



USING THE INTERNET TO CONDUCT RESEARCH WITH CULTURALLY DIVERSE POPULATIONS

Nelson Portillo, Ph.D.
University of Illinois at Chicago (UIC)

Learning objectives

At the end of this talk you will be able to:

1. Understand the nature of disparities among internet users and define the digital divide
2. Understand the different types of research conducted with culturally diverse populations using the Internet
3. Identify and discuss benefits and drawbacks of using the Internet with culturally diverse populations for the purpose of conducting research
4. Design a research study with culturally diverse populations, in an area of interest, using the Internet
5. Understand and discuss guidelines for using the Internet for research purposes

Agenda

- Introductions, review agenda and learning objectives (9 – 9:20 am)
- Internet definition, use, growth, and trends (9:20 – 9:30 am)
- Discussion question: The digital divide (9:30 – 9:40 am)
- Understanding Internet inequalities that might impact research (9:40 – 9:50 am)
- Types of psychological research (9:50 – 10:30am)
 - Observational research
 - Survey research
- Benefits, challenges and ethical concerns
- Break (10:30 – 10:40 am)
- Example of intervention research (10:40 – 11:00 am)
- Challenges and opportunities (11:00 – 11:15 am)
- Discussion of recommendations and ethical issues (11:15 – 11:30 am)
- Design an internet study (explore resources) (11:30 – 12 pm)

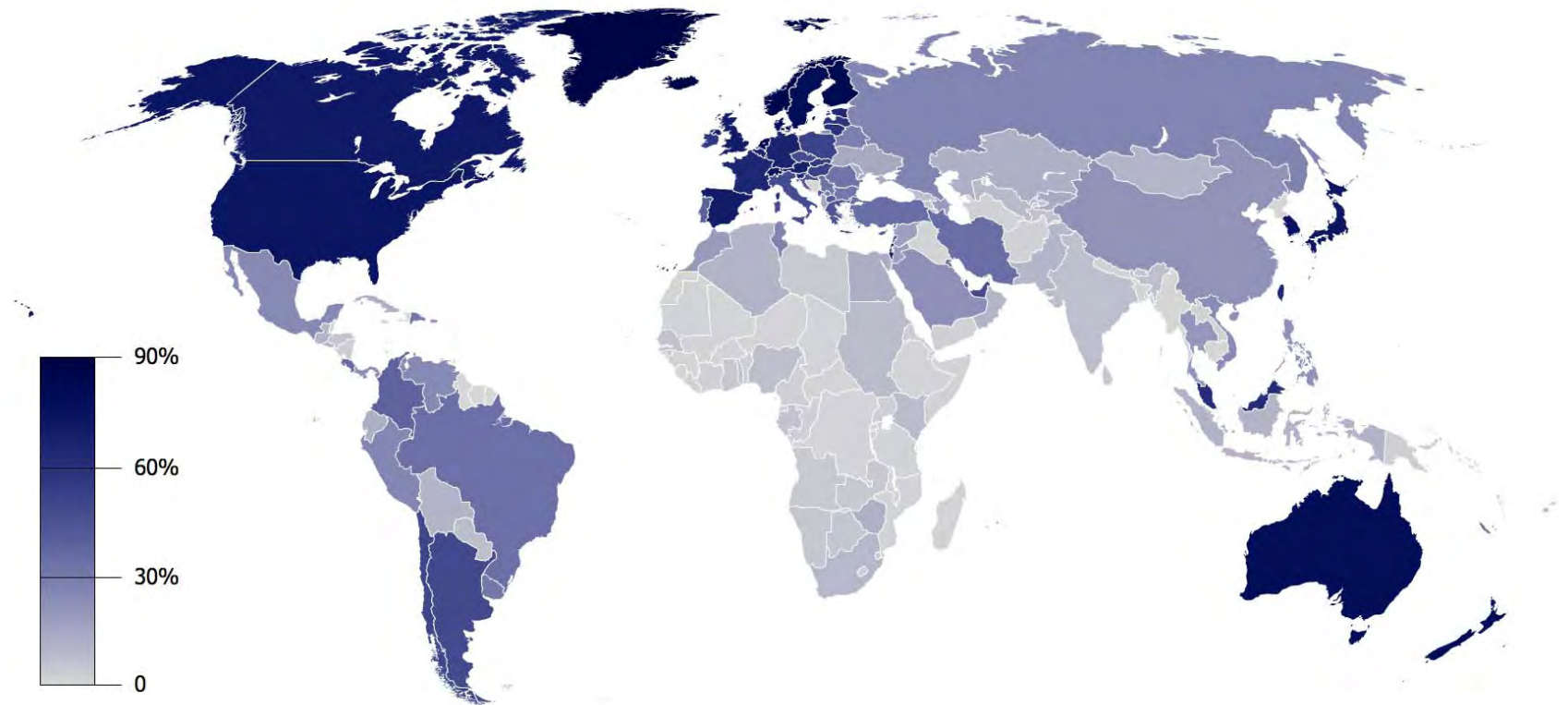
What is the Internet?

- ❑ Google results: 89,500 (0.19 seconds)
- ❑ It is a global system of interconnected computer networks that use the standardized Internet Protocol Suite (TCP/IP).
- ❑ It is a network of networks that consists of millions of networks of local to global scope that are linked by copper wires, fiber-optic cables, wireless connections, and other technologies.
- ❑ It carries a vast array of information resources and services, most notably, the inter-linked hypertext documents of the WWW and the infrastructure to support electronic mail, in addition to popular services such as online chat, file transfer and file sharing, online gaming, and Voice over Internet Protocol (VoIP) person-to-person communication via voice and video (thanks Wikipedia!).

What is the Internet?

