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Digital Divide and Information Needs for Improving Family Support among the Poor and Underserved

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Abstract

Despite its emotional benefits, communication with family members who live abroad can present a large financial burden for low-income foreign-born individuals. The aims of this study were 1) to explore the current technologies available for low-cost communication with family living abroad, and 2) to assess the level of awareness and use of low-cost technologies for family communication as well as related information needs among low-income foreign-born individuals. This mixed-methods study included an environmental scan, survey and focus groups with low-income foreign-born individuals living in East Harlem in New York City. Low-income individuals who have family members living abroad face financial stress with complicated technology choices for communication with family living abroad and they have many information needs. They would welcome interactive and convenient educational tools that 1) build skills for utilization of various technologies, and 2) provide decision support to simplify choosing among the vast array of available communication options.

Introduction

Urban dwelling, foreign-born individuals have a higher likelihood of having family members who live abroad and are more likely to be of low socioeconomic status than native-born individuals.¹ About 21.5 million foreign-born individuals and their young children live in or near poverty and it takes about 28 to 32 years for foreign-born individuals to close the gap in socioeconomic status related to poverty, low income, welfare use, and lack of health insurance.¹ Maintaining strong family connections and balancing communication between their subculture and their broader community's culture may help foreign-born individuals to close socioeconomic gaps by providing psychological benefits with impacts on cognition, disposition, and behaviors that inspire successful functioning within the larger community.^{2–4}

Although family communication is a critical component of emotional support⁵⁻⁹, maintaining communication with family members living abroad creates a financial stress due to the high cost of calls, the price of a mobile device, long-term contract constraints, scams, surcharges and hidden fees.¹⁰ For example, at least 17% of U.S. adults have experienced “bill shock,” which is a sudden increase in one’s monthly cell phone bill without having made any changes to the service plan.¹¹ For low-income individuals, a “bill shock” could easily consume a high percentage of their income. Moreover, individuals with low-literacy and limited income may be especially vulnerable to scams.¹² A number of survey studies provide clear evidence of the impact of high cost long-distance communication and complexities of mobile phone contracts on the ability to maintain consistent access to long-distance and mobile communication modalities.^{10,11} The ability to maintain consistent communication with family members living abroad is a critical facilitator to psychological wellbeing for foreign-born individuals.²⁻⁴ Foreign-born individuals are more likely to be of low socioeconomic status than the general population.¹³ A significant evidence gap exists demonstrating the link between financial burden due to communication costs and impact on psychosocial wellbeing for foreign born individuals who are already a population predisposed to risk of financial burdens *and* a lack of a local social support system. In an effort to close this gap, this exploratory study contributes to an overall understanding of: 1) the current state of financial options and barriers related to long-distance communication and mobile technology experienced by foreign born individuals, and 2) the perceived impact of long-distance communication barriers on the lives of foreign born individuals and the motivation and approaches used to overcome those barriers.

Innovative Internet-based communication technologies include new paradigms that are transforming the traditional consumer-seller relationship into a market of vast choices and alternatives for the savvy consumer.¹⁴ For example, Skype allows consumers with access to the Internet to make free calls. However, individuals with low socioeconomic status may be less aware of these options, and the digital divide (e.g., lack of affordable Internet access) may negatively impact their ability to take advantage of these low-cost Internet-based communication technologies.^{15, 16}

The specific aims of this study were: 1) to explore the current technologies available to individuals for low-cost communication with family living abroad, and 2) to assess the level of awareness and use of technologies for low-cost communication as well as related information needs among low-income foreign-born individuals. To address these aims, we conducted a mixed-methods study that included two phases: 1) an environmental scan that included brainstorming sessions with technology and public health domain experts to explore the current technologies available to individuals for low-cost communication options and development of an action plan; and 2) survey and focus groups with low-income individuals to determine their information needs related to the use of low-cost technologies for communication with family living abroad. Because phase 1 provided the foundation for phase 2, we first describe the methods and results of the environmental scan followed by the methods and results of the survey and focus groups.

