences were collected in an implicit and unobtrusive way. The advantage of doing this is to reduce participants’ information overload and avoid any confounding effects caused by people’s fatigue. More future studies are needed to utilize such a method and further refine it.

Practical Implications

Besides theoretical implications, this dissertation also contains some practical suggestions. Since tailored messages can generate the most favorable effects for people from individualist cultures and targeted messages can generate the most favorable effects for people from collectivistic cultures, marketers should be careful with their marketing
communication message designs. Whether to make messages tailored or targeted will depend on who the message recipients are, even though the products might be the same. As argued by Kreuter and Wray (2003), although there are some fundamental differences between tailoring and targeting, the rationale for both approaches is similar: the more one knows about message recipients, the better able one will be to make the message relevant to them. Thus, it is important for marketers to be aware of what is “relevant” to people from different cultures. For customers from Western cultures, marketing messages should contain some “individual” elements. On the contrary, for customers from Eastern cultures, messages should contain some “group” elements.

This dissertation was conducted in an online environment. There are some informative suggestions related to online communication. Although the Internet is globally accessible, individuals might be capable of using it in a customized way. There is more and more individualized content appearing online today such as blogs. Such messages could potentially be presented in a tailored or a targeted manner. Web sites primarily for use by people from Western cultures should be constructed in a more tailored way. Take an online shopping Web site for example, if most users of this Web site are from individualistic cultures, the Web site should be identified as a personal shopping site. More specifically, it can greet its users by their names and make shopping recommendation for each user as individualized as possible (e.g., “this is a recommendation specifically for you”). However, a Web site primarily for the use of people from Eastern cultures should be constructed in a more targeted way. Taking the same online shopping Web site for example, if its most users are from collectivistic
cultures, the Web site should be identified as a shopping community for a group of shoppers who share some common interests. More specifically, it can greet its users by their memberships and make shopping recommendations in a group manner (e.g., “this is a recommendation for all the users who shop on this Web site”).

Another practical implication is on Web site language. As illustrated in our main study, language could be a source of concern for online communication. Although English is argued to be the “world language” or “universal language,” it is risky to use it everywhere. Web site content is better presented in a Web user’s first language since language is a central element of culture (Hofstede, 2001). This largely explains why many portals (e.g., Yahoo) and search engines (e.g., Google) create different versions of their Web sites in different languages for users all over the world.

Finally, it is important for Web sites to find an effective way to collect their users’ preference data. Providing users with a survey seems to be a possible option. However, determining how to conduct it in an unobtrusive way and avoid Web users’ information overload and fatigue is a quite challenging task.

Limitations

Although psychological differences between people from individualistic and collectivistic cultures have been heavily documented in the literature (e.g., Hofstede, 1980, 1984, 2001; Markus & Kitayama, 1991, 1994; Nisbett, 2003; Triandis, 1989, 1995),
a big challenge to cross-cultural studies still remains: Whether participants in the studies differ in their “culture system?”

In cross-cultural research, three major approaches have been used: (1) applying Hofstede’s (1980) framework; (2) a direct assessment of individualism and collectivism; (3) priming culture frames (Oyserman, et al., 2002). In this dissertation, the first two approaches were adopted. However, there are certain shortcomings involved with these approaches.

Hofstede (1980) assumed that individualism and collectivism formed a single continuum, with low individualism isomorphic with high collectivism. Accordingly, the U.S. and China were selected to represent individualistic and collectivistic cultures respectively in this dissertation based on their scores on a numerical measure (Hofstede, 1993). However, such an assumption might be problematic since collectivism and individualism were later discovered to be two distinctive constructs (Oyserman, et al., 2002).

In addition, the second approach was also adopted by including the independent and interdependent self-construal measures developed by Singelis (1994) in the pre-experiment questionnaire, aiming to ensure that Chinese students studying at the University of North Carolina at Chapel Hill carried similar collectivistic cultural values as people living in China. However, as argued by Triandis (2001), the measurement of individualism and collectivism has been extremely difficult and is still unsatisfactory. More than 20 methods have been used in the literature. Although the methods are correlated, they often define separate factors in factor analyses (Triandis). Accordingly, it
cannot be guaranteed how well the constructs of individualism and collectivism were measured with some statement ratings (e.g., Singelis), even though statistically significant differences between the two participant groups on these statement measures were discovered.

Another potential limitation of this dissertation lies in the target message manipulation. As argued by Triandis (1989), individuals usually have multiple group memberships. The more industrialized a society is, the more social groups people belong to. In most cases, these groups are not mutually exclusive. In other words, it is possible that a group does not have a clear identity such as in its news preferences. For example, it may be easy to say that most UNC students are interested in UNC Men’s Basketball team. However, it may be harder to tell what most UNC freshmen are interested in. Apparently, members in these two groups overlap. So do their news preferences. If UNC Men’s Basketball team is identified as a representative example of news preferences for both UNC freshmen and all UNC students, which might be correct, it will be very confusing for the message recipients to know which group this message is intended for.

A third challenge is to the conceptualization of a generic message in this dissertation. With the manipulation, a generic message was within the least interested news topics of participants. That is to say, “a message for nobody” was selected to represent a generic message. However, is it conceptually the same to “a message for everybody,” which is another possible definition of generic communication? Both conceptually and practically, these two types of messages might be distinctive. However, this dissertation did not differentiate between the two conceptualizations.
It should also be noted that there exists a difference between “perceived customization” and “actual customization.” In this dissertation, all customization stimulus materials were created according to participants’ self perceptions. Thus, “perceived customization” was manipulated instead of “actual customization.” For example, one participant in the pilot study claimed that the movie “Saving Private Ryan” was his particular interest. A news story about “Saving Private Ryan” was then chosen to be his tailored message. However, the movie was popular and apparently had more than one crazy fan. On the practical level, it could not be considered “actual customization.” This dissertation did not explain whether “perceived customization” and “actual customization” were two separate constructs and would generate different effects. Some researchers might argue that “actual customization” did not exist since it was extremely hard to find a message that was particularly interested by “only one” individual. Such arguments are very reasonable since only unique identifiers such as names could practically have an audience of only one. However, whether “perceived customization” and “actual customization” are two different constructs or one deserves further theoretical examination.

Future Research

This dissertation has provided a preliminary test of the impact of culture on customization. Interesting main effects and interaction effects between culture and customization on some cognitive and affective measures were detected. Based on these
findings, several directions appear promising for future research. In addition to those pointed out earlier, several other future research possibilities are discussed as follows.

First, the research findings in this dissertation need to be replicated with some other study samples. As discussed earlier, a big challenge to the internal validity of cross-cultural studies is to ensure differences between participant groups on their “culture system.” There is no universally good method to solve this problem. A better approach is to adopt multiple operationalizations and multiple methods on the same construct. Hence, it is helpful to try to replicate the current study results with another Chinese participant sample living in China. It is also helpful to replicate the study with some participants from other countries that are assumed to carry similar cultures (such as Korea to represent collectivistic cultures and Germany to represent individualistic cultures). Moreover, the priming tactics recommended by Oyserman and colleagues (2002) could be applied in future research. Cultural frameworks can be potentially primed and become temporarily salient. For example, an image of Mickey Mouse or an eagle may be able to prime people with Western cultures temporarily, while an image of an ancient temple or a panda may make Eastern cultures salient tentatively.

This dissertation used general news stories in the stimulus manipulation. Future research can manipulate customization in other information categories. Message category or message importance may be interesting variables to test. More specifically, individuals may perceive information in certain categories to be more important and other categories to be less important. For more important information, stronger customization effects
might be observed. For less important information, customization effects might be marginalized.

Moreover, similar study designs may be applied to test customization effects of commercial messages. Commercial messages have long been considered a type of targeted message since products are usually designed for a specific customer group. However, with the introduction of customized commercial products, customized commercial messages become possible. Whether people perceive customized commercial messages in a similar vein as to customized general messages remains an interesting research question. Whether people from different cultures perceive customized commercial messages in different ways is also worth examining.

Another possible future research direction is to test the effects of “active media users” versus “passive media users.” As illustrated in the study design of this dissertation, participants did not know the study purpose beforehand and none of them guessed it correctly. Thus, they could be considered passive recipients of some customized (or non-customized) messages. This is ubiquitous in today’s Internet environment. Web users’ browsing data are usually collected in an unobtrusive way by Web sites for later customized Web page designs. However, highly customized messages which touch on personal information such as age and gender are likely to raise some privacy concerns. On the other hand, some Web sites ask users to construct the sites by themselves by responding to a series of choice questions. In this case, the privacy concern becomes minimal, but participants might become fatigued with information overload.
Based on what was observed in this dissertation, there was a linguistic information processing issue. Although English is considered to be a universal language, some researchers might argue that English is a sort of symbol of individualistic cultures. Thus, future research is needed to design messages in different languages for people from different cultures to avoid this confounding effect.