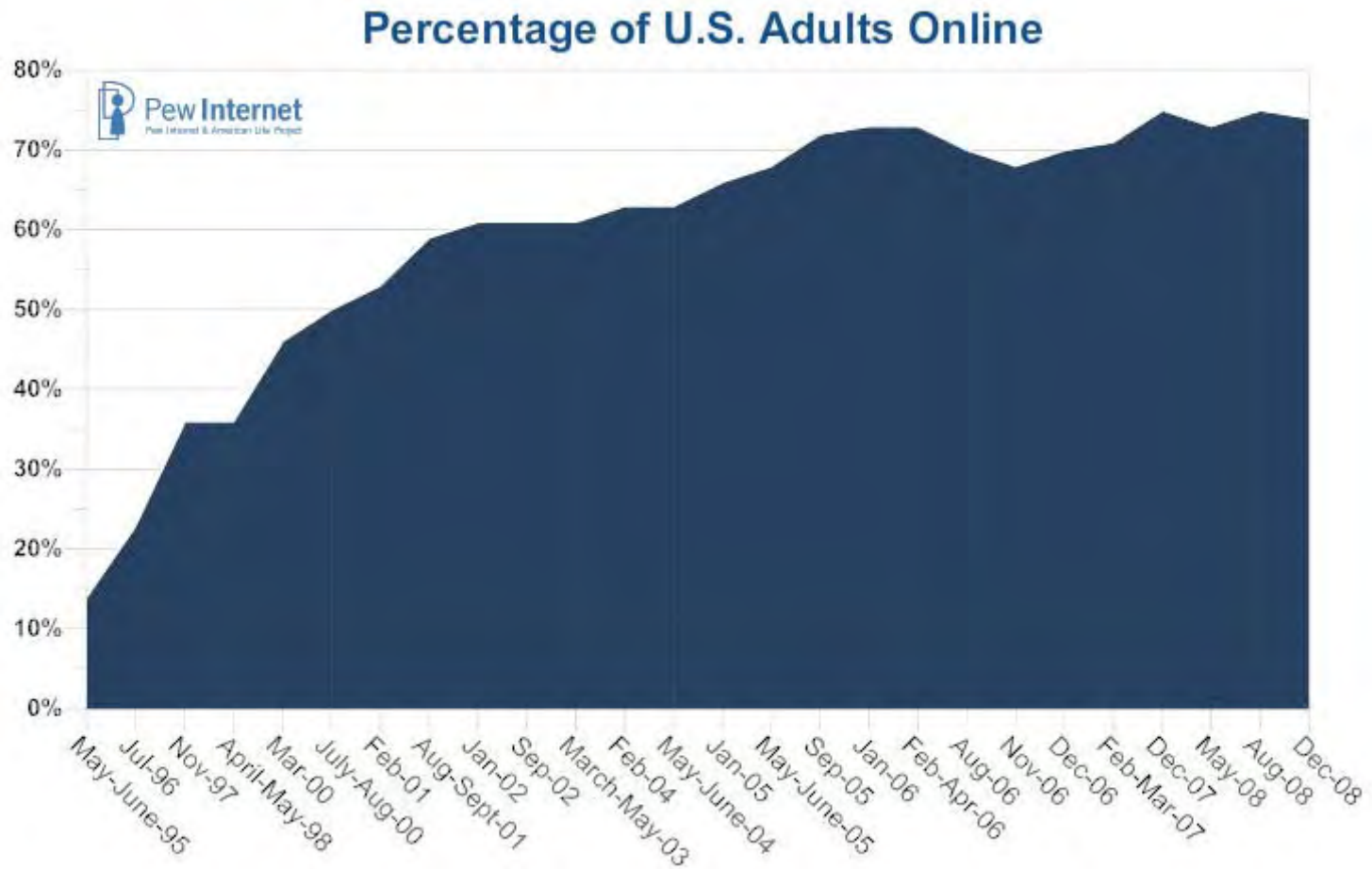
- The Internet is a self-publishing medium.
- It is for the most part not scrutinized or regulated.
- It is in constant change.
- It is one of the most efficient ways of conducting research through a variety of protocols and channels.
- Who uses the Internet?

Internet penetration around the globe



Source: internetworldstats.com

Internet use growth in the U.S.

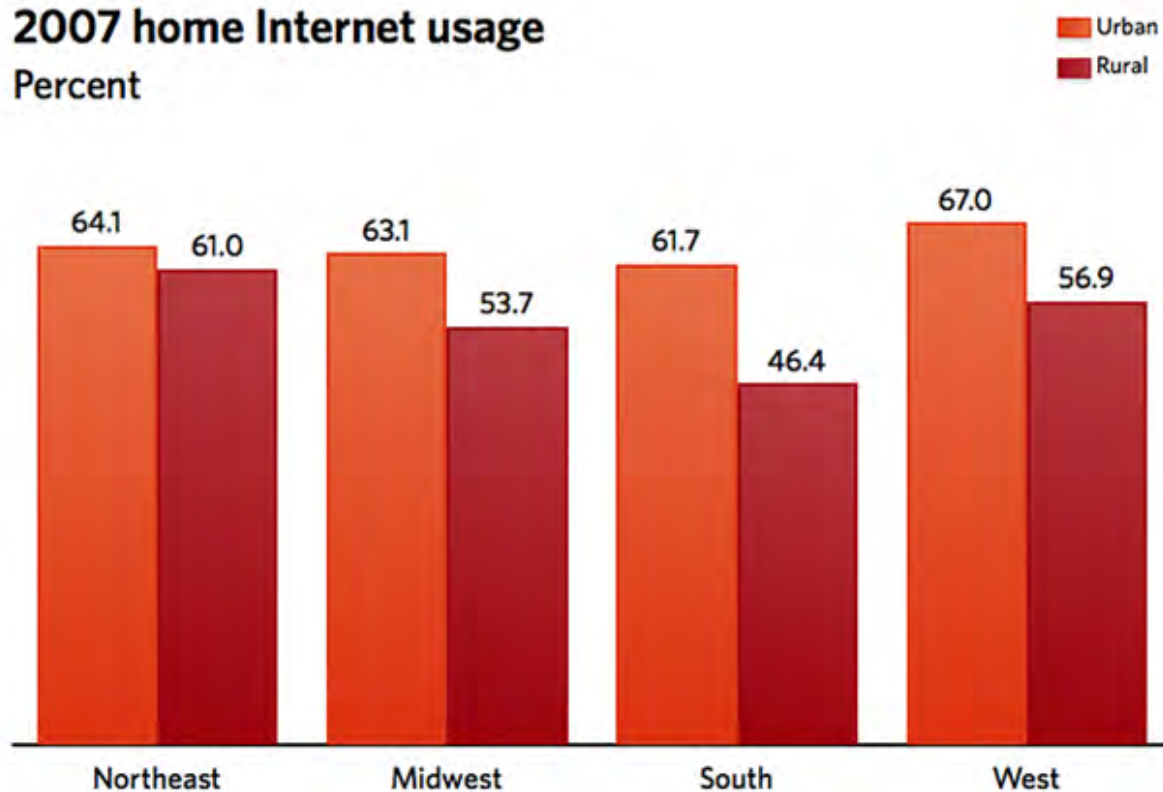


Other Internet trends (2000-2008)

Demographic Group	Year 2000	Year 2008
Men users	52%	75%
Women users	47%	73%
Age: 18-29	67%	90%
30-49	59%	85%
50-64	42%	72%
65 and above	13%	38%

