Available online at www.sciencedirect.com
SCIENCE DIRECT®
Telematics and Informatics 23 (2006) 95–116
TELEMATICS AND INFORMATICS
www.elsevier.com/locate/tele

A comparative study of media cultures among Taiwanese and Japanese youth

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Received 1 November 2004; received in revised form 4 May 2005; accepted 10 May 2005

Abstract

This study used nation-wide surveys to explore how different media usage patterns were shaped in Taiwan and Japan. Taiwanese youth use the Internet to a much greater extent than Japanese youth, even though broadband services are cheaper and faster in Japan. Japanese youth use text-messaging services featured on mobile phones more than their Taiwanese counterparts. Since the 1980s, Taiwan has witnessed the development of a unique BBS (bulletin board system) culture, and this culture has led the Taiwanese to have a comparatively stronger degree of trust in the Internet than the Japanese. The Internet culture in Japan is more individualized. Japanese adolescents and young adults tend to avoid direct communication, resulting in the promotion of a unique mobile media culture among the Japanese youth. The findings discussed here suggest that, despite the worldwide standardization of communication technologies, the culturally different personal relationship patterns in the two countries studied have created different media trends for their youth.

Keywords: Mobile phone; Internet use; Adolescents; Taiwan; Japan; Social relationship; Social construction; Internet cafe

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0736-5853/$ - see front matter
doi:10.1016/j.tele.2005.05.002

1. Introduction

This study examines how national cultural factors are associated with usage patterns of communication technologies, such as the Internet and mobile phones. Despite global technological standardization, unique media usage patterns, which we call *media cultures*, are observed in many countries. Few studies have focused on the national cultural factors involved in media usage patterns, because most studies have collected data within just one nation. However, neither technology nor policy can fully explain the varied uses of these media. For example, unique usage patterns of communication technologies among Japanese teens are associated with their cultural patterns (Ishii, 2004). To answer such questions, a comparative survey was conducted in Taiwan and Japan, which have similar penetrations of information technologies. Using these results, the present study explores how some cultural patterns in the use of communication technologies were shaped among Taiwanese and Japanese youth.

The new communication technologies, especially the Internet and mobile phones, constitute the essential components of the youth culture. Taiwan and Japan are among the most enthusiastic countries regarding the adoption of these new telecommunication technologies. As of 2001, the number of mobile phones per capita in Taiwan was over one (1.06), which is the highest in Asia (The Directorate General of Telecommunications, Ministry of Transportation and Communications, 2004). According to the survey conducted by the authors of this study, the Internet penetration rate among the total population in Taiwan is approximately 73%, of which 71% consists of those who connect to the Internet through broadband network (Mobile Communication Study Group, 2004). In Japan, people enjoy the most advanced mobile communication, including 3G (Third Generation) mobile phones. The predominance of Internet-enabled mobile phones in Japan is the highest worldwide, and text messaging via a mobile phone is an important medium among the youth for communicating with intimate friends (Ishii, 2004).

In this paper, two forms of culture, national culture and media culture, will be distinguished. *National culture*, or *ethnic culture*, refers to "the collective programming of the mind which distinguishes the members of one human group from another" (Hofstede, 1980). National culture is a relatively fixed and deeply built-in part of human behaviors. *Media culture* is defined as the usage patterns of communication technology that are unique to one human group. Media cultures are more subject to change than national cultures, because several factors, such as technologies, regulations, and psychological factors, can affect them, even in a short time period.

Taiwan and Japan have traditionally shared similar national cultures because the fundamental values of both countries are rooted in the Confucian tradition. Many Taiwanese adolescents are known to follow Japanese TV programs and fashion styles (Yi and Wu, 2004; Ishii et al., 1999). Despite such similarities, the communication behaviors between the Taiwanese and Japanese appear to vary. The Taiwanese are more candid and loquacious, while the Japanese, as will be discussed, are more diffident. This paper describes how unique media cultures are socially constructed in the two countries, reflecting the differences in communication behaviors.

2. Literature review

A lot of studies have examined media cultures. Most of these examined media cultures within a single group or nation, while others examined them within a comparative framework. After reviewing empirical studies on media cultures in Taiwan and Japan, this paper will review some studies on IT (information technology) and corporate cultures, because these studies aid in conceptualizing media cultures.

In Taiwan, several scholars have displayed an interest in the effects of the Internet on personal relationships. Many studies focus on the Internet's influence on adolescents. For example, Chen (2002) observed that a new relationship, referred to as a "cyber-peer", that recently appeared among Taiwanese adolescents was altering their socialization process. With regard to mobile phones, a survey of Taiwanese college students revealed that mobile phones replaced landlines as a means of strengthening family bonds, expanding their psychological neighborhoods, and facilitating symbolic proximity to others (Wei and Lo, 2003). Gender was found to be a factor in the extent to which users exploited their cell phones to maintain social ties. Taiwanese women relied more heavily than men on cell phones to strengthen their family bonds while on the go. In contrast, Taiwanese men tended to use mobile phones for practical purposes such as gathering information (Wei and Lo, 2003).

Mobile communications have been more widely addressed than the Internet in the Japanese academic community. Some studies emphasize selective human relationships, which have recently emerged among the Japanese youth. Tsuji, 1999 observed that human relationships have become more selective in the last 20 years. Matsuda (2000) concluded that urbanization led to selective human relationships, and that selectivity was the key to understanding the preferred use of mobile phones among the youth. Ishii (2004) suggested that the low level of self-disclosure had promoted mobile mail and the unique usage of communication devices among the Japanese. Mail is exchanged between intimate friends via mobile phones, whereas PC (personal computer) e-mail is exchanged between psychologically and geographically less intimate friends (Ishii, 2004). Prior to the advent of mobile phones, Nakamura (1997) observed that the use of a pager and/or PHS (Personal Handy Phone System) was significantly correlated with sociability. After analyzing the content of mobile mail messages sent by Japanese university students, he pointed out that text messages were very colloquial and often involved the use of several picture characters, especially among females. Messages exchanged among the youth were more similar to chatting than mail (Nakamura, 1997). These studies suggest that selective friendship is the key to understanding the unique mobile culture in Japan. Although it is methodologically difficult to identify causality between human relationships and the specific uses of mobile phones, numerous studies in the past have found significant correlations between these two variables.