Environmental Scan: Methods

The environmental scan consisted of literature and website reviews to explore and describe technology options for communication with family living abroad available to low-income individuals in New York City. PubMed, CINAHL, and Google Scholar were searched for publications related to low-cost communication technologies. Websites and store fronts of companies that offer communication technologies within the targeted neighborhood were reviewed. In situations where no other evidence exists, expert consensus can provide a basis for decision-making and considered action.¹⁷ Therefore, technology and public health domain experts also participated in the environmental scan through brainstorming sessions to provide feedback and insight to develop an action plan. The experts were identified based on their previous work and publications related to communication and technology needs of those with low incomes.

Environmental Scan: Results

Four experts from the technology and public health domains participated in the brainstorming sessions that informed the data analysis and interpretation of the environmental scan and the community member survey and focus groups.

The information about available technologies for communication with family living abroad was determined by the environmental scan process which included review of literature and websites and consultation with expert advisors. The results of the environmental scan are summarized in Table 1. Based on the environmental scan, a 21-question survey consisting of questions related to participant demographics, cell phone types and use, and Internet access and use was designed.

Focus Groups and Survey: Methods

Setting and Sample

The setting for this study was a neighborhood in the northern part of Manhattan (East Harlem) with a high proportion of foreign-born low-income individuals. The neighborhood is served by a large, multi-site, multiservice community organization that works with the neighborhood's predominantly low-income community that includes many foreign-born individuals. This long-standing community organization provides programs in education, childcare, youth development, senior services, job training, the arts, nutrition, counseling and community development that serve more than 13,000 people each year.

The inclusion criteria for this study were low-income individuals who participated in the community organization's adult education English as a Second Language (ESL) program. We excluded individuals who were not foreign-born and were not able to converse in English as determined by the community organization's adult education instructor. The convenience sample was recruited by community organization staff and participants were compensated \$25 for their time to participate in the study per our community standard. Institutional review board approval and approval of the leadership from the community organization were obtained for this study.

Data Collection

Informed consent for voluntary participation was obtained from all individuals prior to their participation in survey and focus group data collection. Based on findings from the environmental scan, we iteratively developed a survey to assess community members' demographic information and access to cell phones and the Internet. The 21-item survey was administered to community members prior to their participation in a focus group and required approximately 25 minutes for completion.

Two community member focus groups were conducted by two researchers (SC and SY) at the community organization in October of 2010. SC and SY conducted both focus groups together. Focus group methodology was chosen to enable collection of participants' perceptions and experience related to communication technology and communication with family living abroad in "their own words", opportunity for clarification of participants' responses, and as a method to understand the individual experiences that are shared within a community of peers. During each focus group, participants were asked open-ended questions about their understanding of, and experience with, available technology options for communication with family living abroad. The participants were also asked about their level of interest in – and recommendations for – educational workshops or classes about low-cost technologies for communication with family living abroad.

Each session lasted approximately 90 minutes. The focus groups were audio-recorded, transcribed, and verified for accuracy against the audio recording. Member checks were conducted with the participants during data collection by reflection to participants to ensure accuracy of the interpretation of the data.

Data Analysis

Data from each focus group transcript were organized using qualitative data analysis software (Qualyzer version 1.1.1 from McGill University school of Computer Science) and coded for themes. Thematic analysis was performed on the qualitative data. Each focus group transcript was analyzed by both researchers separately and group sessions were held to reach consensus on identified themes. Of note, SY is a foreign born individual and SC is not foreign born. This dynamic was believed useful for self-reflection to identify, discuss, and set aside any inherent biases the researchers may have had based on their respective backgrounds and experiences during the thematic analyses and group consensus sessions. The survey data were analyzed using SPSS statistical software and summarized using descriptive statistics. An interpretation phase was conducted after the analysis on each set of data (qualitative focus group data and quantitative survey data) had been completed. During this step, the qualitative and quantitative findings were triangulated to transcend the limitations of the findings from each method and merged to derive a consistent outcome. This process of merging the data leveraged the collaborative judgment, wisdom, and insight of the authors and an expert advisory group. Specifically, the authors identified the differences and similarities of findings from the two methods to: 1) confirm the validity of the findings if the methods produced similar results, or 2) contrast the findings to indicate areas for future research if the methods produced divergent results. For example, a technology that was discussed at length during the focus groups sessions but which had low