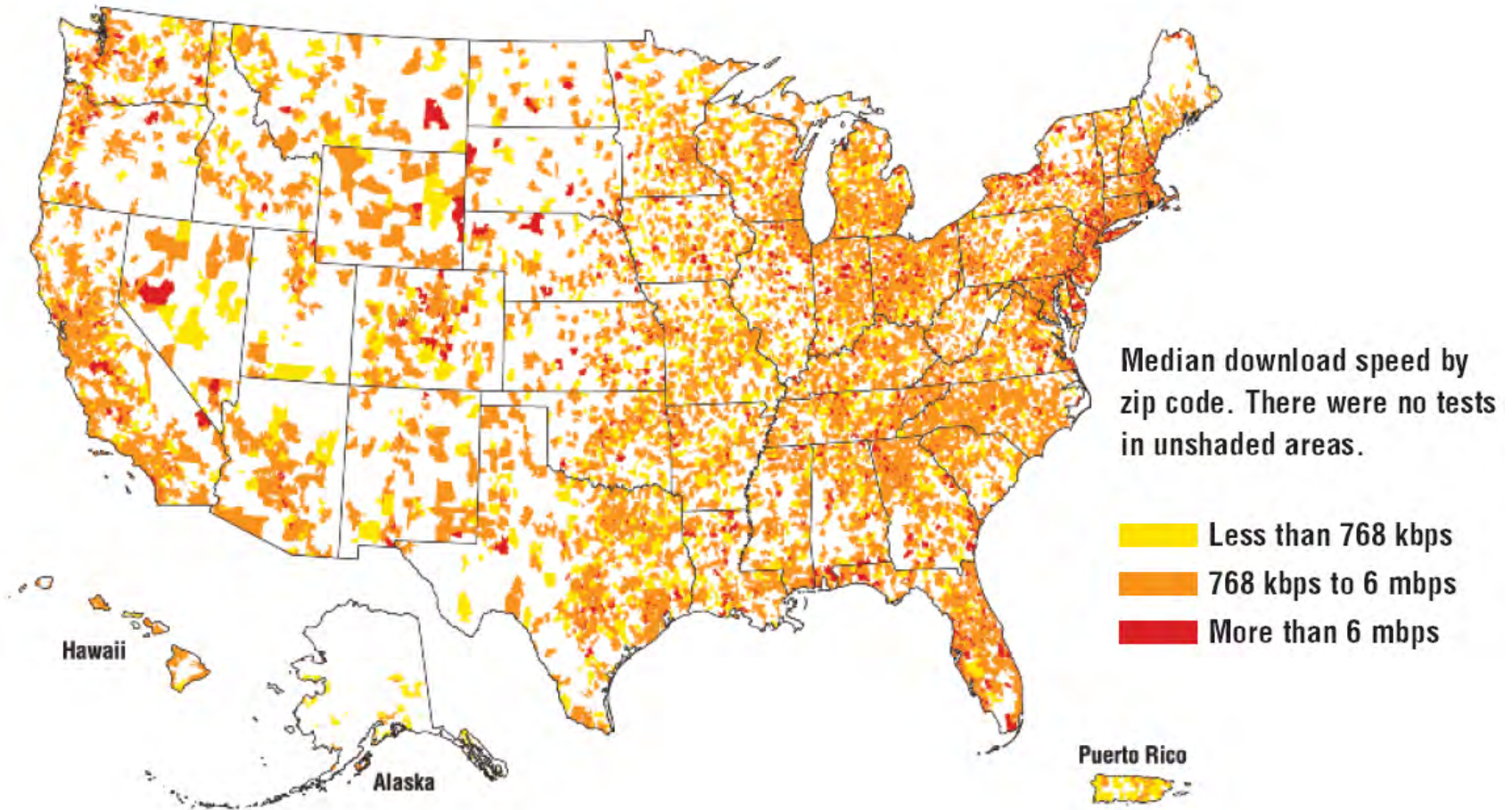
Source: Based on data from the Pew Internet & American Life Project .

Internet usage across the U.S.



Source: arstechnica.com based on USDA data.

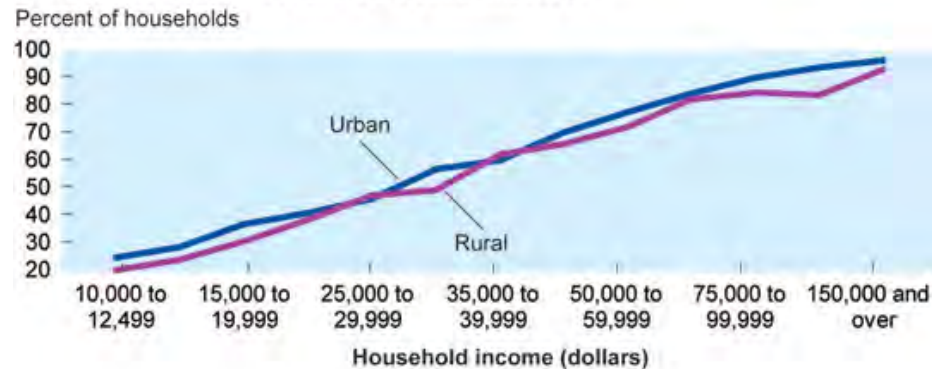
Internet speeds across the U.S.



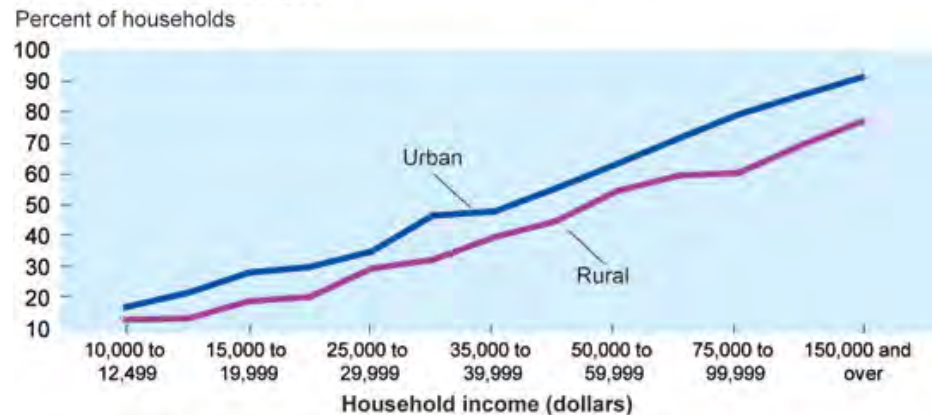
Source: Communications Workers of America (2008, August). A Report on Internet Speeds in All 50 States. Washington, DC.

Internet and broadband use in rural and urban U.S. by income (2007)