Despite the scope and variety of psychological and sociological studies on the social effects of new technologies, only a few studies have paid attention to the theoretical framework for cultural aspects of communication technologies. Most studies examined the use of new communication technologies in a single nation, while few studies have paid attention to cultural differences across multiple countries. De

Mooij (2004) suggested that in individualistic Northern Europe, people use mobile phones more to pass on information; thus, they more often send SMS (short message service) messages. In the more collectivistic and high power-distance cultures in the south, people talk more on the phone. Although this hypothesis is impressive, it remains to be tested in a prospective study (De Mooij, 2004).

The Internet and mobile phones are so new that only a limited body of studies has been conducted from a cross-cultural perspective. Some studies report cross-cultural surveys on Internet usage (World Internet Project Japan, 2004), but they do not give a systematic framework for the cross-cultural differences in Internet usage patterns. In management science, scholars have discussed how organizational culture (the pattern of shared basic assumptions and values of an organization or company) and national culture are associated. According to Gallivana and Srite (in press), there were previously two research streams, international scholars and organizational scholars. Culture is defined and studied by international scholars as national culture, and by organizational scholars as organizational or corporate culture. Recent studies from emergent perspectives consider the interplay between IT and culture. According to the perspectives, both technological changes and corporate cultural contexts are reshaping organizational activity. For example, one study conducted by Orlikowski indicated how people who interact with a technology enact structures that shape their emergent and situated use of that technology in organizations (Orlikowski, 2000).

3. Review of communication technologies in Taiwan and Japan

3.1. Telecommunication services

Table 1 summarizes the current telecommunication services available in Taiwan and Japan. Compared to Japan, Taiwan displays a greater acceptance of the PC-based Internet. The Internet charges, especially for high-speed DSL (digital subscriber lines), are cheaper in Japan by virtue of recent intense competition (Ishii, 2003). Broadband services provided by Japanese companies are cheap, especially for a high-speed connection; however, the overall use of broadband service is higher in Taiwan than in Japan.

Taiwan has more cyber cafes (coffee shop providing Internet access) than Japan. Despite the facts that Japan has a population four times that of Taiwan and that most of Japanese cyber cafes are actually comic cafes (private comic libraries) with some PCs connected to the Internet, Taiwan has at least ten times more cyber cafes per capita than Japan.[1]

[1] South Korea and Mainland China have more Internet cafes than Taiwan or Japan. In 2001, South Korea was observed to have 22,000 Internet cafes, while a single city in China (Beijing) was observed to have 2922 Internet cafes (Lei, 2004).

Table 1
Comparison of telecommunication services in Taiwan and Japan

	Taiwan	Japan
Population	23 million	127 million
PC-based Internet		
Penetration rate	52%[a]	39%[b]
Internet DSL monthly charge (maximum speed; bps)	549 NT$ (1 M), 1099 NT$ (3 M), 1399 NT$ (6 M)[c]	2600 JPY (1.5 M), 2650 JPY (8 M), 2700 JPY (12 M)[d]
Number of Internet café	5000[e]	2500[f]
Mobile phones		
Penetration rate	73%[g]	69%[g]
Monthly charge	600 NT$[h]	4500 JPY (Including dialing allowance of 47 min)[i]
Dialing charge	0.1 NT$/s[h]	0.4 JPY/s[i]
Data communication charge	0.03 NT$/packet[j]	0.3 JPY/packet[k]
Charge for one SSM/e-mail	2 NT$[l]	1 JPY[m]

Note: 3.2 JPY (Japanese yen) = 1 NT$ (New Taiwan dollar) (October, 2004).
[a] Mobile Communication Study Group (2003).
[b] World Internet Project Japan (2004).
[c] Max Speed: 3 M (Chung-hua Telecom, http://www.cht.com.tw/).
[d] Max Speed: 8 M (NTT East, http://www.nttdocomo.co.jp/).
[e] Taiwan Cybercafé Industry Development Association (2004).
[f] [Internet Cafe (2004)].
[g] Mobile Communication Study Group (2004).
[h] Chung-hua Telecom Basic Plan (GSM).
[i] NTT-Docomo Plan A.
[j] Chung-hua Telecom GPRS (1 packet = 128 bytes).
[k] NTT-Docomo i-mode for PDC (1 packet = 128 bytes).
[l] Charge per SMS to correspondents within the same network.
[m] Charge per i-mode mail less than 20 characters.

Japan has unique mobile phone technologies. PDC (personal digital cellular), developed by NTT DoCoMo, is the 2G (second generation) standard for mobile phones used only in Japan. As of March 2004, Japan was noted to have over 40 million subscriptions to i-mode services (trademarked services of NTT DoCoMo). GSM (Global System for Mobile Communications), the most widely used system in the world, is the major 2G standard for mobile phones used in Taiwan. Considering the high prices existing in Japan, data communication charges over mobile phones are relatively cheap. For example, the ratio of dialing charges per second to text messaging (SMS[2]) charges is 1:2.6 in Japan, versus 1:20 in Taiwan.

[2] The term "text message" will be used to refer to both SMS and e-mail via mobile phones, because in Japan SMS and e-mail have almost been merged into one service —"mail"—and users usually cannot clearly distinguish between these two services.

3.2. PC-based Internet users

3.2.1. Taiwan

Since the early 1990s, Taiwan has developed unique Internet cultures with the multi-dimensional and liberal attitudes of the user community. The development of the Internet culture did not begin until recently, when the democratic constitution gained adequate protection and respect. Consequently, the government rarely monitored or clipped the articles posted on the Internet. Also, the Internet in Taiwan originally developed in the TANET (Taiwan Academic Network) and gradually extended to homes. Thus, the features of information sharing and mutual respect for students' liberalism played an essential role in the development of the Internet. Colleges and schools provided high-speed Internet facilities at a relatively low price to complement a student's education and students enjoyed the liberty of using the Internet for setting up websites to fulfill various demands pertaining to daily life. The Internet allowed communities with different interests and persons belonging to different social groups to communicate and exchange opinions and information in the least expensive and most convenient way.