reported usage rates in the survey data would indicate non-overlapping findings that should be investigated further for complete understanding of the topic.

Focus Groups and Survey: Results

The two community member focus groups were conducted with a total of 14 participants, and each participant completed a survey. Demographic data and family communication practices of the 14 community participants are summarized in Table 2. The majority of participants were Latino and female, with 42% of participants between the ages of 30 and 39. Focus groups themes are presented in Table 3 and survey results are presented in Table 4. The seven focus group themes are: 1) There is an aversion to cell phone contracts; 2) Phone card use is popular but is used with caution because of hidden fees; 3) Private Internet is expensive and public Internet is inconvenient; 4) Internet options would be great, but they are complex and some participants can't afford Internet; 5) Coordination with family is required because of the complicated options of who initiates the call and how to save money overall; 6) Social media are not private enough; and 7) Email is for friends, whereas phoning is for family. The first four themes relate to our objective to understand the current state of financial options and barriers related to long-distance and mobile technology communication experienced by foreign born individuals. Themes five, six and seven related to the participants' perceived impact of communication barriers and motivation and approaches to overcome barriers.

Current state of financial options and barriers related to long-distance communication technologies

Our data show that the majority of low-income foreign-born participants surveyed (85%) prefer using cell phones that do not require a contract such as T-mobile or Metro PCS; these participants discussed their perceptions of the advantages of non-contract cell phones and disadvantages of cell phone contracts. For example, one participant pointed out that a social security number is needed for a cell phone contract but is not required to purchase a non-contract cell phone. The participants also felt that a non-contract cell phone was advantageous over a contract cell phone because it allowed for greater control of one's bill, unlimited calls, and it did not affect their credit score. The main disadvantages of cell phone contracts discussed were surprise bills and unexpected charges. One participant stated "my grandson's Verizon bill was \$800 for two months."

During our environmental scan, we found communication technologies that are free to use over the Internet; however, all of these technologies require Internet access, which is costly. Therefore, based on our environmental scan, phone cards are the cheapest option available (e.g. calling China from the U.S. is 0.1¢/min). However, the survey data showed that only 50% of the participants use a phone card. The remaining 50% who do not report using phone cards may be explained by the focus group participants' discussion about experiencing unexpected and hidden phone card fees and charges. For example, one participant stated: "if you buy a \$5 phone card, when you go to dial it, they say you have like 45 or 55 minutes, and then you call and nobody answers the phone and they charge for 20 or 25 minutes and you were not talking".

Only 30% of participants reported using Internet Messenger tools such as Skype, MSN, Google Chat and Yahoo Chat; participants explained during the focus groups that this was because Internet access is expensive and some of them have limited computer skills. For example, one participant pointed out that “[Skype] is not free, because you have to pay for Internet [access].”

Perceived impact of communication barriers and motivation and approaches to overcome barriers

Interestingly, 64% of the participants reported using Facebook and 7% reported using MySpace. However, some participants felt that social media were effective for staying connected with friends but that they do not provide enough privacy for communication with family members. For example, one participant stated: “The problem with Facebook is everybody knows what you're talking about. The intimacy is not under your control, so I prefer to have control of my intimacy with another tool.” Another participant explained the importance of making the effort to communicate with family, including virtual face-to-face communication, despite its challenges: “Before coming here I got to teach everyone in the family to use Skype... it's very important when you are abroad to see their faces. It's important to hear...but if you are abroad, to see their faces is very important for our mothers. It's very important to see we are okay, we have no problems.” One participant succinctly stated: “Sometimes [my family] will pay a little bit more so that they can see a video or picture [of me]”.