At-home Internet use of any kind
for rural and urban households, by income, 2007

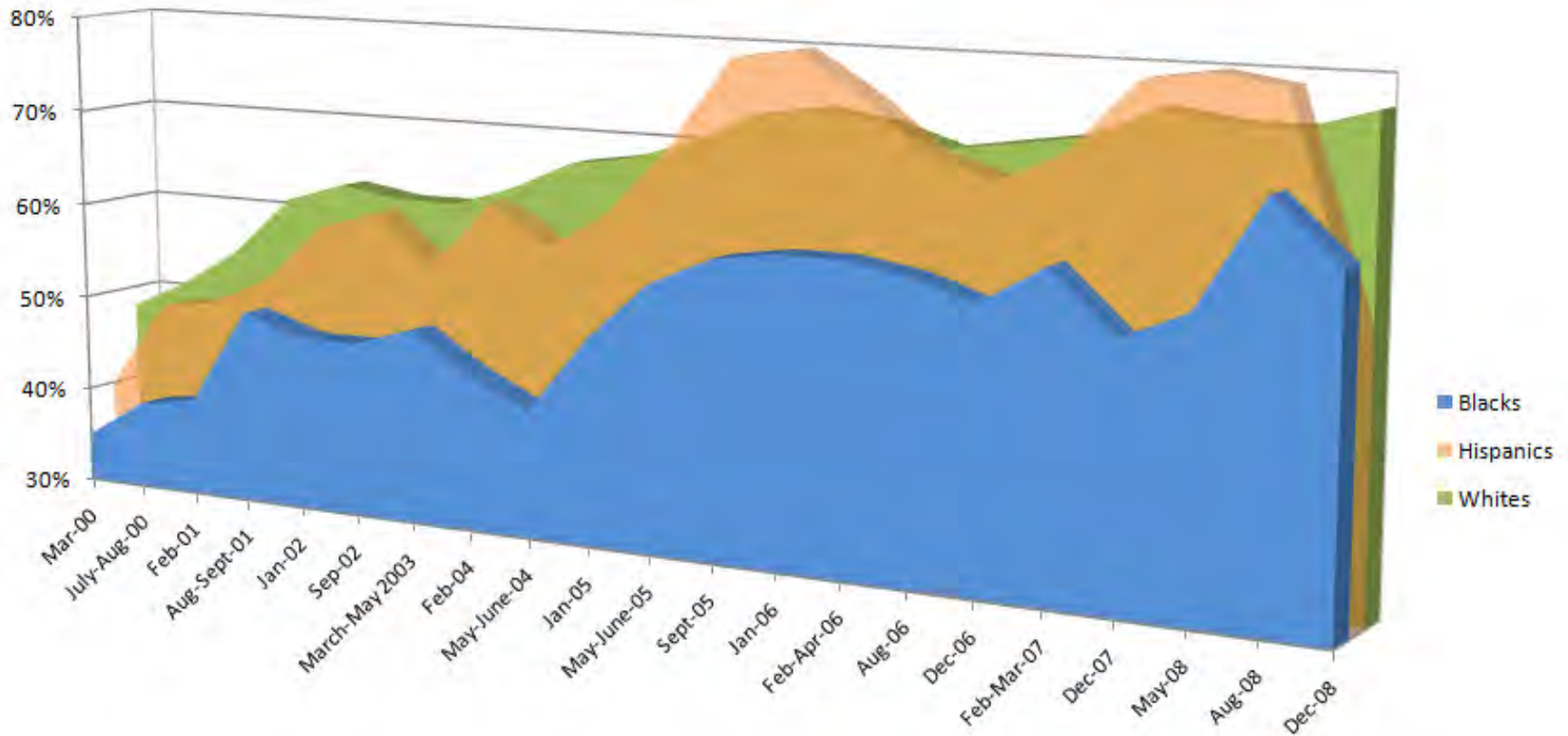


Household broadband use in rural and urban areas,
by household income, 2007



Source: Economic Research Service calculations based on Census Bureau data.

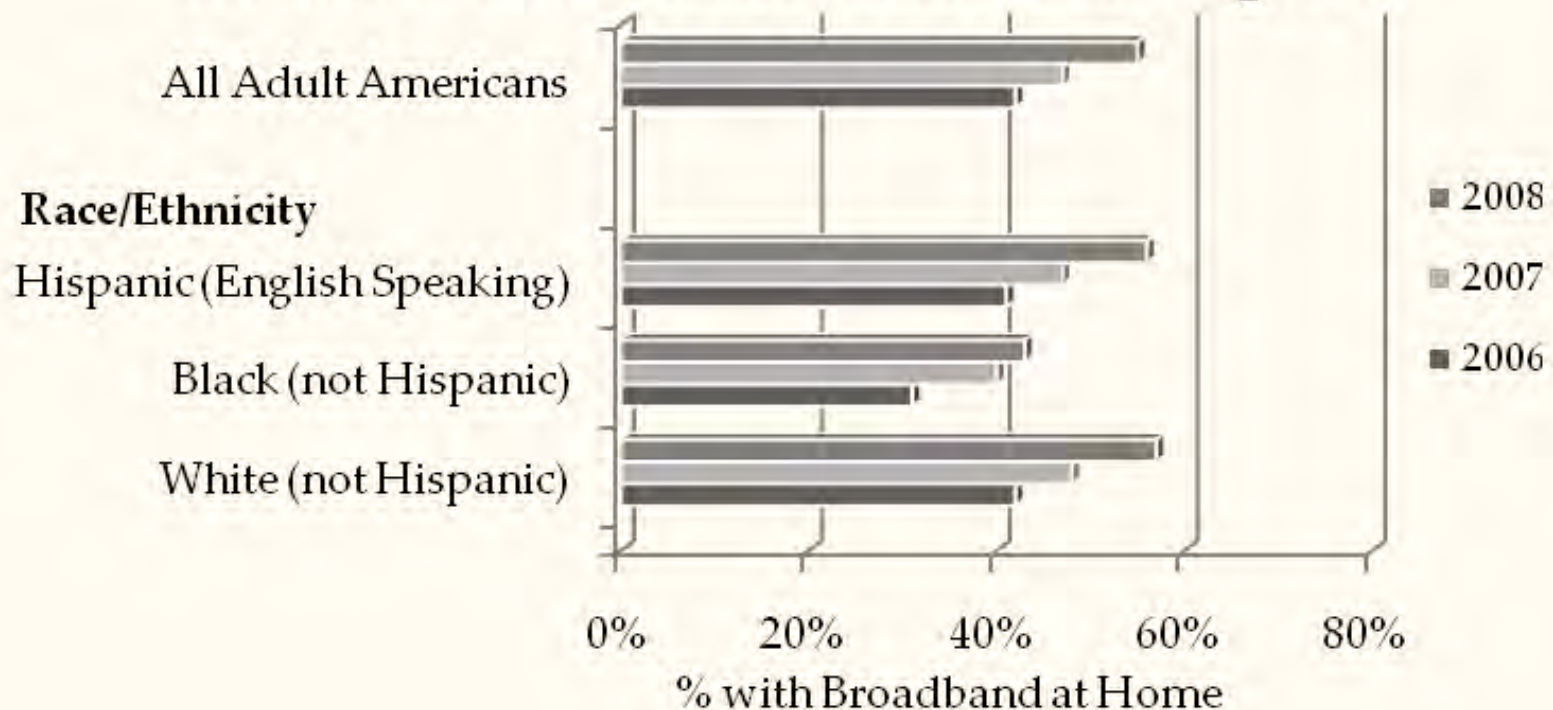
Internet use by race/ethnicity in the U.S. (2000-2008)



Source: Based on data from the Pew Internet & American Life Project .

Broadband adoption by race/ethnicity in the U.S. (2006-2008)

Trends in Internet Broadband Adoption



Source: Based on data from the Pew Internet & American Life Project Survey, April-May 2008.

What is the Digital Divide?

- In essence, it is the gap between individuals who use computers and have access to the Internet, especially broadband, and those who do not.
- Differences by:
 - Geographic location
 - Race/Ethnicity
 - Class
 - Disability status



Discussion questions?

- Do you know of anyone who doesn't have access to the Internet?
- Do you know of anyone who does have access to the Internet, but doesn't know how to use it?
- What are the benefits of having access to the Internet for culturally diverse people?

Considering inequalities when conducting research

(DiMaggio & Hargittai, 2001)

1. Inequality in technical apparatus

- ❑ Software
- ❑ Hardware
- ❑ Connections

2. Inequality in autonomy of use

- ❑ Where does the user have access to the Internet? (home vs. outside home)
- ❑ How much control or flexibility does the user have? (set schedule vs. open schedule)
- ❑ What kind of filtering or monitoring systems are in use?

Considering inequalities when conducting research

(DiMaggio & Hargittai, 2001)

3. Inequality in skills or competence

- Extent to which users know or are trained to find and evaluate the information they seek
- Unskilled users find the Internet frustrating and turn away
- Four types of knowledge:
 - Recipe knowledge (e.g., how to long on)
 - Background knowledge (e.g., Boolean algorithms)
 - Integrative knowledge
 - Technical knowledge for trouble shooting
- Internet self-efficacy

Considering inequalities when conducting research

(DiMaggio & Hargittai, 2001)

4. Inequality in the availability of social support

- Developing networks of sophisticated peers
- Kinds of support :
 - Formal technical assistance from experts or those employed to provide it
 - Technical assistance from friends and family
 - Emotional reinforcement from friends and family

The Internet as a research tool (Suarez-Balcazar et al. 2009)

□ Five different uses:

1. Data collection tool (e.g., psychological testing, attitudinal and behavioral measuring, needs assessment)
2. Intervention delivery platform (e.g., therapy, counseling, crisis management)
3. Tool for mapping research indicators and sharing/archiving information.
4. Tool to assess how people use the Internet and the quality of the information posted (e.g., self-help websites, accuracy of health-related information)
5. Recruitment of participants (Barry, 2001)

The Internet as a data collection tool

- Gather information about research participants' psychological and social attributes, attitudes, belief systems, and/or values
- Electronic surveys are becoming popular (see handout)
- Differences and similarities/pros and cons of using email vs. web-based surveys
- When should an Internet survey be considered?