One of the unique elements of the Taiwanese Internet culture is the Telnet-based BBS. As the Windows interface and World Wide Web (www) gradually developed, technologies such as IRC (internet relay chat), Gopher, and mail in the Telnet era were almost completely replaced by www. However, in Taiwan the BBS is the only exception, and it not only survives but also continues to develop prosperously. After registration, users can post articles to express their opinions on the BBS. During the infancy stage of TANET, most people did not have personal e-mail addresses. They could only access the BBS, which integrated posting, e-mailing, and chatting as the primary means of communication. In addition, since the speed of the modem was rather slow, the BBS emerged as the only system that could support the large number of simultaneous on-line users. The BBS is comprised of individual boards with topics assigned to each board. All the users can access the articles, and users in similar boards of different parts of the BBS can exchange articles amongst themselves. Well-organized boards have board masters for establishing board rules, maintaining order, and arranging FAQs and the Essential Board, which contains useful articles. Lately, the BBS introduced various on-line games allowing users to either play alone or with other people, as well as tokens to buy various objects posted on the BBS (such as on-line pets, larger e-mail boxes and chips for gambling) and an on-line chat room. These functions satisfy the daily needs of Internet users. For students, especially, the only public channel in their class or department is the BBS. Users can show their own personal characteristics using different e-signatures, writing styles, and tones.[3]

Another unique aspect of the Taiwanese Internet culture is that the Taiwanese youth enjoys using the Internet in cyber café as well as at home. In Japan, cyber

[3] Currently "ptt.cc", which allows several functions including the conversion of BBS to www (http://www.ptt.cc/index.bbs.html), has the largest number (greater than 10,000) of bulletin boards in Taiwan.

café provide a comfortable environment for workers in urban areas; in Taiwan, however, adolescents are the main customers. In the 5000 cyber cafes in Taiwan, playing on-line games with other users and prolonged visits to various chat rooms are the primary ways of establishing social contact, and coffee is only for refreshment time. Based on the Youth Cyber Café Survey, which was conducted by Tosun Public Interests Foundation across the country and counted 9305 completed responses, 51% of Taiwanese high school students always visited cyber café; out of them, 45% visited cyber café at least once every week. This is not an urban phenomenon, because in rural areas the rate was 48%, compared with the 54% observed in urban areas. Playing on-line PC games (64%), chatting (56%), and surfing (64%) are the three primary activities that café users engage in. Males prefer playing games while females prefer chatting (Tosun Public Interests Foundation, 2004).

Cyber café offer educational and criminal opportunities in Taiwan, especially among adolescents. Cyber café can attract students who wish to avoid school, adolescents who wish to engage in on-line gambling and pornography, gangsters who wish to sell drugs, hackers who wish to spread back-door Trojan horses or viruses, and even young females who wish to trade their bodies. The Taiwanese government attempts to curtail these situations by establishing laws to limit their setup of new cyber cafes, making contracts with reliable companies to ensure a healthy environment for students, and even setting up OEM (original equipment manufacturer) cyber cafes within school campuses to prevent students from visiting off-site cyber café. However, these measures remain ineffective. According to the survey, 45% of students spend more than two hours in a cyber café on each visit and more than 40% of students visit them on weekdays (Tosun Public Interests Foundation, 2004). These frequent visits may adversely affect their mental and physical health, as well as their studies. Visiting pornographic websites (8%), trading their bodies (5%), on-line gambling (5%), buying drugs (3%), and participating in criminal activities (3%) are some of the severe delinquencies demonstrated by the Taiwanese youth. Additionally, 7% of Taiwanese adolescents visit cyber café more than three times a week, which is suggestive of serious addictions to the Internet.

Despite the availability of the Internet at home, adolescents still prefer visiting cyber café for various reasons, such as speed, the proximity of friends, and autonomy. Firstly, the development of on-line games poses difficulties for the effective functioning of hardware and Internet connections. It is expensive for parents to regularly upgrade home PCs and connection speeds. Students have to find better solutions when they indulge in the latest on-line games. Secondly, since on-line games are designed for multiple users to play simultaneously, they attract groups of friends who rely on each other while playing (“Help me with the games if you are my friend”). On-line games transfer the friendship network from the playground to the Internet. Thirdly, adolescents in Taiwan suffer from great pressure in relation to their homework and examinations, and playing on-line games helps them relax and exercise free will. Cyber cafes provide an excellent buffer against school and home, regarded as uncomfortable places (Yi and Wu, 2004), and keep teachers and parents away. Given the low charges (10–60 NT$/h), as well as the availability

of food and drinks, a cyber café is a must-go place for the Taiwanese youth if they wish to maintain social contact with their peers.

3.2.2. Japan

With regard to media cultures involving the Internet, Japan is exactly the opposite of Taiwan. Compared to the Taiwanese, the Japanese youth is uninterested in PC-based Internet. In addition to the low penetration rates, some services such as cyber café and the BBS vary between the two countries. Although the BBS is popular in Japan, the Japanese BBS currently plays a role that is very different from that of the one in Taiwan. Prior to 1992, several BBSs were operating in on-line services (PC communications) in Japan. For example, COARA (Computer Communication of Oita Amateur Research Association) was one of the first and most successful virtual communities; in it, the citizens and their regional government cooperated with each other to create communities (Rheingold, 1993). However, after the introduction of commercialized Internet service in 1992, grass-roots BBS cultures were gradually replaced with mass, anonymous, and commercialized BBS cultures on the Internet.

There are remarkable differences between the grass-roots BBS communities and larger BBS communities on the Internet. Firstly, users could not post messages anonymously in the grass-roots BBS because on-line service required user registration. Thus, the administrator easily identified users, even if some BBSs allowed users to use screen names instead of real names. Secondly, only a few users participated in the grass-roots BBS. According to a survey conducted in Tokyo in 1991, only 2.1% of the population subscribed to an on-line service (Hashimoto et al., 1992). Thirdly, users were active and cooperative in the grass-roots BBS. A survey conducted in the 1980s showed that about 70% of the on-line users had on-line friends whom they had met in person (Kawakami et al., 1993). In contrast, a different survey in 2000 showed that only 10% of Internet users had met their on-line friends in person (World Internet Project Japan, 2001).