Discussion

Our findings indicate that a large digital divide has continued to persist in the low-income foreign-born community that we studied.¹⁵ The participants shared experiences that illustrated: 1) personal and common struggles to navigate the complicated financial options and barriers related to long-distance communication technologies, and 2) motivation to remain in close connection with their family members living abroad and the development of approaches to overcome communication barriers. This digital divide with financial burden represents social barriers to the emotional support for the underserved population. The main finding, that the individuals who participated in this study used “dumb cell phones,” prepaid cell phones, and calling cards, demonstrates the perceived and/or real limited choices for family communication that low-income individuals may have. For example, calling cards are often chosen because they are convenient and offer low rates, but a \$2.25 million Federal Trade Commission lawsuit confirmed that some pre-paid calling card companies mislead consumers about the number of minutes of talk time per card and include a number of hidden fees.¹² Alternatively, the Internet provides low- or no- cost options for communication, yet potentially costly Internet service or smart phone “apps” (e.g., iPhone Skype apps) are necessary to take advantage of these low-cost Internet-based alternatives. Moreover, public Internet access at libraries is inconvenient and individuals perceive that Internet access at cafes increases the risk of obtaining a computer virus that may require costly computer repairs.

Our findings indicate that having a low income may limit communication alternatives; yet income restrictions increase the importance of effectively deciding among complicated choices based on personal preferences and available resources. For example, the participants' high use of phone cards despite their awareness of hidden fees may be an example of decision-making in the setting of a limited set of choices and available resources. The participants interviewed made their choices based on their own experiences as well as their friends' and family members' experiences. These choices included complex coordination of 'who calls whom' within a family and other money saving options with family members abroad.

However, in addition to their complex decision making based on their own experience, the study participants had information needs about cell-phone contracts, phone cards, and Internet-based communication technologies such as Skype. Additionally, all of the study participants were open to opportunities to acquire this knowledge. Therefore, there is a potential role for educational programs to empower individuals to make choices that best meet their communication and economic needs. Based on the participants' feedback, these educational programs and tools should be interactive, user-friendly, and convenient.

Community technology centers (CTCs) have emerged since the 1980s that offer educational programs and computer classes to narrow the digital divide in low-income urban communities.¹⁸ These community technology centers could be leveraged to provide needed educational programs. Based on our findings, a useful educational program implemented at a community technology center may offer the assisted use of a computer-based decision support tool that simplifies choices for consumers based on their income restrictions and personal preferences. Additionally, an educational program should build skills that can be utilized immediately by low-income foreign-born individuals, such as how to initiate a Skype or Google Voice account.

Limitations

This study is limited to foreign-born low-income individuals from one neighborhood in the northern part of Manhattan. Moreover, most participants were Latino, female, and unemployed. The views and practices of those from non-urban areas as well as other racial and ethnic groups, gender, and employment statuses may be different. Consequently, further work is needed to determine the generalizability of the results.

Conclusion

Individuals with low-incomes who have family members living abroad have information needs and are faced with financial burden and complicated choices for communication with their family members living abroad. There is a need for interactive and convenient educational tools that build knowledge and skills that can be immediately utilized to save money, such as how to initiate and use Internet-based technologies in order to provide emotional support. Additionally, there is a need for interactive decision support tools to simplify choices of technology options for communication with family living abroad among low-income consumers.