Challenges to data collection

1. Adequately represent the experiences of less savvy or poorer participants without Internet (Example: Balcazar et al. (2009), needs assessment of Colombians in Chicago).
 - Provide Internet access (e.g., work with local library) or other types of survey (e.g., paper version)
2. Restricted resources (e.g., time, accessibility, hardware)
3. Limited familiarity with Internet technology
 - Initial training, technical support, and regular check ins
4. Educational disparities among users
5. Limited English proficiency
 - Translate and use language similar to the target population
6. Cultural appropriateness of instruments

The Internet as an intervention tool

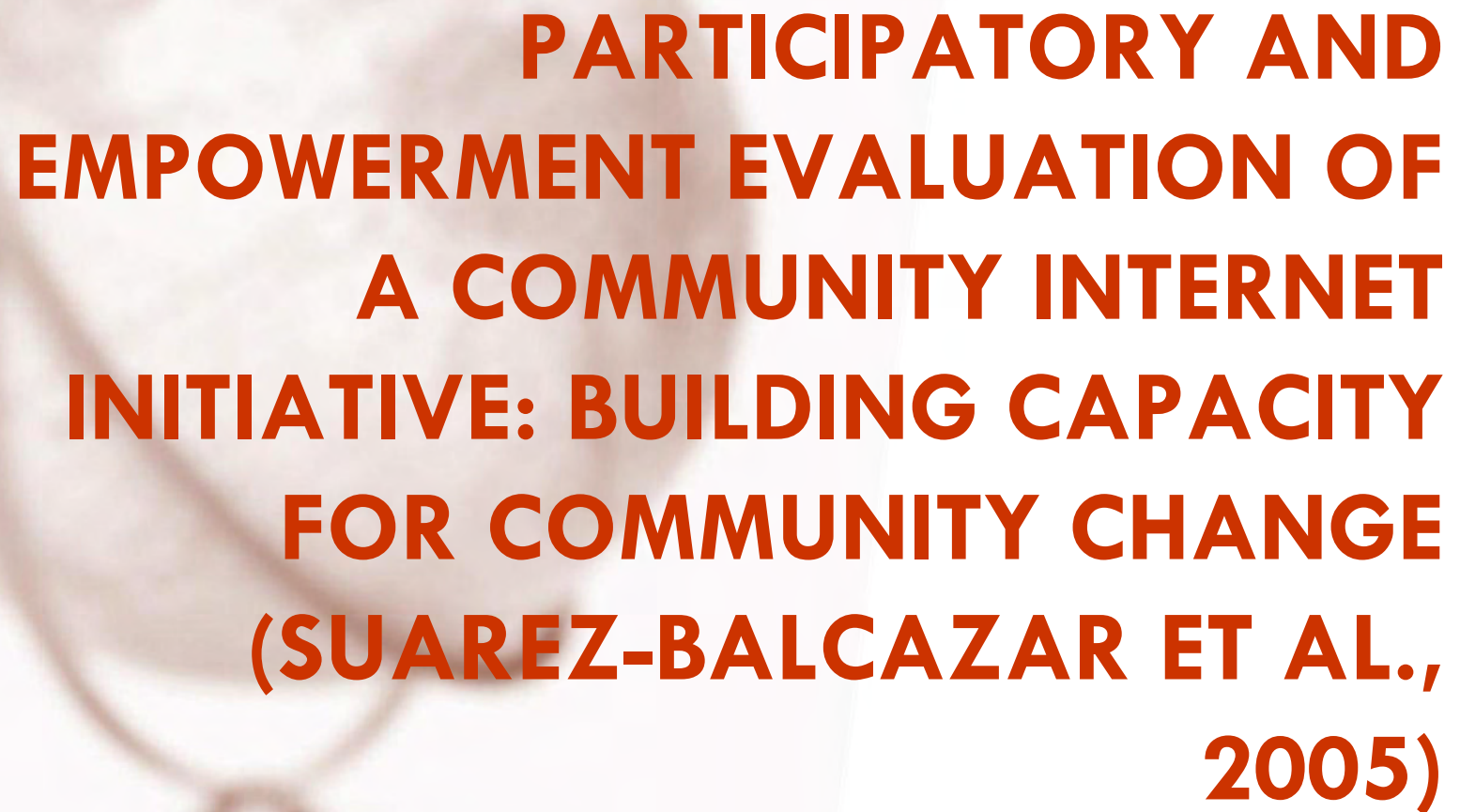
- There is a trend in counseling and clinical psychology of using virtual support groups, chat rooms, and online voice-video interactions (Example: March et al. (2009), Internet-based cognitive-behavioral therapy intervention)
- E-health initiatives (e.g., medical records, medical monitoring using external devices)
- E-health websites (e.g., WebMD)

Challenges to interventions

1. Sustainability of the technology (Example: Suarez-Balcazar et al. (2005), WebTV study in Chicago).
 - Make Internet access available (e.g., work with local library)
2. Technical malfunctions
 - Provide technical assistance
3. Limited familiarity with Internet technology
 - Initial training, technical support, and regular check ins
4. Limited English proficiency
 - Translate and use language similar to the target population

Considerations

- Consider psychological side effects of intervention provided over the Internet.
- Consider the level of control you as a researcher need to have over the intervention and level you are willing to give up.
- Consider ethical implications.
- Consider intensity, length, duration, visual modality, graphics, etc. of the intervention.



**PARTICIPATORY AND
EMPOWERMENT EVALUATION OF
A COMMUNITY INTERNET
INITIATIVE: BUILDING CAPACITY
FOR COMMUNITY CHANGE
(SUAREZ-BALCAZAR ET AL.,
2005)**

Research questions and main goal

☐ Research Questions:

1. How would Citizen Leaders (CLs) use technology as a tool for communicating and accessing information?
2. Does access to technology increase individual and community levels of sense of community and sense of empowerment?
3. How does the use of technology as a tool impact individuals and communities?

☐ Main Goal:

- Introduce the Internet as an intervention tool to provide local leaders with access to health information and health resources using the project's Website