Ni-channel (Channel 2; http://www.2ch.net/), which is routinely viewed by 2.86 million people or 12.9% of Japanese Internet users (Video Research Interactive, 2004), is currently the largest Internet BBS in Japan. Unlike grass-roots BBS or Taiwanese BBS, Ni-channel does not offer a forum for serious discussions on social issues; it is useful for venting feelings, leaking information about companies, and attacking others with ferocity in a language unacceptable in daily life ("Japanese find a forum to vent most-secret feelings, 2004). Numerous prank messages warning of crimes sent to the BBS have caused trouble in schools, firms and other entities ("Prank messages on Net causing serious trouble, 2003). Since these messages are anonymously posted on Ni-channel, the bulletin board consists largely of gossip and messages containing offensive or defamatory information.

As compared to the Taiwanese, the Japanese have a more individualized Internet culture, and this is reflected in the Japanese cyber café. Japan has fewer cyber cafes than Taiwan. In Taiwan, adolescents visit cyber café to socialize with friends, while Japanese adolescents do not always enjoy using the Internet with friends. In some Internet café in Japan, each PC is set up in a small room to ensure privacy and to allow the customer to enjoy the Internet individually. The cyber café charge in Japan

is about 200–300 Yen (2–3 US dollars), while it is about 20–30 NT$ (0.60–0.90 US dollars) in Taiwan.

3.3. Mobile phone users

3.3.1. Taiwan

In 2002, the penetration rate of mobile phones in Taiwan was the highest in the world. Despite widespread use of mobile phones, only 4% of the Taiwanese ever use their mobile phones to connect to the Internet. The percentage of Internet-enabled mobile phones in Taiwan is 24%, far behind those of Japan (89.5%) and South Korea (87.0%) (Ministry of Public Management, Home Affairs, Posts and Telecommunications, 2004). In Taiwan, high school and junior high school students are not allowed to personally apply for mobile phones; however, approximately 60% of adolescents still possess their own mobile phones. The primary reason for parents' willingness to pay the phone bills is that they have direct contact with their children (Tosun Public Interests Foundation, 2004). Nonetheless, for adolescents, mobile phones symbolize autonomy and also status in some circumstances. For instance, teens can immediately communicate with anyone they wish, and this is viewed as an opportunity to exercise the right to speak freely. The monetary value of the mobile phone, along with the various functions of the phone, also reflect the economic status of the adolescent or his or her family. In Taiwan, carrier companies substantially influence the development of mobile phone applications. A high communication fee with an even higher fee for mobile Internet service, and the relatively low appealing content of this service, fails to attract Taiwanese users, although great demands for SMS, the ability to send photos and download pictures, and newer ring tones have been observed in Taiwan.

3.3.2. Japan

Since the mid-1990s, following the collapse of the bubble economy, the Japanese culture has changed from traditional collectivism to Individualism/Collectivism duality (Matsumoto, 2002) and personal relationships among the Japanese youth have become more distant (Sengoku, 1994). The characteristics of the new communication media and the Japanese youth culture appear to have been mutually reinforced, and both contributed to this individualization. Having *beru-tomo* is a unique communication pattern and was introduced in the mid-1990s in Japan. In the 1990s, making beru-tomo became a fad among Japanese high school students, especially females. With beru-tomo, neither of the correspondents knew the other's name, nor did they ever meet each other; they just knew their correspondent's pager number, which was either obtained from a journal or through random dialing. Beru-tomo constantly exchanged short messages (around 12 characters) such as ''hello'' and ''good night'' on their pagers almost every day, and they sometimes shared their problems with each other (Ishii, 2004). According to Nakamura (1997), 17% of high school students had beru-tomo in the mid-1990s. When mobile phones became more common than pagers in the new millennium, the mobile culture switched its preferred device for e-mail and text messages to the mobile phone. These new

correspondents are referred to as meru-tomo (mail friends), where *mail* means e-mail and text messages sent via mobile phones (these services are collectively known as keitai [mobile] mail in Japan because the Internet mail and the text messages are merged into one service). According to Tsuji and Mikami (2001), 14% of Japanese university students in Tokyo and Osaka had meru-tomo in 2001.

Deai-kei (matchmaking) sites also gained popularity when the Japanese mobile culture switched from pagers to mobile phones. Deai means, roughly, web dating using mobile phones. Deai sites enable mobile phone users to communicate privately with each other using text messages that can be downloaded from a server by registered members. Although matchmaking sites are popular in other nations as well, Japan is unique in this respect because these sites are mostly accessed via mobile phones. Deai-kei sites have been reportedly linked to various crimes. Data for 2003 from the Japanese National Police Agency shows that there were 1746 deai-kei-related criminal cases, including serious crimes such as rape, robbery, and murder (National Policy Agency, 2004). Apart from the crimes committed by adults, several Japanese females are involved in enjo-kosai (dating older men in exchange for money or other valuables), which is a serious social problem in Japan. In 2003, the government implemented a new law prohibiting those under 18 from sending messages to dating websites. However, the crime rate linked to the deai-kei sites did not decline in the first half of 2004 (National Policy Agency, 2004).

4. Research questions

This study will examine the following basic research questions:

RQ1: How different are media cultures in the two countries?
RQ2: How are mobile phones and the Internet associated with personal relationships among the youth?[4]

As described previously, Japan and Taiwan appear to have developed different media cultures. As is evident from the unique BBS, the Taiwanese are expected to prefer using PC-based Internet for communicative purposes. In contrast, the Japanese youth are expected to prefer mobile text messaging due to the prevalent mobile media cultures in Japan. Thus, the two communication technologies are expected to satisfy different needs in Taiwan and Japan. We will test the following specific hypotheses:

H1: The Taiwanese will be more likely to use the Internet for communicative purposes than the Japanese.
H2: The Japanese will be more likely to use mobile mail (SMS/e-mail) for communicative purposes than the Taiwanese.

[4] In this study, "youth" refers to those whose ages range between 12 and 29 years.

The last hypothesis is in relation to the basic cultural differences between the two countries. It is assumed that the two have different national cultures regarding communication behaviors. Thus, we hypothesize that the Taiwanese will prefer the use of voice messaging over text messaging because they prefer more direct communication.