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References

1. Camarota, S. Immigrants in the United States, 2007: a profile of America's foreign-born population. Washington, DC: Center for Immigration Studies; 2007.
2. Bandura, A. Social foundations of thought and action: A social cognitive theory. Englewood Cliffs, NJ: Prentice-Hall; 1986.
3. Harel Z, Kahana B, Kahana E. Predictors of psychological well-being among Holocaust survivors and immigrants in Israel. *Journal of Traumatic Stress Studies*. 1988; 1:413–429.
4. Austin E, Nelson C. Influences of Ethnicity, Family Communication, and Media on Adolescents Socialization to United-States Politics. *Journal of Broadcasting & Electronic Media*. 1993; 37(4): 419–435.
5. Cavaleri MA, Olin SS, Kim A, Hoagwood KE, Burns BJ. Family support in prevention programs for children at risk for emotional/behavioral problems. *Clin Child Fam Psychol Rev*. 2011 Dec; 14(4):399–412. [PubMed: 22080305]
6. Kuscu MK, Akman I, Karabekiroglu A, et al. Early adverse emotional response to childbirth in Turkey: the impact of maternal attachment styles and family support. *J Psychosom Obstet Gynaecol*. 2008 Mar; 29(1):33–38. [PubMed: 17852656]
7. Majasaari H, Sarajarvi A, Koskinen H, Autere S, Paavilainen E. Patients' perceptions of emotional support and information provided to family members. *AORN J*. 2005 May; 81(5):1030–1039. [PubMed: 15974384]
8. Nalavany BA, Carawan LW. Perceived family support and self-esteem: the mediational role of emotional experience in adults with dyslexia. *Dyslexia*. 2012 Feb; 18(1):58–74. [PubMed: 22190477]
9. Okamoto K, Harasawa Y. Emotional support from family members and subjective health in caregivers of the frail elderly at home in Japan. *Arch Gerontol Geriatr*. 2009 Jul-Aug; 49(1):138–141. [PubMed: 18674826]
10. Federal Communications Commission. [Accessed August 10, 2010] International Long Distance Calling. Available at: <http://www.fcc.gov/cib/consumerfacts/hello.html>.
11. Federal Communications Commission. [Accessed August 10, 2010] Bill Shock. Available at: <http://www.fcc.gov/cgb/billshock/>.
12. Federal Trade Commission. [Accessed August 11, 2010] Companies Agree to Pay \$2.25 Million as Part of FTC Crackdown on Fraud in the Prepaid Calling Card Industry. Available at: <http://www.ftc.gov/opa/2009/02/alternatel.shtm>.
13. Center for Immigration Studies. Immigrants in the United States: A Profile of America's Foreign-Born Population. 2011 from <http://cis.org/node/3876>.
14. Tedeschi, B. The New York Times. Technology; 2010. Better Calling for Less, by Skipping the Cell Network.
15. Cresci MK, Yarandi HN, Morrell RW. The digital divide and urban older adults. *Comput Inform Nurs*. Mar-Apr; 28(2):88–94. [PubMed: 20182159]
16. Robinson P, Shaheen M, Smith J, Ryan D, Baker R. Residential accessibility to information technology retailers and self reported computer use among patients attending community clinics. *AMIA Annu Symp Proc*. 2009; 2009:542–546. [PubMed: 20351914]
17. Minas H, Jorm AF. Where there is no evidence: use of expert consensus methods to fill the evidence gap in low-income countries and cultural minorities. *Int J Ment Health Syst*. 2010; 4:33. [PubMed: 21176157]
18. Servon L, Nelson M. Community Technology Centers: Narrowing the Digital Divide in Low-Income, Urban Communities. *Journal of Urban Affairs*. 2001; 23(3–4):279–290.

TABLE 1

Results of Environmental Scan for Low-Cost Technology Options for Communication with Family living Abroad