Finally, across the pilot study and the main study, robust effects of perceived message valence were found. To further test whether message valence interacts with customization, future research needs to manipulate a tailored message (or a targeted message) to be positive or negative, to see whether different effects occur.

To sum up, by including the culture factor in the conceptualization of customization, a whole new research area is waiting to be explored, with many promising directions.
Table 1

*Summary of Participant Characteristics for Both Pilot Study and Main Study*

<table>
<thead>
<tr>
<th></th>
<th>Chinese Participants in Pilot study</th>
<th>Chinese Participants in Main Study</th>
<th>American Participants in Main Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Number</td>
<td>30</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>Age (Mean)</td>
<td>27.87</td>
<td>27.73</td>
<td>24.52</td>
</tr>
<tr>
<td>Gender</td>
<td>53.3% Male</td>
<td>65.0% Male</td>
<td>31.7% Male</td>
</tr>
<tr>
<td>Web Usage (Hours/day)</td>
<td>2.41</td>
<td>2.92</td>
<td>2.52</td>
</tr>
<tr>
<td>Online News Reading (Hours/day)</td>
<td>.99</td>
<td>1.29</td>
<td>.89</td>
</tr>
<tr>
<td>Newspaper Reading (Hours/day)</td>
<td>.23</td>
<td>.36</td>
<td>.50</td>
</tr>
<tr>
<td>Television Watching (Hours/day)</td>
<td>.46</td>
<td>.36</td>
<td>.47</td>
</tr>
<tr>
<td>Radio Listening (Hours/day)</td>
<td>.18</td>
<td>.21</td>
<td>.21</td>
</tr>
<tr>
<td>Customized Web Sites Usage</td>
<td>70% No</td>
<td>68.3% No</td>
<td>70% No</td>
</tr>
<tr>
<td>Stay in U.S. (Mean)</td>
<td>3.39</td>
<td>3.64</td>
<td>N/A</td>
</tr>
<tr>
<td>Visit China (Mean)</td>
<td>1.80</td>
<td>1.96</td>
<td>N/A</td>
</tr>
<tr>
<td>Being Visited (Mean)</td>
<td>1.30</td>
<td>1.29</td>
<td>N/A</td>
</tr>
<tr>
<td>Communication with China (Mean)</td>
<td>8.03</td>
<td>8.33</td>
<td>N/A</td>
</tr>
<tr>
<td>Pride of Being a Chinese (Mean)</td>
<td>8.40</td>
<td>8.43</td>
<td>N/A</td>
</tr>
</tbody>
</table>
Table 2

*Summary of Means and t Values for Pilot Study Manipulation Checks*

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Tailored Messages</th>
<th>Targeted Messages</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Tailoring” Index</td>
<td>6.27</td>
<td>4.00</td>
<td>3.25***</td>
</tr>
<tr>
<td>“Targeting” Index</td>
<td>3.37</td>
<td>5.17</td>
<td>2.82**</td>
</tr>
</tbody>
</table>

*p < .05. **p < .01. ***p < .001
Table 3

Summary of Regression Analysis for Variables (Including Collectivism) Predicting Recall (Pilot Study)

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>S.E.</th>
<th>β</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>7.035</td>
<td>4.865</td>
<td>1.446</td>
<td>.160</td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>17.212</td>
<td>8.711</td>
<td>2.613</td>
<td>1.976</td>
<td>.059</td>
</tr>
<tr>
<td>C</td>
<td>.602</td>
<td>.780</td>
<td>.174</td>
<td>.771</td>
<td>.447</td>
</tr>
<tr>
<td>M x C</td>
<td>-2.805</td>
<td>1.340</td>
<td>-2.843</td>
<td>-2.093</td>
<td>.046*</td>
</tr>
</tbody>
</table>

Note. M = Message Type (Dummy Codes). C = Collectivism. M x C = Message Type (Dummy Codes) x Collectivism

*p < .05. **p < .01. ***p < .001
Table 4

Summary of Regression Analysis for Variables (Including Individualism) Predicting Recall (Pilot Study)

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>S.E.</th>
<th>β</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>8.646</td>
<td>4.881</td>
<td>1.771</td>
<td>.088</td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>-2.346</td>
<td>7.383</td>
<td>-.356</td>
<td>-.318</td>
<td>.753</td>
</tr>
<tr>
<td>I</td>
<td>.328</td>
<td>.753</td>
<td>.111</td>
<td>.435</td>
<td>.667</td>
</tr>
<tr>
<td>M x I</td>
<td>.211</td>
<td>1.141</td>
<td>-.209</td>
<td>.185</td>
<td>.855</td>
</tr>
</tbody>
</table>

Note. M = Message Type (Dummy Codes). I = Individualism. M x I = Message Type (Dummy Codes) x Individualism.

*p < .05. **p < .01. ***p < .001
Table 5

Summary of Regression Analysis for Variables (Including Collectivism) Predicting Attitude toward the Web Site (Pilot Study)

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>S.E.</th>
<th>β</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>.605</td>
<td>1.909</td>
<td>.317</td>
<td>.754</td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>1.470</td>
<td>3.418</td>
<td>.526</td>
<td>.430</td>
<td>.671</td>
</tr>
<tr>
<td>C</td>
<td>.732</td>
<td>.306</td>
<td>.499</td>
<td>2.392</td>
<td>.024*</td>
</tr>
<tr>
<td>M x C</td>
<td>-.148</td>
<td>.526</td>
<td>-.355</td>
<td>-.282</td>
<td>.780</td>
</tr>
</tbody>
</table>

Note. M = Message Type (Dummy Codes). C = Collectivism. M x C = Message Type (Dummy Codes) x Collectivism

*p < .05. **p < .01. ***p < .001
Table 6

*Summary of Regression Analysis for Variables (Including Individualism) Predicting Attitude toward the Web Site (Pilot Study)*

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>S.E.</th>
<th>β</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>2.267</td>
<td>1.945</td>
<td>1.166</td>
<td>.254</td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>3.392</td>
<td>2.942</td>
<td>1.214</td>
<td>1.153</td>
<td>.259</td>
</tr>
<tr>
<td>I</td>
<td>.445</td>
<td>.300</td>
<td>.356</td>
<td>1.484</td>
<td>.150</td>
</tr>
<tr>
<td>M x I</td>
<td>-.404</td>
<td>.455</td>
<td>-.947</td>
<td>-.889</td>
<td>.382</td>
</tr>
</tbody>
</table>

Note. M = Message Type (Dummy Codes). I = Individualism. M x I = Message Type (Dummy Codes) x Individualism.

*p < .05. **p < .01. ***p < .001
Table 7

*Summary of Participants’ News Interests for Both Pilot Study and Main Study*

<table>
<thead>
<tr>
<th>News Category</th>
<th>Pilot Study</th>
<th>Main Study</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Individual</td>
<td>Group Interest</td>
</tr>
<tr>
<td></td>
<td>Interest (Mean)</td>
<td>(Mean)</td>
</tr>
<tr>
<td>Professional Sports</td>
<td>5.47</td>
<td>4.17</td>
</tr>
<tr>
<td>College Sports</td>
<td>5.60</td>
<td>4.50</td>
</tr>
<tr>
<td>Movies</td>
<td>7.03</td>
<td>5.33</td>
</tr>
<tr>
<td>Music</td>
<td>6.43</td>
<td>4.40</td>
</tr>
<tr>
<td>Travel</td>
<td>7.20</td>
<td>6.13</td>
</tr>
<tr>
<td>Politics</td>
<td>4.70</td>
<td>4.83</td>
</tr>
<tr>
<td>Business and Finance</td>
<td>5.43</td>
<td>4.40</td>
</tr>
<tr>
<td>Technology</td>
<td>6.47</td>
<td>5.27</td>
</tr>
<tr>
<td>Health</td>
<td>6.47</td>
<td>5.60</td>
</tr>
<tr>
<td>News Happening in Where You Reside</td>
<td>6.47</td>
<td>6.27</td>
</tr>
<tr>
<td>News Happening in China/U.S.</td>
<td>6.77</td>
<td>6.03</td>
</tr>
<tr>
<td>News Happening in Countries Other Than China and U.S.</td>
<td>4.63</td>
<td>3.87</td>
</tr>
</tbody>
</table>
Table 8

*Summary of Means and F Values for Main Study Manipulation Checks*

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Tailored Messages</th>
<th>Targeted Messages</th>
<th>Generic Messages</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Tailoring” Index</td>
<td>5.84</td>
<td>4.68</td>
<td>2.20</td>
<td>43.20***</td>
</tr>
<tr>
<td>“Targeting” Index</td>
<td>2.69</td>
<td>6.93</td>
<td>2.26</td>
<td>108.71***</td>
</tr>
</tbody>
</table>