H3: Taiwanese adolescents prefer direct communications more than Japanese adolescents do.

5. Method

This study employs multiple methods to explore the cultural aspects of Taiwan and Japan.

5.1. Questionnaire survey

The following three nationally representative surveys will be referenced in the present study. These surveys were conducted by a research group including one or both of the authors. (1) The Taiwan Mobile Phone Survey was conducted nationwide in Taiwan under the auspices of the Centre for Survey Research and the Institute of Sociology in Academia Sinica. The respondents were chosen from a probability sample whose subjects' ages ranged between 12 and 69 years. The total number of respondents was 1006, which forms a response rate of 40.3%. A total of 366 respondents (36.3%) were in their teens or 20s. (2) The IP (Internet Paradox) Survey was conducted nationwide in Japan in November 2001 and November 2003 by the Internet Paradox Research Group, which included the first author. The respondents were also chosen from a probability sample whose subjects' ages ranged between 12 and 69 years. The total number of respondents was 1246, out of which 252 respondents (20.2%) were less than 30 years of age. (3) The WIP (World Internet Project) Japan Survey (2000–2003) has been conducted nationwide in Japan every year since 2000 by a research group that also includes the first author. The respondents were chosen from a probability sample whose subjects' ages ranged between 12 and 74 years. The total number of completed responses in 2000, 2001, and 2002 are 2555, 2816, and 2333, respectively. In the following section, we will employ these three data sets, unless otherwise specified.

5.2. Qualitative observations at matchmaking sites

An additional qualitative survey was conducted to observe communication behaviors on the Internet. A female posted a personal advertisement on popular matchmaking sites in Japan and in Taiwan. These websites commonly have features such as reading information about other members, enabling communication between different genders, and forwarding messages to members without giving out personal e-mail addresses. A total of 220 messages were collected in two Japanese matchmaking sites and one Taiwanese matchmaking site. These messages were content-analyzed.

6. Results

6.1. Penetration of communication technologies

Table 2 compares the penetration rates of the main services on the Internet and mobile phones among the youth of the two surveyed countries. This table shows the specific differences in PC-based Internet usage between the two countries. The Taiwanese youth enjoys a variety of Internet tools, including Instant Messenger (IM), chatting, and BBS, while only a few of the Japanese use these services on the Internet.

Table 3 shows that the Taiwanese use PC-based Internet more frequently than the Japanese, while the Japanese use mobile phones, including voice and SMS/e-mail, more than the Taiwanese. Despite cheaper and faster access to the Internet in Japan, which is noted in Table 1, the Japanese do not utilize the Internet as much as the Taiwanese. More than half of the Taiwanese youth enjoy the advanced services on the Internet, such as IM and chatting, which are only rarely used in Japan. These results are consistent with H1.

Fig. 1 reveals that Japanese PC-based Internet users are comparatively older than their Taiwanese counterparts. In other words, Taiwanese teenagers constitute a more significant portion of that nation's Internet users than their Japanese counterparts. The Japanese youth, especially its teens, uses more mobile phones (Fig. 2) and more text messaging via mobile phones than the Taiwanese (Table 2). This is consistent with H2. One of the remarkable characteristics of Japanese teenaged females is the large number of text messages sent by them via mobile phones (Table 4). These results indicate that Japanese females still maintain the mobile text messaging cultures that emerged as beru-tomo in the mid-1990s. Interestingly, Japanese teenagers share similar media cultures with their Northern European counterparts. Some studies showed that a significant role was played by mobile phones in youth cultures in Northern Europe. Kasesniemi and Rautiainen (2002) noted that the mobile phone users and the use of mobile communication services shape the existing culture,

Table 2
Penetration rates of communication devices among Japanese and Taiwanese youth

	Taiwan (%)	Japan (%)
Mobile phone (voice)	77.8	87.2
Mobile phone (text messaging)	68.5	82.7
Total PC-based Internet	88.8	58.1
E-mail	77.8	36.7
Instant messenger	53.6	7.3
Chat	57.7	6.7
BBS	37.9	8.6
Net games	47.0	18.6
Net auctions	23.1	9.8
Internet shopping	14.0	16.0

Source: WIP Survey, 2003, Taiwan Mobile Phone Survey.

Table 3
Frequency of the use of communication devices among the youth

	Taiwan	Japan
Mobile phone (voice)[a]	4.8	7.6
Mobile phone (text messaging)[b]	5.8	42.1
PC mail[c]	10.6	8.3
PC-based Internet at home[d]	515.5	228.2

[a] Represents times/week.
[b] Represents the number of SMS/e-mails per week.
[c] Represents the number of e-mails sent per week.
[d] Represents the amount of time (min) spent per week. *Source:* IP Survey, Taiwan Mobile Phone Survey.

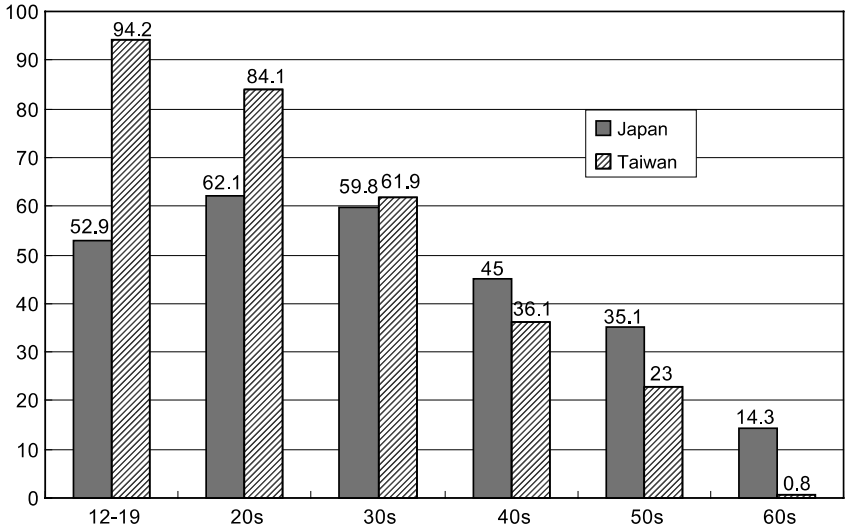

Fig. 1. Penetration rate of PC-based Internet by age (*Source:* IP Survey, Taiwan Mobile Phone Survey).

and may even generate a new lifestyle. Similar to its role with the Japanese, text messaging held a specific meaning in the everyday lives of the youth and played a part in cementing social relationships in Northern Europe.