Technology Options for Low-Cost Communication with Family	
Calling Card	
Many options (hundreds)	
Cost: calling from the US to: China (0.1¢ – 4.5¢/min), Dominican Republic (2.1¢ – 9.1¢/min)	
Pros: convenient, no Internet or cell phone needed, cheaper than Internet or cell phone plan	
Cons: unstable connection quality, hidden fees/charges	
Cell Phone	
Most carriers (Verizon, Sprint, AT&T) require a contract, but some (T-Mobile, Boost) do not.	
Two different types according to function (dumb-phone, smart phone)	
Smartphones can use messengers (Skype, Google Voice/Chat/Talk, MSN, Yahoo)	
Cost: Verizon: e.g.) China: 149¢/min or monthly \$3.99 + 13¢/min	
Sprint: e.g.) China: 159¢/min or monthly \$4 + 13¢/min	
AT&T: e.g.) China: 349¢/min or monthly \$3.99, and 15¢/min	
Internet Options	
Skype: A call from one Skype device to another Skype device over the Internet is free. A	
Skype device may be a PC or Smartphone that accesses Skype through the Internet. Rates apply when using Skype device to call a regular landline or cellphone.	
Pros: Price-moderate, good connection quality	
Cons: installing software, unwanted spam	
e.g.) Dominican Republic from the U.S. (9¢/min Skype using PC to regular phone)	
China from the U.S. (2.4¢/min Skype using PC to regular phone)	
Google Voice: PC to phone, phone to phone	
Pros: overall inexpensive, not the most inexpensive	
Cons: complex initiation, instability	
e.g.) Dominican Republic from the U.S. (6¢/min)	
China from the U.S. (2¢/min)	
Yahoo Voice: PC to phone	
e.g.) Dominican Republic from the U.S. (8¢/min)	
China from the U.S. (2¢/min)	
EvaPhone: PC to phone	
Pros: free direct calling to phone (receiver does not require Internet)	
Cons: not much known	
Glove7: PC/mobile to PC/mobile/landline	
Vonage: Internet-Vonage phone adapter-your phone, \$25.99/month	
Other Instant messengers (not meant to be a comprehensive or complete list): AIM, MSN, Google Talk, SIM messenger, ebuddy, MySpaceIM, SIMPLE, QQ, Sametime, Zephyr, XMPP, SILC, ICQ, Groupwise, Gadu-Gadu, Nateon	
Pros: free	
Cons: need Internet connection, installing software on caller and receiver	

TABLE 2

Focus Group and Survey Participant Characteristics (n= 14)

	Participants Background Information
Nationalities	Mexico, Spain, Dominican Republic, Honduras, Chile, Columbia, Ecuador, Sudan
Gender	Female (71.4%), Male (28.6%)
Age	20–29 (14.3%), 30–39 (42.9%), 40–49 (14.3%), 50–59 (14.3%), 60–69 (7.1%)
Ethnicity/Race	Latino (78.6%), African/Black (14.3%), Caucasian/White (7.1%)
Marital Status	Single (28.6%), Widowed (7.1%), Married (35.7%), Separated (14.3%), Living with a partner (14.3%)
Education	Grade school (21.4%), high school (21.4%), Vocational/Trade school (7.1%), College (14.3%), Post-Graduate (35.7%)
Employment	Yes (28.5%), No (64.3%), Retired (7.1%)
Income Meets Your Needs	Enough (14.3%), Barely enough (21.4%), Not enough (50.0%), Unknown (14.3%)
Cell Phone	Have (100%), Do not have (0%)
Sharing	Sharing with Family or Friends – Yes (57.1%), No (35.7%), Unknown (7.1%)
Function	Email (21.4%), Picture (57.1%), Internet (64.3%), Text message (78.6%), GPS (7.1%)
Long Distance Communication	Brothers/Sisters (85.7%), Parents (71.4%), Friends (57.1%), Relatives (35.7%), Children (14.3%), Grandparents (7.1%), Others (7.1%)
Frequency	Every day (7.1%), Every 2–3 days (42.9%), 1/ week (35.7%), Every 2weeks (14.3%), 1/month (7.1%), 2–3 / month (7.1%), 1/Year (7.1%)
Duration	1 min (7.1%), 10–20 minutes (28.6%), <30 min-1 hour (50%), 1–2 hours (7.1%), >3 hours (7.1%)