*p < .05. **p < .01. ***p < .001
Table 9

*Analysis of Variance for Recall (Main Study)*

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
<th>η²</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>241.342(a)</td>
<td>5</td>
<td>48.268</td>
<td>4.528</td>
<td>.001***</td>
<td>.166</td>
</tr>
<tr>
<td>Intercept</td>
<td>12464.408</td>
<td>1</td>
<td>12464.408</td>
<td>1169.259</td>
<td>.000***</td>
<td>.911</td>
</tr>
<tr>
<td>Culture</td>
<td>102.675</td>
<td>1</td>
<td>102.675</td>
<td>9.632</td>
<td>.002**</td>
<td>.078</td>
</tr>
<tr>
<td>Message Type</td>
<td>128.267</td>
<td>2</td>
<td>64.133</td>
<td>6.016</td>
<td>.003**</td>
<td>.095</td>
</tr>
<tr>
<td>Culture x</td>
<td>10.400</td>
<td>2</td>
<td>5.200</td>
<td>.488</td>
<td>.615</td>
<td>.008</td>
</tr>
<tr>
<td>Error</td>
<td>1215.250</td>
<td>114</td>
<td>10.660</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>13921.000</td>
<td>120</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>1456.592</td>
<td>119</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

Analysis of Variance for Attitude toward the Web Site (Main Study)

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
<th>( \eta^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>67.844(a)</td>
<td>5</td>
<td>13.569</td>
<td>7.349</td>
<td>.000***</td>
<td>.244</td>
</tr>
<tr>
<td>Intercept</td>
<td>3442.486</td>
<td>1</td>
<td>3442.486</td>
<td>1864.515</td>
<td>.000***</td>
<td>.942</td>
</tr>
<tr>
<td>Culture</td>
<td>1.200</td>
<td>1</td>
<td>1.200</td>
<td>.650</td>
<td>.422</td>
<td>.006</td>
</tr>
<tr>
<td>Message Type</td>
<td>44.303</td>
<td>2</td>
<td>22.152</td>
<td>11.998</td>
<td>.000***</td>
<td>.174</td>
</tr>
<tr>
<td>Culture x</td>
<td>22.340</td>
<td>2</td>
<td>11.170</td>
<td>6.050</td>
<td>.003**</td>
<td>.096</td>
</tr>
<tr>
<td>Error</td>
<td>210.480</td>
<td>114</td>
<td>1.846</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3720.810</td>
<td>120</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>278.324</td>
<td>119</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05. **p < .01. ***p < .001
Table 11

*Summary of Regression Analysis for Variables Predicting Attitude toward the Web Site (Main Study)*

<table>
<thead>
<tr>
<th></th>
<th>B</th>
<th>S.E.</th>
<th>β</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>5.356</td>
<td>.124</td>
<td></td>
<td>43.180</td>
<td>.000***</td>
</tr>
<tr>
<td>A</td>
<td>-.100</td>
<td>.124</td>
<td>-.066</td>
<td>-.806</td>
<td>.422</td>
</tr>
<tr>
<td>T</td>
<td>.035</td>
<td>.152</td>
<td>.019</td>
<td>.232</td>
<td>.817</td>
</tr>
<tr>
<td>G</td>
<td>-.858</td>
<td>.175</td>
<td>-.399</td>
<td>-4.893</td>
<td>.000***</td>
</tr>
<tr>
<td>A x T</td>
<td>-.528</td>
<td>.152</td>
<td>-.283</td>
<td>-3.478</td>
<td>.001***</td>
</tr>
<tr>
<td>A x G</td>
<td>-.007</td>
<td>.175</td>
<td>-.003</td>
<td>-.039</td>
<td>.969</td>
</tr>
</tbody>
</table>


*p < .05. **p < .01. ***p < .001
Table 12

Analysis of Variance for Total Number of Thoughts (Main Study)

<table>
<thead>
<tr>
<th>Source</th>
<th>Type III Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
<th>$\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>113.267(a)</td>
<td>5</td>
<td>22.653</td>
<td>2.034</td>
<td>.079</td>
<td>.082</td>
</tr>
<tr>
<td>Intercept</td>
<td>7363.333</td>
<td>1</td>
<td>7363.333</td>
<td>661.273</td>
<td>.000</td>
<td>.853</td>
</tr>
<tr>
<td>Culture</td>
<td>97.200</td>
<td>1</td>
<td>97.200</td>
<td>8.729</td>
<td>.004**</td>
<td>.071</td>
</tr>
<tr>
<td>Message Type</td>
<td>4.817</td>
<td>2</td>
<td>2.408</td>
<td>.216</td>
<td>.806</td>
<td>.004</td>
</tr>
<tr>
<td>Culture x</td>
<td>11.250</td>
<td>2</td>
<td>5.625</td>
<td>.505</td>
<td>.605</td>
<td>.009</td>
</tr>
<tr>
<td>Error</td>
<td>1269.400</td>
<td>114</td>
<td>11.135</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>8746.000</td>
<td>120</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>1382.667</td>
<td>119</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05. **p < .01. ***p < .001
**Table 13**

*Summary of Hypotheses and Research Question and Relevant Findings*

<table>
<thead>
<tr>
<th>Hypotheses/Research Question</th>
<th>Pilot Study Findings</th>
<th>Main Study Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>H1:</strong> An interaction effect between culture and message type on recall. American participants generate highest recall for tailored messages, and Chinese participants generate highest recall for targeted messages.</td>
<td>Expected interaction effect found. Hypothesis fully supported.</td>
<td>Main effect of culture and message type on recall found. Hypothesis partially supported.</td>
</tr>
<tr>
<td><strong>H2:</strong> An interaction effect between culture and message type on attitude toward the Web site. American participants generate most favorable attitude toward the Web site with tailored messages, and Chinese participants generate most favorable attitude toward the Web site with targeted messages.</td>
<td>Main effect of collectivism on attitude toward the Web site found. Hypothesis partially supported.</td>
<td>Expected interaction effect found. Hypothesis fully supported.</td>
</tr>
<tr>
<td><strong>H3:</strong> The interaction effect of culture and message type on attitude toward the Web site is mediated by perceived relevance, perceived involvement, novelty, Web site interactivity, and psychological sense of community.</td>
<td>Mediation analysis lack of power due to limited sample size.</td>
<td>Mediation effect of perceived relevance, involvement, and psychological sense of community found. Hypothesis partially supported.</td>
</tr>
<tr>
<td><strong>RQ:</strong> How does the total number of thoughts influence participants’ memory and attitude for customized and non-customized messages?</td>
<td>Total number of thoughts positively correlated with recall.</td>
<td>Total number of thoughts positively correlated with recall. American participants generated more thoughts than Chinese participants.</td>
</tr>
</tbody>
</table>

**Not hypothesized Control Variables**

<table>
<thead>
<tr>
<th></th>
<th>Gender</th>
<th>Age</th>
<th>Media Usage</th>
<th>Message Familiarity</th>
<th>Message Credibility</th>
<th>Message Valence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>None.</td>
<td>None.</td>
<td>None.</td>
<td>None.</td>
<td>Positively correlated with attitude toward the Web site.</td>
<td>Positive messages generated more favorable attitude toward the Web site than neutral and negative messages.</td>
</tr>
<tr>
<td></td>
<td>Female participants generated higher recall than male participants.</td>
<td>None.</td>
<td>Online news reading negatively correlated with recall.</td>
<td>None.</td>
<td>Positively correlated with attitude toward the Web Site.</td>
<td>Positive messages generated higher recall and more favorable attitude toward the Web site than neutral and negative messages.</td>
</tr>
</tbody>
</table>
Hello, Lei Zhang, thank you very much for your participation in this experimental study. You will be asked to read a news story created specifically for you. We want you to focus on the news story in the experiment. Thus, all the external links on the Web page have been disabled.

Please be seated quietly and listen to the instructions carefully. Please do not click the start button below until you are told to do so.

Start
Figure 2. News Story Page of Sample Web Site with Tailored Messages (Pilot Study).
Figure 3. End Page of All Web Sites Used in Both Pilot Study and Main Study.

Now you have finished reading the news story. Please still be seated and raise your hand. The experimenter will come to you and give you a questionnaire to answer. Please read the questionnaire carefully and answer the questions to your best knowledge. Thank you.
Figure 4. Front Page of Sample Web Site with Targeted Messages (Pilot Study).

Hello, FACSS member, thank you very much for your participation in this experimental study. You will be asked to read a news story created for all FACSS members. We want you to focus on the news story in the experiment. Thus, all the external links on the Web page have been disabled.

Please be seated quietly and listen to the instructions carefully. Please do not click the start button below until you are told to do so.

Start
Welcome, FACSS member

Today's Top News: Sports > Basketball > Yao Ming

Injury Doesn’t Diminish Yao Ming’s Ability to Sell Products

When Houston Rockets center Yao Ming was lost for the NBA season, the headline in China’s state-run English-language newspaper read “Olympic Dream Could Fade with Yao’s Foot Injury.”

So far, doctors don’t quite see it that way. Neither do advertisers.

The sky-high billboards that dot Beijing’s skyline with Yao’s likeness haven’t gone anywhere. Despite the stress fracture in his left foot, an injury that will cause him to miss the rest of the NBA season, Yao’s endorsement contracts remain very much intact leading up to the Beijing Games.