To evaluate the effects of demographic factors on the use of PC-based Internet and mobile phones, logistic regression models were constructed.[5] The estimated parameters for the Japanese and Taiwanese are similar, with the exception of the effect of being a student, which contrasts sharply between the two countries (Table 5). Student status has a significant effect on the PC-based Internet in Taiwan and the mobile phone in Japan, whereas it has no significant effect on the PC-based Internet in Japan, and it has a significant negative effect on mobile phone use in Taiwan.

[5] All the respondents were used in the analysis to test the effects of age.

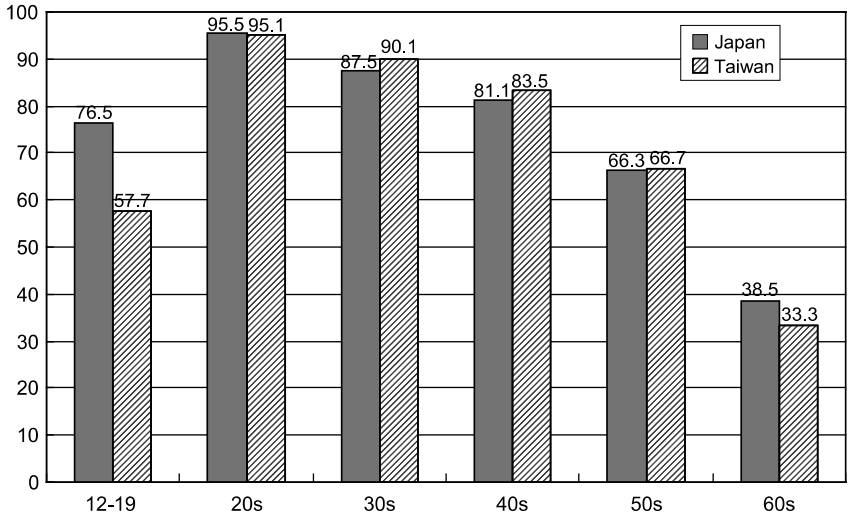

Fig. 2. Penetration rates of mobile phones by age (*Source:* IP Survey, Taiwan Mobile Phone Survey).

Table 4
Frequency of text messaging among youth

	Taiwan	Japan
Males aged 12–19	10.6	42.7
Females aged 12–19	9.7	95.0
Males aged 20–29	9.4	31.3
Females aged 20–29	5.7	40.5

Note: Numbers of SMS/e-mails sent via mobile phones per week.

These results indicate that the core mediums for youth, especially students, are the PC in Taiwan and the mobile phone in Japan.

6.2. Media use and social relationships

The PC-based Internet holds quite different positions for Taiwanese and Japanese users. For the Taiwanese youth, communication is the primary purpose of using the PC-based Internet, including chatting and visiting the BBS. For the Japanese youth, the PC-based Internet is used primarily for entertainment purposes. Significant correlations between mobile phone and PC-based Internet uses, as shown in Table 6, suggest that rates for sending PC e-mail and text messaging over mobile phones are comparable to those for speaking over mobile phones for the Taiwanese youth. In Japan, in contrast, the frequency of use for the PC-based Internet at home is negatively correlated to voice and text messaging over mobile phones, which suggests that the PC-based Internet and mobile phones play quite different roles.

Table 5
Logistic regressions of the use of PC-based Internet and mobile phones

	PC-based Internet		Mobile phones	
	Taiwan	Japan	Taiwan	Japan
Age	−0.078***	−0.050***	−0.049***	−0.075***
Gender (M = 1, F = 2)	−0.219*	−0.561***	−0.246*	−0.493**
Student (dummy)	1.299***	−0.402	−1.141***	1.350***
Education[a]	1.596***	0.672***	0.746***	0.119
Income[a]	1.102***	0.354***	1.042***	0.331***
Constant	3.833	3.145	2.848	4.232

Note: All respondents whose ages ranged between 12 and 69 were used in the analysis.
* $p < 0.05$.
** $p < 0.01$.
*** $p < 0.001$.
[a] Represents standardized variables.

Table 6
Pearson's correlation coefficients between media uses among the youth

	Mobile phone (text messaging)	PC-based Internet mail	PC-based Internet at home
Taiwan			
Mobile phone (voice)	0.267***	0.167**	0.202***
Mobile phone (text messaging)		0.146**	0.243***
PC-based Internet mail			0.114*
Japan			
Mobile phone (voice)	0.055	0.253**	−0.065
Mobile phone (text messaging)		0.415***	−0.038
PC-based Internet mail			0.047

Source: IP Survey, Taiwan Mobile Phone Survey.
* $p < 0.05$.
** $p < 0.01$.
*** $p < 0.001$.

Pearson's correlations were calculated to evaluate the association between the social network and the use of media. Table 7 demonstrates the different roles of the mobile phone and PC in relation to the social network in Taiwan and Japan. Firstly, a sharp contrast between the two countries is observed in the total number of friends maintained on the Internet. The Taiwanese have more friends on the Internet than their Japanese counterparts. Secondly, these media play different roles with regard to maintaining a social network in the two countries. In Taiwan, mobile phones and the PC-based Internet enhance friendships equally, a statement that is supported by the fact that all correlations in Table 6 are statistically significant for the Taiwanese. Contrary to the findings in Taiwan, the PC-based Internet in Japan plays only a limited role in maintaining social relationships. Friendships in Japan are enhanced via text messaging over mobile phones rather than via PC e-mail.