TABLE 3

Themes and Quotes of Content Analysis from Focus Groups for Communication with Family using Technology Among Low-Income Foreign-born individuals

Current state of financial options and barriers related to long-distance communication technologies	
1	<p>Theme: Aversion to Cell Phone Contracts</p> <p>“I don’t think anybody wants one (contract). “</p> <p>“you have to wait for the contract to finish, and if not, you have to pay I think it is \$250.”</p>
2	<p>Theme: Phone card use popular but used with caution for hidden fees</p> <p>“If you buy \$5 phone card, when you go to dial it, they say you have like 45 minutes, 55 minutes, and then you call and nobody answers the phone and they charge for 20, 25 minutes and you were not talking.</p>
3	<p>Theme: Private Internet expensive and public Internet inconvenient</p> <p>“Now a days there are a lot of photos, a lot of video, and you cannot go with dial up.”</p> <p>“Now everybody is using the library, it is hard to find a reservation. Or when I finally come at the end of the day, like 5:00, you can’t use it because you must put your reservation before 4:50. After that the library is closed.”</p> <p>“You can’t find a comfortable place [at the library] to work on communication”</p>
4	<p>Theme: Interactive Internet options would be great, but they are complex and they aren’t really free because of Internet costs</p> <p>“It’s not free, because you have to pays for Internet”</p> <p>“I don’t use it because they [my family] don’t have a Skype phone, so that’s why I don’t call. And I don’t want to apply credit, because my credit on Skype is gone.”</p> <p>“Before coming here I got to teach everyone in the family to use Skype... it’s very important when you are abroad to see their faces. It’s important to hear...but if you are abroad, to see their faces is very important for our mothers. It’s very important to see we are okay, we have no problems.”</p>
Perceived impact of communication barriers and motivation and approaches to overcome barriers	
5	<p>Theme: Coordinate with family the complicated options of who calls and how to save money overall</p> <p>“If they have a problem or they want to talk to us, they just call, and say call me back. I wait for you five minutes, ten minutes, I call because they keep talking and talking, and they’re going to pay the bill.”</p>
6	<p>Theme: Social media not private enough</p> <p>“The problem with Facebook is everybody knows what you’re talking about. The intimacy is not under your control, so I prefer to have control of my intimacy with another tool.”</p>
7	<p>Theme: Email is for friends not family</p> <p>“I like to email with my friends, and talk with my family”</p> <p>“Sometimes [my family] will pay a little bit more so that they can see a video or picture [of me]”</p> <p>“I told them [my parents] to go to the chat room...because my mother wanted to see me.”</p>

Survey Results for Communication with Family using Technology Among Low-Income Foreign-born Individuals

TABLE 4

1. Cell phone			
Use companies that require contract (e.g., AT&T, Verizon)			14%
Use companies that do not require contract (e.g., T-Mobile, Metro PCS)			85%
Spend \$10 to \$69/month on cell phone			73%
Can afford less than or equal to \$50/month for cell phone			79%
2. Phone Card			
Use a phone card			50%
3. Modes for long distance communication			
	Survey Participant	Participants' Family/Friends	
Phone card	50%	Yahoo Chat	7%
Cell phone	71%	Facebook	64%
Land line	29%	Twitter	0%
Prepaid phone	29%	My Space	7%
Skype	14%	YouTube	7%
MSN	29%	Picasa	0%
Google Chat	36%	Others	14%
		Phone card	36%
		Cell phone	71%
		Land line	36%
		Prepaid phone	21%
		Skype	14%
		MSN	21%
		Google Chat	21%
		Others	7%
4. Internet access			
	Internet Access at Home		Internet Access in Public Places
Cell phone		21%	Library
Broadband at home		29%	Work
Dial-up at home		14%	Friends
Cable TV		57%	Café
			29%
5. Use of Internet Messenger			
Skype			14%
MSN			29%
Google Chat			36%
Yahoo Chat			7%

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6. Use of Social Media	My Space	7%
	Twitter	0%
	Facebook	64%