In fact, the injury may have generated even more of a buzz in a country that boasts an estimated 300 million basketball fans, almost all viewing the seven-foot-six player as their No. 1 national sports star.

“I think media scrutiny and fan interest regarding Yao’s recovery will keep the Olympic buzz growing strong,” said Chris Renner, the head of Helios Partners China, a sports marketing consulting company based in Beijing. “The saga of ‘will he or won’t he’ play in the Olympics will be drummed into the heads of a billion people.”

Yao makes about US$25 million a year in endorsements through a carefully chosen set of sponsors that include Reebok, China Unicom, Coke, Visa and others, says Terry Rhoads, a former Nike executive who now runs Zou Marketing, a sports marketing company in Shanghai.

Some of those sponsors, like Reebok, may suffer as Yao misses the end of the NBA season, robbing the company of one of its best platforms to advertise. NBA games are televised on more than 50 Chinese networks, and Yao is that company’s biggest basketball pitchman.
Figure 6. Message Type x Collectivism Interaction Effect on Recall (Pilot Study).
Figure 7. Main Effect of Collectivism on Attitude toward the Web Site (Pilot Study).
Hello, Jessica Stringer, thank you very much for your participation in this experimental study. You will be asked to read a news story created specifically for you. We want you to focus on the news story in the experiment. Thus, all the external links on the Web page have been disabled.

Please be seated quietly and listen to the instructions carefully. Please do not click the start button below until you are told to do so.

Start
Figure 9. News Story Page of Sample Web Site with Tailored Messages (Main Study).

Welcome, Jessica Stringer

Today's Top News: Entertainment > Movie Stars > James McAvoy

Sex with Angelina Jolie was a nightmare, reveals James McAvoy

SCOTS actor James McAvoy has admitted he was terrified filming sex scenes with Angelina Jolie for his latest movie. One of Hollywood's hottest young stars, he lines up opposite Angelina in Wanted, a film based on Mark Miller's explosive novels.

He plays 25-year-old account worker Wesley Gibson, who is transformed from a loser, cheated on by his girlfriend and bullied by his boss, into a dark superhero.

But despite having starred opposite Keira Knightley in Atonement and now Angelina, James says he doesn't enjoy the sex scenes, however convincing they may seem on the big screen.

He said: 'It's sweaty and uncomfortable.

'My paranoia is the girl I'm doing the sex scene with will think I'm getting off on her.

'I have nightmares about that the night before a sex scene. There's no chance of getting any kind of stimulus because you're so nervous and there's all these people watching you.

'It's daunting. They're considered to be the most beautiful people in the world, and I'm clearly not. I don't think I've been hit by the ugly stick, but I'm not exactly a matinee idol.'

Having got up close and personal with Keira, he is quick to shoot down rumors she has an eating disorder.
Hello, UNC student community member, thank you very much for your participation in this experimental study. You will be asked to read a news story created for all UNC students. We want you to focus on the news story in the experiment. Thus, all the external links on the Web page have been disabled.

Please be seated quietly and listen to the instructions carefully. Please do not click the start button below until you are told to do so.

Start
Figure 11. News Story Page of Sample Web Site with Targeted Messages (Main Study).

Welcome, UNC student community member

Today's Top News: Sports > College Basketball > UNC

UNC's Big 3 make the right moves

For all the Carolina fans agonizing about what the Big Three from UNC basketball are going to do about returning to school or turning pro, you are halfway home.

By now most people thought they would know one way or another what Tywon Lawson, Wayne Ellington and Tyler Hansbrough would be doing next year. Today is the deadline for players to declare whether they will forgo their collegiate eligibility or remain in school.

There is one catch. As long as a player doesn't hire an agent, he can choose to work out for National Basketball Association teams, see how that goes and make a decision by 5 p.m. on June 16 whether to return to school or remain in contention to be drafted.

Lawson and Ellington chose to take that route. They will test their worth in NBA workouts but retain the option of returning to UNC.

The news that will buoy Carolina fans is Hansbrough, the national player of the year, decided to stay in school, earn his degree and play his senior year. Everyone will get the pleasure of watching this extraordinary youngster finish his college career.

“I am returning to school for my senior year as a Tar Heel and will not be applying for the NBA Draft,” Hansbrough said in a press release from the school on Friday. “I love playing at North Carolina and still have big dreams to realize here, including graduating. Of course I look forward to playing in the NBA some day but not next year. I love my collegiate experience and want to finish my four years here, then move on to my next dream of playing in the NBA.”

No Carolina player has ever declared and used the loophole of not hiring an agent and later returning to school. Lawson and Ellington plan to see what NBA general managers have to say after workouts, but keep the avenue back to Carolina open.
Figure 12. Front Page of the Web Site with Generic Messages (Main Study).

Hello, Web user, thank you very much for your participation in this experimental study. You will be asked to read a news story created for the general public. We want you to focus on the news story in the experiment. Thus, all the external links on the Web page have been disabled.

Please be seated quietly and listen to the instructions carefully. Please do not click the start button below until you are told to do so.

Start
Figure 13. News Story Page of the Web Site with Generic Messages (Main Study).

Welcome, Web User

Today’s Top News: International > Latin America > Energy

Argentina seeks to avoid energy crisis, as Brazil refuses to share Bolivian natural gas

Brazil has declined to cede any of its imports of Bolivian natural gas to Argentina, which is struggling to find more energy sources to avoid supply shortages that could derail its fast-growing economy.

Argentina and Brazil are facing the possibility of short-term energy crises from a lack of natural gas, which is needed to fuel industries and generate electricity for residents. Bolivia is sitting in the middle, with the region’s largest gas reserves.

For Cristina Fernández de Kirchner, the new president of Argentina, finding solutions to the energy problems that the administration of her husband, Néstor Kirchner, helped create is among her biggest early challenges. The country is looking for any additional supply it can find to avoid a politically devastating energy shortage.

Bolivia, which has seen a rise in domestic energy demand, has struggled to meet its contractual obligations to supply natural gas to both Brazil and Argentina. Petrobras, the Brazilian national energy company, which has a much larger contract with Bolivia, has been unwilling to divert any supplies to Argentina because of concerns here that Brazil could face its own energy shortfalls.

That changed little over the weekend as leaders from the three countries met in Buenos Aires to discuss energy issues, with Argentina walking away with no pledges for more natural gas supply. The result is that both Argentina and Chile – which Argentina has cut off from natural gas supplies the past few years – will face severe risks of energy shortfalls this coming winter.
Figure 14. Main Effect of Message Type on Recall (Main Study).
Figure 15. Message Type X Culture Interaction Effect on Attitude toward the Web Site (Main Study).
Figure 16. Main Effect of Message Type on Attitude toward the Web Site (Main Study).
Figure 17. Mediation Effects of Perceived Relevance, Perceived Involvement, and Psychological Sense of Community on Attitude toward the Web Site.
Appendix A:

Pilot Study Pre-Experiment Questionnaire
Thank you very much for taking part in this news preference survey. Please read the instruction of each part carefully and then provide your response.

Part A

1. Please list three social groups that you think you belong to (it could be any organization or association, e.g., a student community, an interest group, a sports club, etc.) in order of their importance to you.

   The first group ______________________________
   The second group ______________________________
   The third group ______________________________

2. Please circle the number that best describes how important it is to you to be a part of the above three groups with “1” representing “Not at all important” and “9” representing “Extremely important.”

<table>
<thead>
<tr>
<th>Groups</th>
<th>Not at all important</th>
<th>Extremely important</th>
</tr>
</thead>
<tbody>
<tr>
<td>The first group</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>The second group</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>The third group</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
</tbody>
</table>

3. What are the common characteristics shared by all group members including you? Please list one common characteristic for each of the above three groups.

   The first group ____________________________________________
   The second group ____________________________________________
   The third group ____________________________________________

4. What are the characteristics that you do NOT share with other group members and make you different? Please list one of your unique characteristics for each group.