Intermediate and long term outcomes

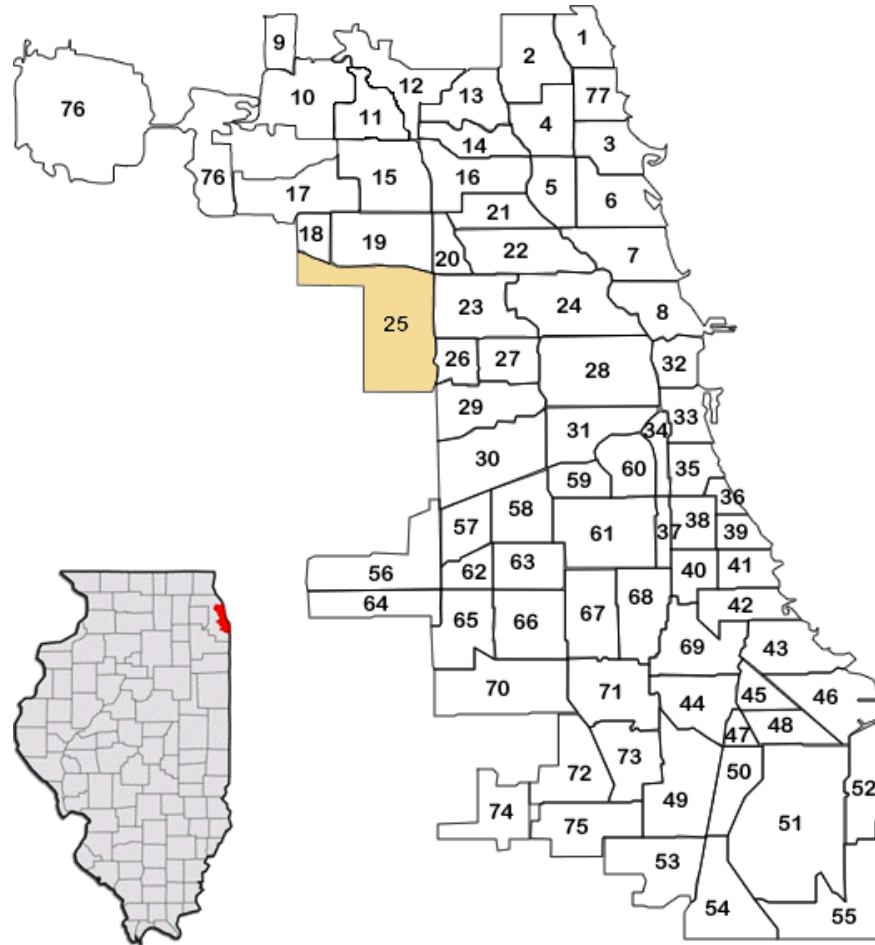
☐ Intermediate:

1. Strengthening sense of community of participants
2. Increasing sense of empowerment of participants
3. More positive attitudes toward technology and the Internet

☐ Long term:

1. Specific changes in the community
2. Decrease the digital divide
3. Changes in specific health indicators

Area of study



Background

- ❑ Partnership creation (Fall 1998). CBO, Westside Health Authority (WHA); community hospital, West Suburban Medical Center (WSMC); Loyola University Chicago (LUC).
- ❑ WHA's mission was improving both the physical and economic condition of residents of the community through community organizing efforts: *Every Block is a Village* (EBV).
- ❑ Once a month, 20-40 Citizen Leaders (CLs) gather at WHA for an action-planning meeting. The EBV grassroots group became the channel of the initiative called *Every Block a Village Online*.
- ❑ 42 CLs and members of EBV were either self-selected or were asked to participate in this initiative based upon their leadership skills and ability to connect with other residents.

Background

- ❑ Representatives from WHA and WSMC met with members of EBV to discuss the planning of the WebTV initiative.
- ❑ EBV members identified potential issues of community concern (e.g., information about services and resources in the community, safety, and health concerns). In addition, members had the opportunity to talk about myths and feelings they had about technology.
- ❑ All of their concerns were considered in the planning of the projects' webpage and WebTV training.
- ❑ Participants formed an EBVOnline research team: a doctor, a nurse, a technology coordinator, staff from WHA, members of the community, members of EBV, and community researchers.

Methodology

- ❑ Participants: 42 Citizen Leaders, members of EBV. Self-selected or nominated by CBO staff
- ❑ Design: Time series, nonequivalent comparison group design
- ❑ Quantitative and qualitative measures
- ❑ Quantitative outcome measures: Sense of community, community empowerment, use and attitudes toward technology
- ❑ Qualitative outcomes: Content analysis of emails, narratives, structured interviews (pre and post)
- ❑ 5-minute phone interviews every two-three weeks: WebTV use, topics searched, successful attempts at obtaining information, problems and suggestions for the project's Webpage.

Citizen Leaders profile (N= 42)

☐ Gender:

- Female = 76%

☐ Age:

- 18-29 = 12%
- 30-64 = 76%
- 65 + = 12%

☐ Education:

- ☐ Completed high school = 95%
- ☐ Some college = 74%.

☐ Average years in the community = 16 years (74% owned home)

☐ Volunteer in the community = 90%

Intervention procedures

- ❑ A website was designed for the project (www.ebvonline.org). Website contained information on health, the community where the project took place as well as other sites of interest (e.g., jobs, events).
- ❑ Citizens Leaders received a 90-min. training on how to use the WebTV, how to access the project's website, use email to contact each other, and obtain technical support.
- ❑ 42 Citizen Leaders received a WebTV unit, a printer, and office supplies. Extra units were located in different public venues.

Westside Health Authority's Every Block A Village Online

(Co-sponsored by [West Suburban Hospital Medical Center](#) and [TOP*](#))

Search for any word in the EBV Online website:

Job Fair Sept. 22 at Malcolm X Community Col

We are a [Models That Work 2000](#) Women's Health Special Honoree! See the HRSA [News Page!](#)

Share ideas on community issues in the EBVOnline [Message Board](#)

Self-Care	Community Care	General Information
Healthy LifeStyles Page! MEDLINEplus & healthfinder [®] Alternative and Complementary Medicine Site! NEW!	Substance Abuse Page Domestic Violence Information! Immunization Information 8/14/00 Sexual Assault Prevention 9/21/00	Low Income Housing Resources Job Opportunities: List of Austin Contractors NEW! 9/12/00
Dr. Masi's link suggestions:9/07/00 www.caringbridge.com Bone Marrow Donor Registry	Beat 1524 Safety Updated 8/25/00 (Ask your Citizen Leader for the password!) Crime Patrols Information	Frequently Asked Questions Website Table of Contents MTW Presentation
EBV Online Success Stories See a map of EBV with e-mail links to Citizen Leaders Updated 8/14/00	Black History & Culture Austin Communication Project	The Google Search Engine My Reference Desk (Dictionary& Encyclopedia) Online Phone Book

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Dr. Koop's [Health Chats](#)