Table 7
Correlations between the number of friends and frequency of use for media

	Number of friends	Correlation with the number of friends	
	Mean	Total number of close friends	Number of distant friends
Taiwan			
Mobile phone (voice)	7.1	0.331***	0.414***
Mobile phone (text messaging)	3.2	0.223***	0.293***
PC e-mail	6.4	0.219***	0.324***
Instant messenger	6.9	0.203***	0.230***
Japan			
Mobile phone (voice)	5.7	0.283***	0.052
Mobile phone (text messaging)	5.1	0.304***	0.223***
PC e-mail	1.4	0.053	0.160*
Instant messenger	0.7	−0.028	0.032

Source: IP Survey, Taiwan Mobile Phone Survey. *Note:* Non-users of each medium were assigned the value of 0.
* $p < 0.05$.
*** $p < 0.001$.

A remarkable difference is noted between the two countries in their use of text messages over mobile phones and PC e-mails. The Japanese youth have a greater network size via mobile mail than via PC mail. On the contrary, the Taiwanese youth have a greater network via PC than via mobile mail. These results are consistent with H2.

6.3. Trust in the Internet

Though the Internet is a technology that is common across the world, usage patterns vary widely according to the social and cultural differences among the users. One of the key factors to understanding behaviors regarding the Internet is the degree of trust placed in the medium, since social relationships cannot be maintained over the Internet without trusting the technology. Interestingly, the degree of user trust in the Internet varies greatly across countries. Fig. 3 compares the percentage of respondents among 11 countries who stated that "most or all" of the information they find on-line is reliable and accurate (World Internet Project Japan, 2004). The figures reveal that the Taiwanese trust the Internet more strongly than the Japanese. Table 8 also shows that the Taiwanese people are more optimistic about having an "Information Society" than the Japanese people. Taiwanese people are more likely to believe that an information-oriented society will result in the establishment of better personal relationships than their Japanese counterparts.

The difference in the levels of trust placed in the Internet between the two countries is quite consistent with their Internet usage patterns, which are found in Table 2. The Taiwanese frequently use the BBS and IM on the Internet, while the Japanese rarely use the BBS or IM. The causal relationship between trust and usage patterns should be interpreted with caution; however, these results strongly suggest that a

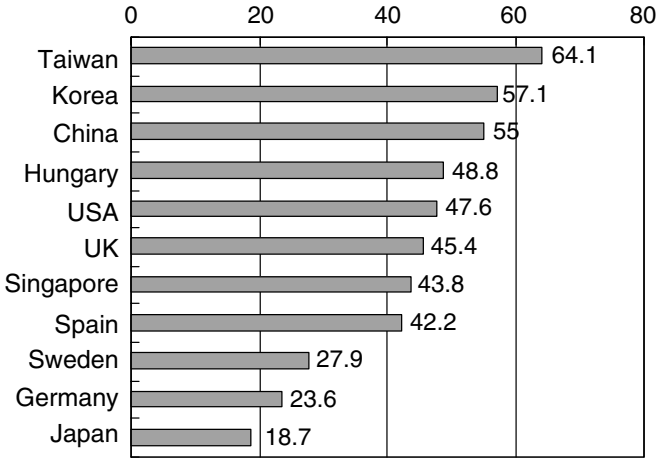

Fig. 3. Percentage of respondents who trust Internet information (*Source:* The World Internet Project Japan (2004)).

Table 8
Perceived value of an "Informion Society" among the youth (%)

	Taiwan (N = 337) (%)	Japan (N = 252) (%)	χ-square value
If the society is more "informatized:"			
It will be easier to get what you want and your life will be more convenient	97.6	86.1	28.4***
It will be easier to communicate with intimate or close friends	81.0	45.2	81.9***
You will have more chances to meet and communicate with new friends	81.9	53.2	56.2***

Source: Taiwan Mobile Phone Survey, IP Survey.
*** $p < 0.001$.

higher level of trust in the Internet should promote the communicative use of PC-based Internet, including the BBS and IM.

6.4. Content analysis of e-mails sent via matchmaking sites

The results suggest that media cultures are closely associated with culturally different communication behaviors. In order to measure the degree of preference for direct communications, a qualitative survey was conducted on the matchmaking sites in the two countries. E-mails sent via matchmaking sites in Japan and Taiwan were content-analyzed (Table 9).[6]

[6] All the correspondents were males according to their descriptions of themselves. The median ages for members on the Japanese sites, B and C, and the Taiwanese site, A, were 27 years, 35 years, and 30 years, respectively. Only the first message sent by each correspondent was considered.

Table 9
Self-disclosure of participants on matchmaking sites

	Taiwanese site (A)	Japanese site (B)	Japanese site (C)
Total number of messages (e-mail)	38	155	27
Gave phone number	6 (15.8%)	0 (0%)	0 (0%)
Gave e-mail address	12 (31.6%)	1 (0.01%)	1 (0.04%)
Gave real name	1 (0.03%)	0 (0%)	0 (0%)

The results indicate a clear contrast between the Taiwanese and the Japanese. None of the Japanese disclosed their phone numbers (mobile or landline) in their messages, whereas 16% of the Taiwanese disclosed their phone numbers (mostly mobile phone numbers), and 32% of the Taiwanese disclosed their personal e-mail addresses, hoping to make more direct communication. A Taiwanese male even disclosed personal details, including his real name, home phone number, company phone number, and mobile phone number. Interestingly enough, several Taiwanese stated that they disliked the idea of exchanging e-mails and hoped to see or talk to the correspondents via phone, while the Japanese preferred maintaining indirect communication. A limited number (0.01%) of Japanese males were willing to even disclose their personal e-mail addresses. Despite the somewhat inadequate population representation of the sample, these results are consistent with H3 and show that the Taiwanese prefer direct communication more than the Japanese do.

7. Media cultures in Taiwan and Japan

National cultures produce substantial differences in the use of communication technologies between Taiwan and Japan. Taiwanese youth has more friends on the Internet than its Japanese counterpart. The Taiwanese trust the Internet more strongly than the Japanese. The network on the Internet in Taiwan overlaps more with the real social network than does that in Japan. This is also suggested by the fact that many Taiwanese adolescents play on-line games with friends in cyber café, while Japanese adolescents rarely play with friends in cyber café. In other words, in Japan the Internet is regarded more as a virtual world that is independent of the real social network.