   The first group ____________________________________________
   The second group ____________________________________________
The third group ____________________________________________

Part B

1. On a 1-9 scale, with “1” representing “Not at all interested” and “9” representing “Extremely interested,” please circle the number that best represents YOUR level of interest in the following news topics:

<table>
<thead>
<tr>
<th>News Topics</th>
<th>Not at all interested</th>
<th>Extremely interested</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Sports</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>College Sports</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Movies</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Music</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Travel</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Politics</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Business &amp; Finance</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Technology</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Health</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>News happening in where you reside (e.g., Chapel Hill)</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>News happening in China</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>News happening in countries other than China and U.S.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
</tbody>
</table>

2. What/who are your top three favorite professional sports teams or players? (Please list them in order of your preference)
   1) ______________________
   2) ______________________
   3) ______________________

3. What/who are your top three favorite college sports teams or players? (Please list them in order of your preference)
   1) ______________________
4. What/who are your top three favorite movies or movie stars? (Please list them in order of your preference)
   1) ______________________
   2) ______________________
   3) ______________________

5. What/who are your top three favorite singers or musical groups? (Please list them in order of your preference)
   1) ______________________
   2) ______________________
   3) ______________________

6. What are your top three favorite travel destinations? (Please list them in order of your preference)
   1) ______________________
   2) ______________________
   3) ______________________

7. What/who are your top three favorite political events or political figures? (Please list them in order of your preference)
   1) ______________________
   2) ______________________
   3) ______________________

8. What are your top three favorite topics regarding business and finance? (Please list them in order of your preference)
   1) ______________________
   2) ______________________
   3) ______________________
9. What are your top three favorite topics regarding technology? (Please list them in order of your preference)
   1) ______________________
   2) ______________________
   3) ______________________

10. What are your top three favorite topics regarding health? (Please list them in order of your preference)
    1) ______________________
    2) ______________________
    3) ______________________

11. What are your top three favorite topics regarding news happening in where you reside (e.g., Chapel Hill)? (Please list them in order of your preference)
    1) ______________________
    2) ______________________
    3) ______________________

12. What are your top three favorite topics regarding news happening in China? (Please list them in order of your preference)
    1) ______________________
    2) ______________________
    3) ______________________

13. What are your top three favorite topics regarding news happening in countries other than China and U.S.? (Please list them in order of your preference)
    1) ______________________
    2) ______________________
    3) ______________________
14. Among all the news topics that you have listed above from Question 2 to Question 13 (including professional sports, college sports, movies, music, travel, politics, business and finance, technology, health, news happening in where you reside, news happening in China, news happening in countries other than China and U.S.), which topics do you think best represent the unique interest of you but NOT of other people in your group? Please list three of them in order.

1) ______________________
2) ______________________
3) ______________________

Part C
1. You have listed some social groups that you belong to in Part A. Now, on a 1-9 scale, with “1” representing “Not at all” and “9” representing “Extremely often,” please circle the number that best represents the level on how often you talk about with other group members on the following news topics:

<table>
<thead>
<tr>
<th>News Topics</th>
<th>Not at all</th>
<th>Extremely often</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Sports</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>College Sports</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Movies</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Music</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Travel</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Politics</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Business &amp; Finance</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Technology</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Health</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>News happening in where you reside (e.g., Chapel Hill)</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>News happening in China</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>News happening in countries other than China and U.S.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
</tbody>
</table>
2. What/who are your top three favorite professional sports teams or players that you talk about with other group members? (Please list them in order of your preference)
   1) ______________________
   2) ______________________
   3) ______________________

3. What/who are your top three favorite college sports teams or players that you talk about with other group members? (Please list them in order of your preference)
   1) ______________________
   2) ______________________
   3) ______________________

4. What/who are your top three favorite movies or movie stars that you talk about with other group members? (Please list them in order of your preference)
   1) ______________________
   2) ______________________
   3) ______________________

5. What/who are your top three favorite singers or musical groups that you talk about with other group members? (Please list them in order of your preference)
   1) ______________________
   2) ______________________
   3) ______________________

6. What are your top three favorite travel destinations that you talk about with other group members? (Please list them in order of your preference)
   1) ______________________
   2) ______________________
   3) ______________________
7. What/who are the top three favorite political events or political figures that you talk about with other group members? (Please list them in order of your preference)
   1) ______________________
   2) ______________________
   3) ______________________

8. What/who are your top three favorite companies or businessmen that you talk about with other group members? (Please list them in order of your preference)
   1) ______________________
   2) ______________________
   3) ______________________

9. What are the top three favorite topics regarding technology that you talk about with other group members? (Please list them in order of your preference)
   1) ______________________
   2) ______________________
   3) ______________________

10. What are the top three favorite topics regarding health that you talk about with other group members? (Please list them in order of your preference)
    1) ______________________
    2) ______________________
    3) ______________________

11. What are the top three favorite topics regarding news happening in where you reside (e.g., Chapel Hill) that you talk about with other group members? (Please list them in order of your preference)
    1) ______________________
    2) ______________________
    3) ______________________
12. What are the top three favorite topics regarding news happening in China that you talk about with other group members? (Please list them in order of your preference)
   1) ______________________
   2) ______________________
   3) ______________________

13. What are the top three favorite topics regarding news happening in countries other than China and U.S. that you talk about with other group members? (Please list them in order of your preference)
   1) ______________________
   2) ______________________
   3) ______________________

14. Among all the news topics that you have listed above from Question 2 to Question 13 (including professional sports, college sports, movies, music, travel, politics, business and finance, technology, health, news happening in where you reside, news happening in China, news happening in countries other than China and U.S.), which topics do you think best represent the common interest of ALL group members? Please list three of them in order.
   1) ______________________
   2) ______________________
   3) ______________________
**Part D**

Please circle the number that best represents your agreement with the following statements on a 1-9 scale, where “1” means you “Strongly Disagree” and “9” means you “Strongly Agree.”

<p>| | | | | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I have respect for the authority figures with whom I interact.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>2. It is important for me to maintain harmony within my group.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>3. My happiness depends on the happiness of those around me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>4. I would offer my seat in a bus to my professor.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>5. I respect people who are modest about themselves.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>6. I will sacrifice my self-interest for the benefit of the group I am in.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>7. I often have the feeling that my relationships with others are more important than my own accomplishments.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>8. I should take into consideration my parents’ advice when making education/career plans.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>9. It is important to me to respect decisions made by the group.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>10. I will stay in a group if they need me, even when I’m not happy with the group.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>11. If my brother or sister fails, I feel responsible.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>12. Even when I strongly disagree with group members, I avoid an argument.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Strongly Disagree</td>
<td>Strongly Agree</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. I’d rather say “No” directly, than risk being misunderstood.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Speaking up during a class is not a problem for me.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. Having a lively imagination is important to me.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. I am comfortable with being singled out for praise or rewards.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. I am the same person at home that I am at school.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. Being able to take care of myself is a primary concern for me.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. I act the same way no matter who I am with.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. I feel comfortable using someone’s first name soon after I meet them, even when they are much older than I am.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. I prefer to be direct and forthright when dealing with people I’ve just met.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. I enjoy being unique and different from others in many respects.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. My personal identity, independent of others, is very important to me.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24. I value being in good health above everything.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Part E
Please provide some information about yourself (all information that you provide will be Completely Confidential).

1. Your name (PLEASE PRINT, first and last names): ________________________

2. Your gender: ____________

3. Your age: ___________

4. Which city were you born? __________________

5. How long have you been staying in the U.S.? _________________

6. How many times have you visited China in the past 5 years? ______________

7. How many times have people from China visited you within the past 5 years? ______________

8. In the past 5 years, how often have you communicated by E-mail or telephone with people in China?

<table>
<thead>
<tr>
<th>Very little</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>Very often</th>
</tr>
</thead>
</table>

9. How much pride do you take in being a Chinese?

<table>
<thead>
<tr>
<th>Very little</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>Very much</th>
</tr>
</thead>
</table>

THANK YOU VERY MUCH FOR YOUR TIME!
Appendix B:

Sample Post-Experiment Questionnaire for Both Pilot Study and Main Study
Thank you for viewing the Web site.
Now please fill out the questionnaire

Part A

This section tests your memory of the article that you have just read on the Web site. Please List ALL the things that you can remember about the article. While we would like you to be as specific as you can be, please list ANY detail that you can remember. Please do not worry about your spelling and grammar.

1.____________________________________________________________________________
2.____________________________________________________________________________
3.____________________________________________________________________________
4.____________________________________________________________________________
5.____________________________________________________________________________
6.____________________________________________________________________________
7.____________________________________________________________________________
8.____________________________________________________________________________
9.____________________________________________________________________________
10.____________________________________________________________________________
11.____________________________________________________________________________
12.____________________________________________________________________________
13.____________________________________________________________________________
14.____________________________________________________________________________
15.____________________________________________________________________________

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________
**Part B**

Please provide an overall evaluation of the “News Express” Web site you have just viewed by circling the number that best represents your opinion, where “1” means you “Strongly disagree” that the term describes the Web site, and “9” means you “Strongly agree” that the term describes the Web site.