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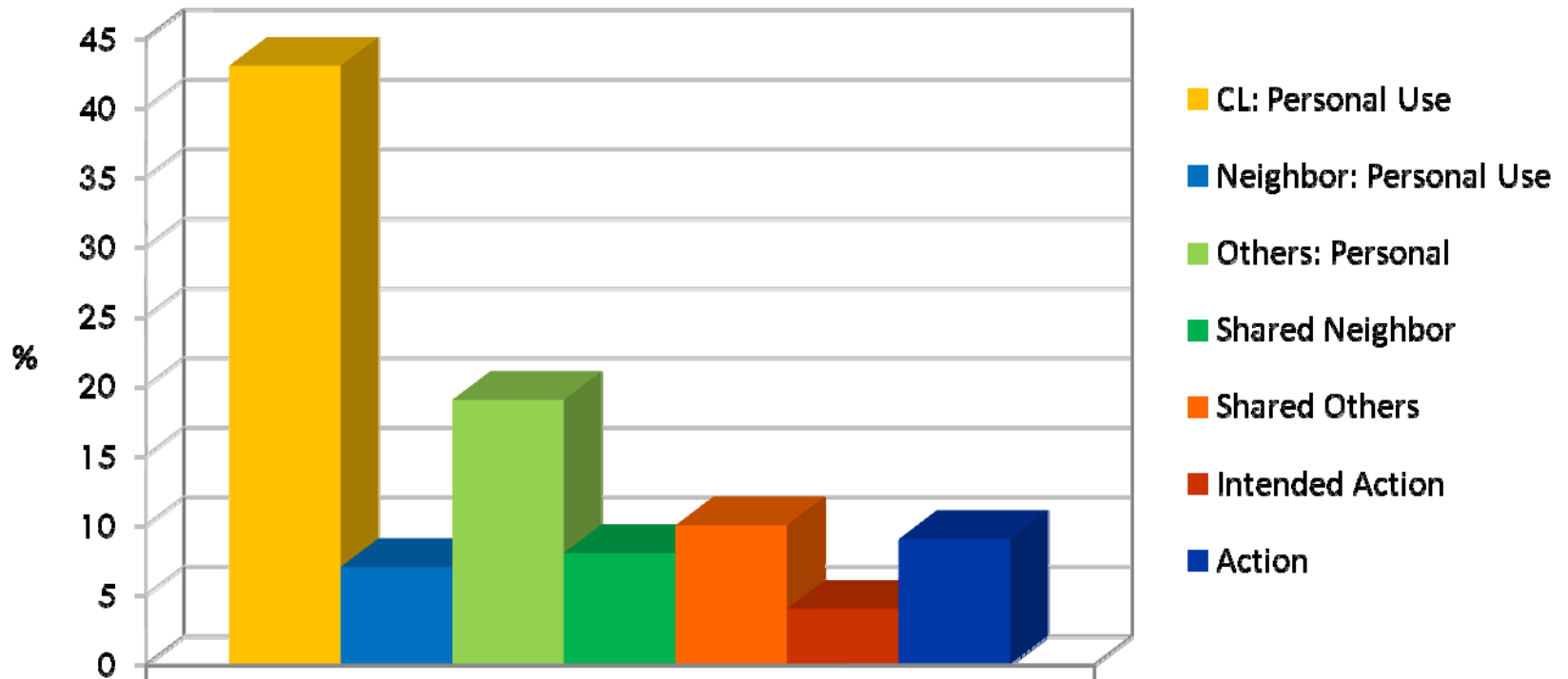
[Community Information](#)

[Better Business Bureau](#)



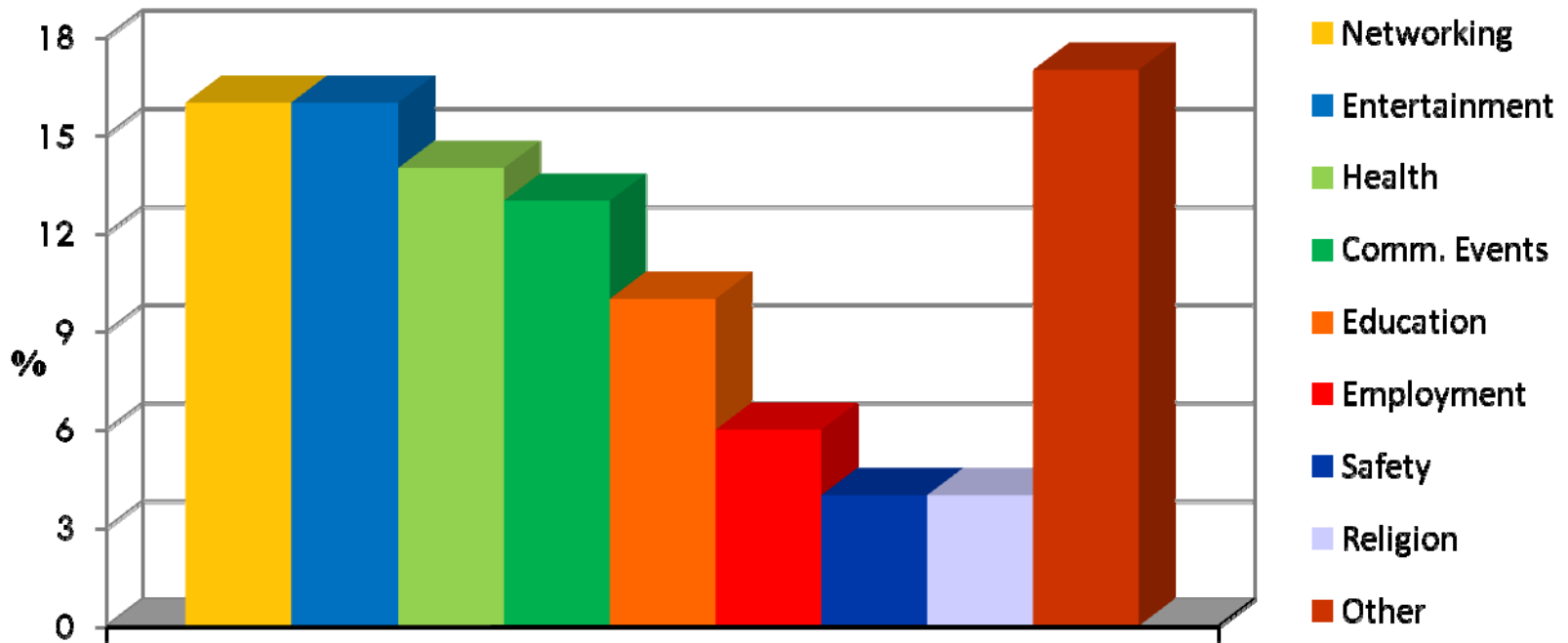
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Targets of WebTV use (Success stories)



April 01/1999 - August 31/2001
Based on 450 stories

Content area of WebTV (Success stories)



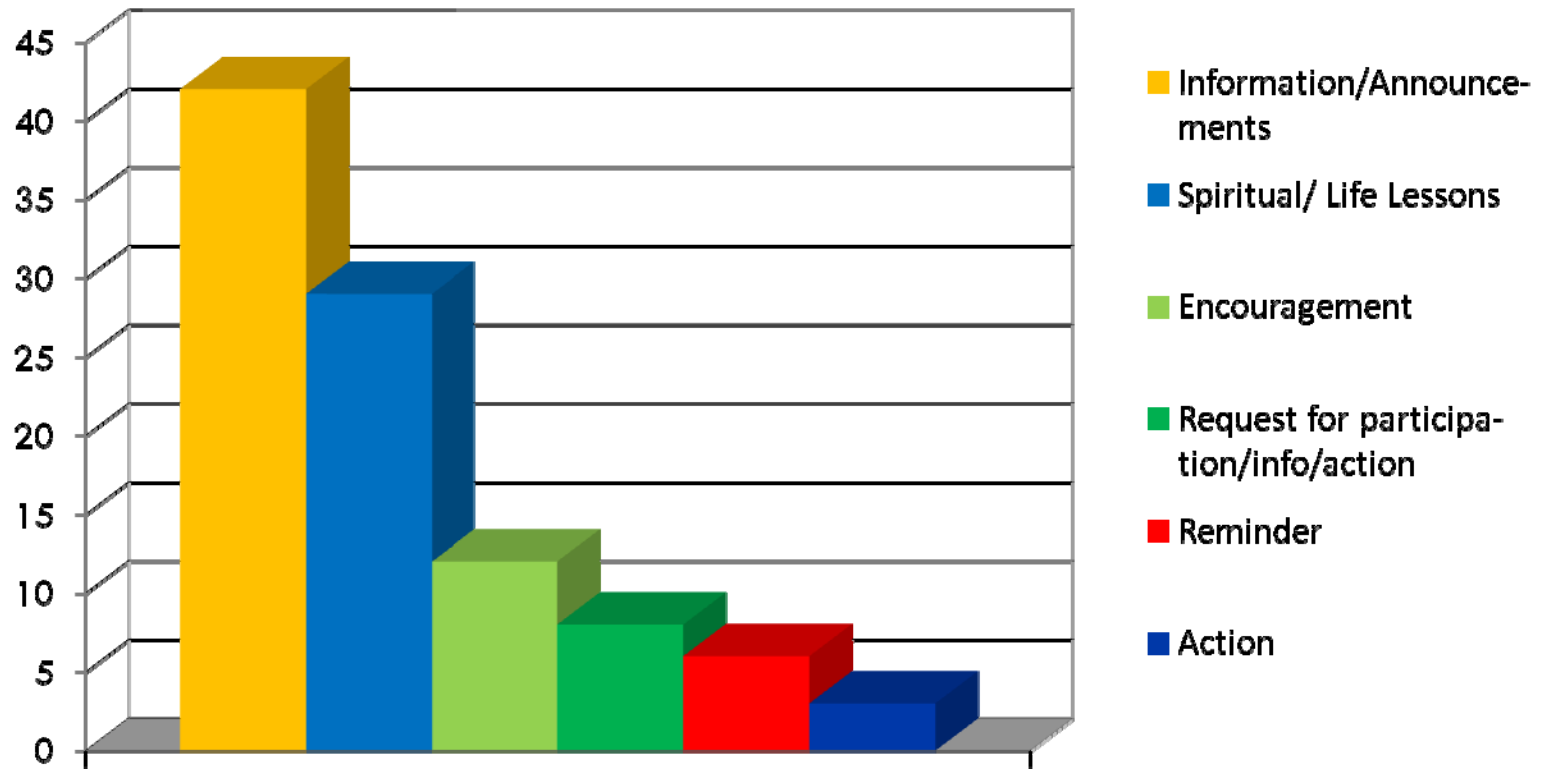
April 01/1999 - August 31/2001
Based on 450 stories