The Taiwanese Internet culture was developed through BBS sites, which were initially placed in universities; these provided forums for discussion on various topics. Given the historical background, it is easy to explain why the Taiwanese trust the Internet the most among the 11 countries studied (Fig. 3). In Taiwan, personal relationships on the Internet are supported by IM. The functions of IM have gradually become more advanced; it provides personal information for meeting new people online and makes instant chatting and sending photos and files convenient ways of communicating. Friend lists in IM represent the friendship network. Several humorous facial characters constitute the most powerful and direct communication tools

for vocabulary-deficient adolescents. This shows that personal relationships are more supported by the Internet technologies in Taiwan.

In contrast to those in Taiwan, the penetration rates of the BBS and IM in Japan are quite low (8.6% and 7.3%, respectively). One of the reasons the Japanese youth avoids the use of IM may be the directness of communication required by the tool, since users are required to make quick and mutual responses with IM (Hashimoto et al., 2003). Likewise, Japan has not successfully developed forums for discussion, such as the BBS, like Taiwan. In Japan, users only post messages anonymously in most of the BBS, similar to in the Ni-channel, where constructive discussion is quite difficult. As previously described, unlike the Taiwanese users, most Japanese Internet users consider the BBS to be a concentration of filthy and aggressive comments.

As suggested previously, the unique Japanese mobile text messaging cultures are rooted in conflict-avoidance tendencies among the Japanese youth. These tendencies are reflected by a low level of self-disclosure and the youth's preference for anonymous communication (Ishii, 2004). Sengoku (1994) pointed out that the Japanese youth had a tendency to avoid conflict more than the previous generation; thus, he referred to the Japanese youth as the "conflict-avoiding generation." According to his study, the Japanese youth tends to avoid conflicts resulting from intimate friendships. An extreme and abnormal form of conflict-avoiding behavior is called *hikikomori* (long-term withdrawal from society) and has become a serious social problem in Japan. It is reported that around 1 million Japanese youths have fallen into hikikomori, shunning contact with everyone except their families (Shimoyachi, 2003). Among the Japanese youth, talking over mobile phones is regarded as an act of intimacy reserved for close relationships. Thus, only very close friends and family usually talk on mobile phones, and acquaintances prefer to communicate through text messaging. Sometimes the Japanese even consider it rude to talk over mobile phones; for example, in one interview a student stated, "I was so angry that I talked to him over the mobile phone [instead of SMS or e-mail]" (Hashimoto et al., 2004).

In summary, the mobile culture in Japan is based on an indirect, sometimes anonymous and emotional, communication, which is compatible with the conflict-avoiding communication patterns among the Japanese youth. These characteristics are based on a strong sense of individualism.[7] As compared with the Japanese youth, the Taiwanese youth prefers direct contact, a fact supported by the results from the qualitative data obtained from matchmaking sites. Japanese adolescents avoid direct relationships more than their Taiwanese counterparts; thus, Japanese adolescents prefer text messaging more than Taiwanese adolescents.

[7] One of the most common stereotypes about the Japanese culture concerns the cultural dimension known as collectivism. However, no empirical support for Japanese collectivism in recent psychological research has been provided. Some studies show that the Japanese youth is even more individualistic than the American youth (Matsumoto, 2002). Matsumoto (2002) pointed out that the Japanese cultural changes occurred post-World War II. These cultural changes may have led to the unique communication cultures among the Japanese, who tend to avoid direct communication.

8. Conclusions

Having reviewed several survey results, this study observed that in some cases, despite the technological commonality, the social implications of communication technologies are quite different for Taiwan and Japan. Taiwan has a unique media culture called the BBS, while Japan has the unique keitai culture. These unique media cultures have been shaped through interactions between technologies and users. Communication behaviors are influenced by national cultures and media cultures, while media cultures are also formed by the communication behavior patterns of people. Many scholars have recently emphasized the interplay between IT and organizational cultures (Gallivana and Srite, in press), and media cultures are also socially constructed through the interplay between communication technologies and national cultures. Although this study is still exploratory with regard to the social construction process of media cultures, a fair amount of evidence supports the interplay.

We have tested psychological hypotheses about different patterns of media usage in the two countries. However, the culture surrounding a communication technology should be understood as a macro-level concept rather than one on an individual level. Once a media culture takes shape in a society, it becomes a de facto standard for users. Even if a Japanese student wants to use IM, she or he likely cannot find a friend to communicate with via IM in Japan. A sharp contrast between the penetration rates of IM, chat, and BBS in the two countries (Table 2) can be explained by such de facto standardization of information technologies among youths.

Fig. 4 sketches out the social construction process of media cultures in a society. National cultures and policy affect communication behaviors (arrows 1 and 4). Media cultures are shaped through the interplay between communication behaviors (arrows 2 and 3). Once a media culture is shaped, it becomes de facto standard (arrow 3).

How will media cultures change in the future? Will media cultures converge in the two countries? From a technological viewpoint, we anticipate global standardization of communication technologies. Recent 3G mobile technologies may promote these

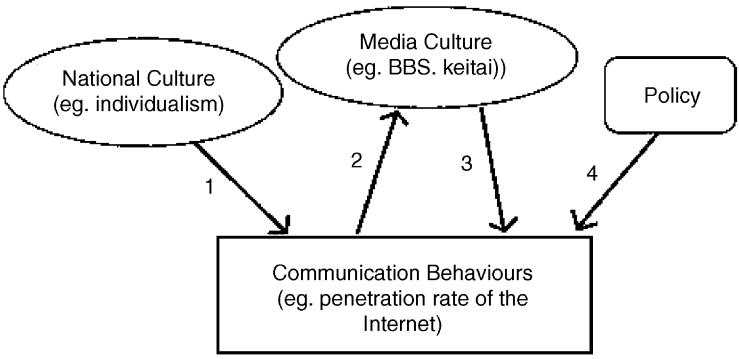

Fig. 4. Social construction of media cultures.

changes in the use of mobile phones. However, this study suggests another aspect that should not be ignored: some cultural differences will be maintained in spite of the technological convergence. While it is important to bear in mind that this study was exploratory in testing the social construction of media cultures, we believe that the findings can serve as suggestive models for thinking about the unique media cultures in the world and for understanding how unique media cultures are constructed in a society.

Acknowledgement

The authors wish to thank Prof. Hiroaki Yoshii for supporting the research project in Taiwan.

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