The “News Express” Web site you have just viewed was:

<table>
<thead>
<tr>
<th>Term</th>
<th>Strongly disagree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appealing</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Useful</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Positive</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Good</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Favorable</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Attractive</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Exciting</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Pleasant</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Likeable</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>High Quality</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Interesting</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Sophisticated</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
</tbody>
</table>
Part C

Please rate your level of agreement with the following statements on a scale from 1 to 9, where “1” means you strongly disagree and “9” means you strongly agree. Please read each statement carefully, then, circle the number that best expresses your feelings about the “News Express” Web site that you have just viewed.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly disagree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The content in the Web site said something important to me.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>2. The content featured in the Web site was meaningful for me.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>3. The Web site didn’t have anything to do with me or my life.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>4. The Web site talked about something that concerned me.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>5. While being exposed to the Web site, I thought about how the content was useful to me.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>6. The Web site did not show me anything that made me want to use it.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>7. This Web site was typical of most Web sites you see today.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>8. You see Web sites like this all the time; it’s the same old thing.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>9. I’ve seen a lot of Web sites like this before.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>10. This Web site was just like other Web sites.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>11. I got emotionally involved in this Web site.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>12. I experienced emotion while going through this Web site.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>13. I found myself responding strongly to this Web site.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>14. I got involved with the information and content on this Web site.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Number</td>
<td>Statement</td>
<td>Strongly disagree</td>
</tr>
<tr>
<td>--------</td>
<td>---------------------------------------------------------------------------</td>
<td>-------------------</td>
</tr>
<tr>
<td>15.</td>
<td>The Web site created a sense of dialogue with me.</td>
<td>1 2 3 4 5 6 7 8 9</td>
</tr>
<tr>
<td>16.</td>
<td>The content of the Web site was interactive.</td>
<td>1 2 3 4 5 6 7 8 9</td>
</tr>
<tr>
<td>17.</td>
<td>The structure of the Web site was interactive.</td>
<td>1 2 3 4 5 6 7 8 9</td>
</tr>
<tr>
<td>18.</td>
<td>I felt a great degree of affinity toward this Web site.</td>
<td>1 2 3 4 5 6 7 8 9</td>
</tr>
<tr>
<td>19.</td>
<td>I felt a great degree of attachment toward this Web site.</td>
<td>1 2 3 4 5 6 7 8 9</td>
</tr>
<tr>
<td>20.</td>
<td>I experienced a sense of kinship when going through this site.</td>
<td>1 2 3 4 5 6 7 8 9</td>
</tr>
<tr>
<td>21.</td>
<td>This Web site made me feel that I was part of a community.</td>
<td>1 2 3 4 5 6 7 8 9</td>
</tr>
<tr>
<td>22.</td>
<td>This Web site induced a feeling of belonging in me.</td>
<td>1 2 3 4 5 6 7 8 9</td>
</tr>
<tr>
<td>23.</td>
<td>I could identify myself strongly with the content on this Web site.</td>
<td>1 2 3 4 5 6 7 8 9</td>
</tr>
<tr>
<td>24.</td>
<td>I trust the information presented on the Web site.</td>
<td>1 2 3 4 5 6 7 8 9</td>
</tr>
<tr>
<td>25.</td>
<td>I believe the information presented on the Web site to be credible.</td>
<td>1 2 3 4 5 6 7 8 9</td>
</tr>
<tr>
<td>26.</td>
<td>I found the information presented on the Web site to be of high quality.</td>
<td>1 2 3 4 5 6 7 8 9</td>
</tr>
<tr>
<td>27.</td>
<td>I found the information presented on the Web site to be accurate.</td>
<td>1 2 3 4 5 6 7 8 9</td>
</tr>
<tr>
<td>28.</td>
<td>I found the information presented on the Web site to be reliable.</td>
<td>1 2 3 4 5 6 7 8 9</td>
</tr>
<tr>
<td>29.</td>
<td>I found the information presented on the Web site to be believable.</td>
<td>1 2 3 4 5 6 7 8 9</td>
</tr>
<tr>
<td></td>
<td>Strongly disagree</td>
<td>Strongly agree</td>
</tr>
<tr>
<td>---</td>
<td>------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>30. The content featured on the Web site targeted me as a unique individual.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>31. The content featured on the Web site targeted me more as a UNC student community member rather than a unique individual.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>32. This Web site was “personalized” according to my interests.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>33. This Web site was “personalized” according to all UNC students’ common interests.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
</tbody>
</table>

**Part D**

We are interested in **everything that went through your mind as you browsed this Web site**.

Please spend approximately **five (5) minutes** listing any thoughts (**positive, negative, or neutral**) that you had regarding the “News Express” Web site you just browsed. Don’t worry about spelling, grammar, or punctuation; they are not important for this exercise.

We have deliberately included more space than we think people will need to ensure that everyone will have plenty of room to write their thoughts.

Please be completely honest. Your responses will be anonymous.

**The NEXT PAGE contains the form we have prepared for you to record your thoughts or ideas.** Simply write down the first thought you had in the first box, the second thought in the second box, etc.

Please put ONLY ONE idea or thought in a box.
How confident are you in the thoughts you listed above?  
How certain are you about the thoughts you listed above?  
How valid are the thoughts you listed above?  
How convinced are you of the thoughts you listed above?

<table>
<thead>
<tr>
<th>Not at all</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>Extremely</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>How confident are you in the thoughts you listed above?</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>How certain are you about the thoughts you listed above?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>How valid are the thoughts you listed above?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>How convinced are you of the thoughts you listed above?</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>
Part E

1. Your name: ___________

2. In this experiment, you read an article on the “News Express” Web site. In your perception, is the article (please check one answer below)

   (a) positive _______   (b) neutral _______   (c) negative _______

3. How familiar are you with the content of the article? Please circle the number that best represents your familiarity with “1” indicating “Not at all familiar” and “9” indicating “extremely familiar.”

<table>
<thead>
<tr>
<th>Not at all familiar</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>Extremely familiar</th>
</tr>
</thead>
</table>

4. How many hours per day do you spend browsing the Web? ____________ hours/day

5. How many hours per day do you spend….
   (a) reading an online news Web site? ____________ hours/day
   (b) reading a print newspaper or news magazine? ____________ hours/day
   (c) watching television news? ____________ hours/day
   (d) listening to news on the radio? ____________ hours/day

6. Do you use a customized news Web site or portal (e.g., MyYahoo.com)?
   (a) Yes _______   (b) No _______

7. How likely will you register for your own customized site in the future (with “1” indicating “Not at all likely” and “9” indicating “Very likely”)? Is it that

<table>
<thead>
<tr>
<th>Not at all likely</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>Very likely</th>
</tr>
</thead>
</table>

8. If you use customized news Web sites or portals regularly, which ones do you use?

__________________________________________________________

Thank you for participating in this study!
Appendix C:

Informed Consent Form for Both Pilot Study and Main Study
Consent Form

University of North Carolina-Chapel Hill
Consent to Participate in a Research Study
Adult Participants
Social Behavioral Form

----------------------------------------
IRB Study # 08-0114
Consent Form Version Date: February 3, 2008

Title of Study: Are highly tailored messages always more effective? The influence of cultural psychology on Web-based customization

Principal Investigator: Cong Li
UNC-Chapel Hill Department: School of Journalism and Mass Communication
UNC-Chapel Hill Phone number: 919-843-5864
Email Address: congli@email.unc.edu
Faculty Advisor: Dr. Sriram Kalyanaraman (Phone: 919-843-5858; Email: sri@unc.edu)

Study Contact telephone number: 919-843-5864
Study Contact email: congli@email.unc.edu

What are some general things you should know about research studies?
You are being asked to take part in a research study. To join the study is voluntary. You may refuse to join, or you may withdraw your consent to be in the study, for any reason, without penalty.

Research studies are designed to obtain new knowledge. This new information may help people in the future. You may not receive any direct benefit from being in the research study. There also may be risks to being in research studies.

Details about this study are discussed below. It is important that you understand this information so that you can make an informed choice about being in this research study. You will be given a copy of this consent form. You should ask the researchers named above, or staff members who may assist them, any questions you have about this study at any time.

What is the purpose of this study?
The purpose of this research study is to learn about how people process different news stories online.

How many people will take part in this study?
If you decide to be in this study, you will be one of approximately 120 people in this research study.

What will happen if you take part in the study and how long does it last?
You will be invited to come to a computer lab in the School of Journalism and Mass Communication to fill out a questionnaire. It takes about 30 minutes to answer the questionnaire. Approximately two weeks later, you will be invited to come again and read a news on a website and answer some questionnaires based on your browsing experience. It takes about 30 to 40 minutes to read the news and answer the questions.

You may choose not to be in the study or to stop being in the study before it is over at any time. This will not affect your class standing or grades at UNC-Chapel Hill. You will not be offered or receive any special
consideration if you take part in this research.

**What are the possible benefits from being in this study?**
Research is designed to benefit society by gaining new knowledge. You may not benefit personally from being in this research study. Your participation will hopefully lead to the development of more effective news websites.

**What are the possible risks or discomforts involved from being in this study?**
We do not think you will experience any discomfort or risk from your participation.

**How will your privacy be protected?**
No participants will be identified in any report or publication about this study. The questionnaires will be destroyed as soon as data analysis is completed.

**Will you receive anything for being in this study?**
You will be receiving 10 dollars for taking part in this study.

**Will it cost you anything to be in this study?**
There will be no costs for being in the study.

**What if you have questions about this study?**
You have the right to ask, and have answered, any questions you may have about this research. If you have questions, or concerns, you should contact the researchers listed on the first page of this form.

**What if you have questions about your rights as a research participant?**
All research on human volunteers is reviewed by a committee that works to protect your rights and welfare. If you have questions or concerns about your rights as a research subject you may contact, anonymously if you wish, the Institutional Review Board at 919-966-3113 or by email to IRB_subjects@unc.edu.