Examples of self-reported health-related web stories from Citizen Leaders

Who benefited?

- **Citizen Leader:** “I have diabetes and I was recently experiencing pain, so I went looking for some answers. I have also used my unit to find health information on foot care”
- **Relatives:** “A family member came by last week to use the WebTV and found useful information about weight control and asthma”
- **Block neighbors:** “My neighbor came and found some information and resources about alcohol and drug problems”
- “I used ‘Ask-A-Doc’ for my neighbor who had a lot of swelling on her foot and it turned out that there was fluid in her lungs and she was able to get medical attention”

Percentages of email types



July 01/1999 - August 31/2001
Based on 577 emails

Examples of health-related emails

- Information on mobile pediatric clinic's schedule, drug & alcohol treatment information, and spirituality & prayer list.
- Information about Community Wellness Center, where free medical assistance and check-ups are provided.
- UIC group fitness weekend training available to men and women who want to become fitness instructors.
- Several of our neighbors are ill. Please remember them in your prayers.
- Apply for free eye examinations through Vision USA, a national nonprofit program that matches low-income children and adults with optometrists in their communities. Application information provided.

Intermediate outcomes (Masi et al., 2003)

Sense of Community and Empowerment	TIME 1		TIME 2	
	CL	Resident	CL	Resident
Overall, I am very attracted to living on this block	1.68	2.12	1.56	1.88
I believe my neighbors would help me in an emergency	1.68	1.97	1.28 *	1.85
I have control over decisions that affect my health and my family's health	1.56	1.85	1.08*	1.82
I am satisfied with the amount of influence I have over health decisions that affect my block	2.70	2.53	2.13	2.64
I have a deep feeling of fellowship between me and other people on my block	1.72	2.29	1.55	1.73*
I feel loyal to the people on my block	1.60	2.00	1.40	2.35
Living on this block gives me a sense of community	1.56	2.15	1.44	2.11

*p < .05 Sig. (2-tailed) Note: The lower the mean, the greater the attribution

Ns: CL (N = 25) and Resident (N = 35)

Attitudes toward technology

1. I don't have use for computers on a day-to-day basis
2. Using technology to communicate with others can help me to be more effective in my neighborhood
3. With the use of technology, I can find information to improve my health
4. I am not the type of person who does well with computers, email and WebTV
5. I don't see how I can use technology to learn new skills
6. I feel comfortable with my ability to work with new technology
7. I am satisfied with the information/knowledge I have about health outcomes

Community impact

- **Social Action**
 - ▣ Van removed from street
- **Community development**
 - ▣ New community garden
 - ▣ Youth trained as technology experts
- **Consciousness raising**
 - ▣ Organize vigils, meetings with police
- **Advocacy**
 - ▣ Advocate for enforcement and confidentiality

Implications for research with multicultural populations

- Participation increases ownership and utilization
- The use of research and evaluation to support social change
- Use the internet as a tool to facilitate change
- Use of narratives as a strategy to document change
- Researchers as facilitators of the empowerment process of disadvantaged groups
- Building community capacity through training and evaluation
- Need to support the leadership skills of local leaders
- Need to examine the broader system and context of the intervention

Research considerations (adapted from Mehra, Merkel & Bishop, 2004)

- Type of marginalized group—type of access needed
- Kind of individual experience vs. shared community experience
- Perception of what is considered meaningful by different users (differences by culture)
- Purpose and role of the Internet in achieving particular agendas/goals
- Type of applications of Internet use
- Conducting culturally sensitive research

Recommendations (Mehra, Merkel, & Bishop, 2004)

- Focus on practice and research question: how to shape technology to fit practice and research instead of shaping practice/research to fit technology.
- Focus on identifying a system of relations (building sense of community, relationships, networks).
- Focus on context (understand how people use technology, how it shifts the context of their lives, impact of the tool itself).

Recommendations (Suarez-Balcazar et al., 2009)

- Increase access to internet among culturally diverse populations
- Consider the benefits and limitations of using visual displays
- Consider adaptations (disability, class, level of sophistication)
- Consider the cultural and language characteristics of the target group
- Gain access to electronic mailing list
- Provide technical assistance to respondents
- Examine time needed to complete research
- Consider forms of compensation
- IRB approval
- Consider simultaneous or alternative methods
- Others?

Ethical issues (Bier, Sherblom, & Gallo, 1996)

- ❑ Considerations when information technology affects people's ways of being, not just "doing"
- ❑ Access to and use of the Internet requires a substantial investment by users (time and money)
- ❑ Issues of informed consent
 - When the information is public (e.g., Facebook, bulletin boards, self-help sites, newspaper comments section) preserve anonymity of sources.
 - When the information is private, preserve privacy, confidentiality, listen carefully to their concerns, respect their rights and their values, maintain ongoing dialogue
- ❑ Taking away access when the project ends (continued access)
- ❑ Protecting people from harm

Ethical issues

- Being aware of the consequences (not maintaining their daily routines, feeling dependent on technology)
- Discuss and anticipate potential changes in their lives)
- Changes in interpersonal relationships
- Providing loans and access in other ways
- Making children and youth vulnerable in other ways that are not anticipated
- Discussing potential discomfort (frustration).

Future research

- Expand the focus of research of the “Digital Divide” between “haves” and have-nots”
- How can internet research help develop specific strategies that may empower different minorities and marginalized users?
- Engaging the participation of marginalized communities in planning, policy implementation and community-specific activities surrounding the use of the internet as a research tool.
- Other suggestions?



Questions and Discussion

Exercise:

**Design your own study
using the Internet as a research tool
(use handout)**

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