---

**Title of Study:** Are highly tailored messages always more effective? The influence of cultural psychology on Web-based customization

**Principal Investigator:** Cong Li

**Participant’s Agreement:**
I have read the information provided above. I have asked all the questions I have at this time. I voluntarily agree to participate in this research study.

_________________________  __________________
Signature of Research Participant  Date

_________________________
Printed Name of Research Participant

_________________________
Signature of Primary Investigator  Date

_________________________
Printed Name of Primary Investigator

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Appendix D:

Main Study Pre-Experiment Questionnaire (for Chinese Participants)
Thank you very much for taking part in this news preference survey. Please read the instruction of each part carefully and then provide your response.

**Part A**

1. On a 1-9 scale, with “1” representing “Not at all interested” and “9” representing “Extremely interested,” please circle the number that best represents YOUR level of interest in the following news topics:

<table>
<thead>
<tr>
<th>News Topics</th>
<th>Not at all interested</th>
<th>Extremely interested</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Sports</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>College Sports</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Movies</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Music</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Travel</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Politics</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Business &amp; Finance</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Technology</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Health</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>News happening in where you reside (e.g., Chapel Hill)</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>News happening in China</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>News happening in countries other than China and the U.S.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
</tbody>
</table>

2. What/who are your top three favorite professional sports teams or players? (Please list them in order of your preference)

1) ______________________
2) ______________________
3) ______________________
3. What/who are your top three favorite college sports teams or players? (Please list them in order of your preference)
1) ______________________
2) ______________________
3) ______________________

4. What/who are your top three favorite movies or movie stars? (Please list them in order of your preference)
1) ______________________
2) ______________________
3) ______________________

5. What/who are your top three favorite singers or musical groups? (Please list them in order of your preference)
1) ______________________
2) ______________________
3) ______________________

6. What are your top three favorite travel destinations? (Please list them in order of your preference)
1) ______________________
2) ______________________
3) ______________________

7. What/who are your top three favorite political events or political figures? (Please list them in order of your preference)
1) ______________________
2) ______________________
3) ______________________
8. What are your top three favorite topics regarding business and finance? (Please list them in order of your preference)
   1) ______________________
   2) ______________________
   3) ______________________

9. What are your top three favorite topics regarding technology? (Please list them in order of your preference)
   1) ______________________
   2) ______________________
   3) ______________________

10. What are your top three favorite topics regarding health? (Please list them in order of your preference)
    1) ______________________
    2) ______________________
    3) ______________________

11. What are your top three favorite topics regarding news happening in where you reside (e.g., Chapel Hill)? (Please list them in order of your preference)
    1) ______________________
    2) ______________________
    3) ______________________

12. What are your top three favorite topics regarding news happening in China? (Please list them in order of your preference)
    1) ______________________
    2) ______________________
    3) ______________________
13. What are your top three favorite topics regarding news happening in countries other than China and the U.S.? (Please list them in order of your preference)
1) ______________________
2) ______________________
3) ______________________

14. Among all the news topics that you have listed above from Question 2 to Question 13, what topics do you think best represent the unique news interest of you but NOT of other people? Please list five of them in order.
1) ______________________
2) ______________________
3) ______________________
4) ______________________
5) ______________________

**Part B**

1. Please list three social groups that you think you belong to (it could be any strictly- or loosely-defined organization or association, e.g., a student community, an interest group, a sports club, a professional association, etc.) in order of their importance to you.

   The first group ______________________________
   The second group ______________________________
   The third group ______________________________

2. Please circle the number that best describes how important it is to you to be a part of the above three groups with “1” representing “Not at all important” and “9” representing “Extremely important.”

<table>
<thead>
<tr>
<th>Groups</th>
<th>Not at all important</th>
<th>Extremely important</th>
</tr>
</thead>
<tbody>
<tr>
<td>The first group</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>The second group</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>The third group</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
</tbody>
</table>
3. You have listed three social groups that you belong to. Now, on a 1-9 scale, with “1” representing “Not at all” and “9” representing “Extremely often,” please circle the number that best represents the level on how often you talk about with other group members on the following news topics:

<table>
<thead>
<tr>
<th>News Topics</th>
<th>Not at all</th>
<th>Extremely often</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Sports</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>College Sports</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Movies</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Music</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Travel</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Politics</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Business &amp; Finance</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Technology</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Health</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>News happening in where you reside (e.g., Chapel Hill)</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>News happening in China</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>News happening in countries other than China and U.S.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
</tbody>
</table>

4. What news topics do you think best represent the common news interest of ALL group members of the first group that you have listed (that is to say, what news topics do you think will attract all group members’ attention)? Please list five of them in order. (Please try to be specific with the news topics. DO NOT list news categories in general. For example, if you think all group members are interested in UNC Men’s Basketball, do not list it as “sports” or “basketball,” list it as “UNC Men’s Basketball.”)

1) ______________________
2) ______________________
3) ______________________
4) ______________________
5) ______________________
5. What news topics do you think best represent the common news interest of ALL group members of the second group that you have listed? Please list five of them in order. (Please try to be specific with the news topics. DO NOT list news categories in general.)
1) ______________________
2) ______________________
3) ______________________
4) ______________________
5) ______________________

6. What news topics do you think best represent the common news interest of ALL group members of the third group that you have listed? Please list five of them in order. (Please try to be specific with the news topics. DO NOT list news categories in general.)
1) ______________________
2) ______________________
3) ______________________
4) ______________________
5) ______________________
**Part C**

Please circle the number that best represents your agreement with the following statements on a 1-9 scale, where “1” means you “Strongly Disagree” and “9” means you “Strongly Agree.”

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I have respect for the authority figures with whom I interact.</td>
<td>1 2 3 4 5 6 7 8 9</td>
</tr>
<tr>
<td>2</td>
<td>It is important for me to maintain harmony within my group.</td>
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<td>I will sacrifice my self-interest for the benefit of the group I am in.</td>
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<td>7</td>
<td>I often have the feeling that my relationships with others are more important than my own accomplishments.</td>
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<tr>
<td>8</td>
<td>I should take into consideration my parents’ advice when making education/career plans.</td>
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<td>It is important to me to respect decisions made by the group.</td>
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<td>I will stay in a group if they need me, even when I’m not happy with the group.</td>
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<td>11</td>
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<td>Even when I strongly disagree with group members, I avoid an argument.</td>
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<td>13. I’d rather say “No” directly, than risk being misunderstood.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>14. Speaking up during a class is not a problem for me.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>15. Having a lively imagination is important to me.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>16. I am comfortable with being singled out for praise or rewards.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>17. I am the same person at home that I am at school.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>18. Being able to take care of myself is a primary concern for me.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>19. I act the same way no matter who I am with.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>20. I feel comfortable using someone’s first name soon after I meet them, even when they are much older than I am.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>21. I prefer to be direct and forthright when dealing with people I’ve just met.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>22. I enjoy being unique and different from others in many respects.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>23. My personal identity, independent of others, is very important to me.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>24. I value being in good health above everything.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>
**Part D**

Please provide some information about yourself (all information that you provide will be **Completely Confidential**).

1. Your name (PLEASE PRINT, first and last names): ______________________

2. Your gender: __________

3. Your age: __________

4. Which city were you born in? ________________

5. How long have you been staying in the U.S.? ________________

6. How many times have you visited China in the past 5 years? ________________

7. How many times have people from China visited you within the past 5 years? ________________

8. In the past 5 years, how often have you communicated by E-mail or telephone with people in China?

<table>
<thead>
<tr>
<th>Very little</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>Very often</th>
</tr>
</thead>
</table>

9. How much pride do you take in being a Chinese?

<table>
<thead>
<tr>
<th>Very little</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>Very much</th>
</tr>
</thead>
</table>

This is the end of the questionnaire. Thank you very much for your time.
Appendix E:

Main Study Pre-Experiment Questionnaire (for American Participants)
Thank you very much for taking part in this news preference survey. Please read the instruction of each part carefully and then provide your response.

**Part A**

1. On a 1-9 scale, with “1” representing “Not at all interested” and “9” representing “Extremely interested,” please circle the number that best represents YOUR level of interest in the following news topics:

<table>
<thead>
<tr>
<th>News Topics</th>
<th>Not at all interested</th>
<th>Extremely interested</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Sports</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>College Sports</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Movies</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Music</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Travel</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Politics</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Business &amp; Finance</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Technology</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>Health</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>News happening in where you reside (e.g., Chapel Hill)</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>News happening in U.S.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>News happening in countries other than U.S.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
</tbody>
</table>

2. What/who are your top three favorite professional sports teams or players? (Please list them in order of your preference)

1) ______________________
2) ______________________
3) ______________________
3. What/who are your top three favorite college sports teams or players? (Please list them in order of your preference)
1) ______________________
2) ______________________
3) ______________________

4. What/who are your top three favorite movies or movie stars? (Please list them in order of your preference)
1) ______________________
2) ______________________
3) ______________________

5. What/who are your top three favorite singers or musical groups? (Please list them in order of your preference)
1) ______________________
2) ______________________
3) ______________________

6. What are your top three favorite travel destinations? (Please list them in order of your preference)
1) ______________________
2) ______________________
3) ______________________

7. What/who are your top three favorite political events or political figures? (Please list them in order of your preference)
1) ______________________
2) ______________________
3) ______________________
8. What are your top three favorite topics regarding business and finance? (Please list them in order of your preference)
   1) ______________________
   2) ______________________
   3) ______________________

9. What are your top three favorite topics regarding technology? (Please list them in order of your preference)
   1) ______________________
   2) ______________________
   3) ______________________

10. What are your top three favorite topics regarding health? (Please list them in order of your preference)
    1) ______________________
    2) ______________________
    3) ______________________

11. What are your top three favorite topics regarding news happening in where you reside (e.g., Chapel Hill)? (Please list them in order of your preference)
    1) ______________________
    2) ______________________
    3) ______________________

12. What are your top three favorite topics regarding news happening in U.S.? (Please list them in order of your preference)
    1) ______________________
    2) ______________________
    3) ______________________
13. What are your top three favorite topics regarding news happening in countries other than U.S.? (Please list them in order of your preference)

1) ______________________
2) ______________________
3) ______________________

14. Among all the news topics that you have listed above from Question 2 to Question 13, what topics do you think best represent the unique news interest of you but NOT of other people? Please list five of them in order.

1) ______________________
2) ______________________
3) ______________________
4) ______________________
5) ______________________

**Part B**

1. Please list three social groups that you think you belong to (it could be any strictly- or loosely-defined organization or association, e.g., a student community, an interest group, a sports club, a professional association, etc.) in order of their importance to you.

   The first group ______________________________
   The second group ______________________________
   The third group ______________________________

2. Please circle the number that best describes how important it is to you to be a part of the above three groups with “1” representing “Not at all important” and “9” representing “Extremely important.”

<table>
<thead>
<tr>
<th>Groups</th>
<th>Not at all important</th>
<th>Extremely important</th>
</tr>
</thead>
<tbody>
<tr>
<td>The first group</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>The second group</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>The third group</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
</tbody>
</table>
3. You have listed three social groups that you belong to. Now, on a 1-9 scale, with “1” representing “Not at all” and “9” representing “Extremely often,” please circle the number that best represents the level on how often you talk about with other group members on the following news topics:

<table>
<thead>
<tr>
<th>News Topics</th>
<th>Not at all</th>
<th>Extremely often</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Sports</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
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</tr>
<tr>
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<td>1 2 3 4 5 6 7 8 9</td>
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</tr>
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<td>1 2 3 4 5 6 7 8 9</td>
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<td>News happening in countries other than U.S.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
</tbody>
</table>

4. What news topics do you think best represent the common news interest of ALL group members of the first group that you have listed (that is to say, what news topics do you think will attract all group members’ attention)? Please list five of them in order. (Please try to be specific with the news topics. DO NOT list news categories in general. For example, if you think all group members are interested in UNC Men’s Basketball, do not list it as “sports” or “basketball,” list it as “UNC Men’s Basketball.”)
1) ______________________
2) ______________________
3) ______________________
4) ______________________
5) ______________________
5. What news topics do you think best represent the common news interest of ALL group members of the second group that you have listed? Please list five of them in order. (Please try to be specific with the news topics. DO NOT list news categories in general.)
1) ______________________
2) ______________________
3) ______________________
4) ______________________
5) ______________________

6. What news topics do you think best represent the common news interest of ALL group members of the third group that you have listed? Please list five of them in order. (Please try to be specific with the news topics. DO NOT list news categories in general.)
1) ______________________
2) ______________________
3) ______________________
4) ______________________
5) ______________________
Part C

Please circle the number that best represents your agreement with the following statements on a 1-9 scale, where “1” means you “Strongly Disagree” and “9” means you “Strongly Agree.”

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I have respect for the authority figures with whom I interact.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>2. It is important for me to maintain harmony within my group.</td>
<td>1 2 3 4 5 6 7 8 9</td>
<td></td>
</tr>
<tr>
<td>3. My happiness depends on the happiness of those around me.</td>
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<tr>
<td>13. I’d rather say “No” directly, than risk being misunderstood.</td>
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<td>2</td>
</tr>
<tr>
<td>14. Speaking up during a class is not a problem for me.</td>
<td>1</td>
<td>2</td>
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<tr>
<td>22. I enjoy being unique and different from others in many respects.</td>
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<td>2</td>
</tr>
<tr>
<td>23. My personal identity, independent of others, is very important to me.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>24. I value being in good health above everything.</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>
Part D
Please provide some information about yourself (all information that you provide will be Completely Confidential).

1. Your name (PLEASE PRINT, first and last names): ________________________

2. Your gender: ___________

3. Your age: ___________

4. Which city were you born in? __________________

5. Have you ever traveled outside the U.S.?
   Yes ______ No ______ (if you check “no” for this question, please skip Question 6 and 7)

6. If you have traveled outside U.S., what countries have you been to? Please also tell us when you went to those countries and for how long?
   a) __________________________________________
   b) __________________________________________
   c) __________________________________________
   d) __________________________________________
   e) __________________________________________

7. What is the longest period of time that you have lived outside the U.S.?
   ______________________________

This is the end of the questionnaire. Thank you very much for your time.
References


Some participants in the targeted message condition reported same common interests of group members such as UNC Men’s Basketball Team. Therefore, the targeted news stories for those participants were the same.

Some participants wrote complete sentences in the free recall section, while others wrote phrases or words. Therefore, unique facts could be sentences, phrases, or words.

Independent t-tests would fulfill same functions. However, besides testing main effects of message type, multiple regression analyses also allowed testing interaction effects of individual difference variables and message type.

Participants were asked to list their thoughts in boxes and one thought for each box. There was no disagreement between the two coders regarding the total number of thoughts.

Because five participants only listed the first two groups, the two paired t-tests had different degree of freedom.

In the pilot study, some participants’ responses to the question of common news interests among all their group members were too general. Thus, an instruction of being specific was provided in the parenthesis.

Sixty one American participants were originally recruited. However, one of them was excluded based on his responses to the pre-experiment questionnaire. He was born in Vietnam, and lived there for a rather long time. This ended up with a sample size of 60 for Americans.

Two participants assigned to the tailored message condition both reported that the movie star Vince Vaughn best represented their unique interest. Therefore, they read the same new story in the experiment.

Some participants in the targeted message condition reported same group memberships such as “students at UNC,” and same common interest of their group members such as UNC Men’ Basketball Team. Therefore, they viewed same Web site or same story in the experiment.

There were two outliers for the “collectivism” index and three outliers for the “individualism” index. However, excluding these five participants did not change the t-test results and the overall patterns of study findings. Therefore, all the participants were kept for data analysis.
In the pilot study, the “collectivism” and “individualism” index were used as continuous variables in the multiple regression analyses to detect any interaction effect since there was only one participant group. However, the main study had two participant groups, where the “collectivism” and “individualism” index were used primarily as tools to check cultural differences existed between the two participant groups. Therefore, the indexes were not used in hypotheses testing.

As discussed by MacKenzie, Lutz, and Belch (1986), cognitive processing could potentially influence affective response. Therefore, an additional ANCOVA test was performed with message recall as a covariate. However, it did not change any of the significant results from the ANOVA test.

Since tailored messages and targeted messages were two different approaches of customization, which was the primary focus of this study, and a generic message served as the baseline of non-customization in the experiment, two contrasts were planned for further analyses on message type. Two contrast coded variables for message type were created accordingly.

We noted that there was no single universally accepted analysis method involving both mediation and moderation. There existed several conceptualizations and approaches in the literature. For example, there were some disputes on moderated mediation and mediated moderation as discussed in Muller, Judd, and Yzerbyt (2005).

For example, Preacher and Hayes (2008) excluded perceived relevance and perceived involvement in their analysis. Based on their argument, these two constructs overlapped with the manipulation of customization.

A factor Analysis with all the statements measuring perceived relevance, perceived involvement, and psychological sense of community yielded an acceptable one-factor (or potentially two-factor) solution. Although we still consider them theoretically distinctive constructs, factor analysis results did not support a three-factor solution.

We also used the method suggested by Preacher and Hayes (in press) by including perceived relevance, perceived involvement, and psychological sense of community in a multiple mediator model. The overall conclusion did not change. All three variables had significant mediation influences.

We followed Muller, Judd, and Yzerbyt (2005) on this claim since the overall moderation effect was significant in the original multiple regression model. Moreover,
we also tested the idea of moderated mediation by creating interaction variables between the moderator and the mediators. However, no significant results were detected.

\textsuperscript{xix} When thought confidence was included in the analysis, it did not change any significance of results. Thus, it was not further discussed either.

\textsuperscript{xx} A dummy coded variable was created for gender, and it was included in the regression analysis for control. However, the findings remained the same.