The Network Society

A Cross-cultural Perspective

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11. Racial segregation and the digital divide in the Detroit metropolitan region

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The city of Detroit and its suburbs comprise one of the most racially segregated regions in the United States. Does the digital divide mirror this fundamental fact about the social structure and culture of the area? Past research has demonstrated a social network diffusion effect: generally, people are more likely to own and use computers, as well as use the Internet, if their friends and neighbors already do so (for example, Lenhart, 2000; Goolsbee and Klenow, 2002; DiMaggio et al., 2004). If computer and Internet usage varies by location and race, then the racial divide could be the basis of a persisting digital divide. Using data from the 2003 Detroit Area Study, we examine this hypothesis by analyzing computer and Internet usage in the city of Detroit and the three counties that make up the metropolitan region.[1]

After a brief description of the Detroit region, we focus on patterns of computer and Internet usage by the key variables included in the National Telecommunications and Information Administration (NTIA) studies of the digital divide: location, employment status, income, education, race, age, gender, and family structure (NTIA, 2000, 2002; DiMaggio et al., 2004). We conclude by analyzing the impact of computer and Internet usage on overcoming social and geographic barriers, focusing on two key indicators of social capital: whether a respondent has been in the home of someone of a different neighborhood (or had them in his or her home) in the past twelve months, and whether a respondent has been in the home of someone of a different race (or had them in his or her home) in the same time frame (Putnam, 2000; Social Capital Benchmark Survey, 2000).

THE DETROIT METROPOLITAN REGION: BACKGROUND

Detroit is a quintessentially North American city. As Farley and co-authors (2000) describe, the explosive growth of automobile manufacturing in the twentieth century transformed Detroit from just another large Midwestern town in 1908 to the fastest growing city in the United States by 1920. A series of sequential, but overlapping, developments underpinned this growth: Henry Ford's pioneering of assembly-line production techniques in 1908, the growth of demand for trucks in World War I, extensive public investment in road building in the postwar era, the need for aircraft in World War II, and even greater public investments in road building via the interstate-highway system after the Second World War. For some decades, Detroit was the fourth largest city in the United States, following New York, Chicago, and Los Angeles. While racial tensions periodically erupted between Euro-Americans and African Americans in Detroit, the eventual unionization of the automobile and ancillary supplier industries eventually created a situation where African Americans profited from the manufacturing economy. For many, including African Americans lured from the American South in search of employment, Detroit represented opportunity.

Yet Detroit has always been a divided city. And race has always mattered to one's life chances in Detroit. As the twentieth century wound down, Detroit looked more and more like the quintessentially troubled American city. Symbolic of Detroit divided was the riot of 1967, among the first of a series of American urban disturbances that seemed contagious in 1967 and 1968. But the signs of trouble were more widespread than that particular manifestation of rebellion against urban stratification and racism. The auto industry was already in trouble by the 1960s. As Farley et al. (2000: 8) note:

> Automobile firms and their suppliers shifted jobs, sometimes to the suburbs, sometimes to other parts of the United States or other countries. Because wage rates in Detroit were so high, plants that remained were retooled and modernized. Employment opportunities for unskilled workers declined dramatically, and by the mid-1960s, in-migration from the South had ceased.

Given racial tension after the 1967 riot and longer-term economic trends, Detroit became a city transformed. Its white population fell from 1.5 million in 1950 to 220,000 in 1990, and in the 1990s Detroit even lost population. In an informal sense, Detroit came to represent an American-style racial apartheid. Few laws held populations apart, but racial fears and attitudes, as well as the unequal distribution of skills and opportunity in a rapidly changing economy, conspired to produce an equally devastating set of apartheid-like effects.

In 1990 the city's population was 76 percent African American; the suburban ring was only 5 percent African American. The poverty rate for the city was 32 percent; for the ring, 6 percent. The economic disparity is even greater among children, with just under half (47%) of the city's population under the age of eighteen living in impoverished households, compared to 10 percent in the surburban ring. (Farley et al., 2000: 2–3)

While the 1990s were a decade of remarkable economic growth in the United States, they were also a decade of wealth concentration. Consequently, local trends were not reversed but accelerated. By 2003, the city of Detroit was now 82 percent African American, 5 percent Hispanic, and 1 percent Asian. The white population of Detroit had decreased from 33 percent in 1980 to 11 percent in 2000. According to the 2000 US Census, Detroit has a racial segregation index of 85, making it the most segregated major metropolitan area in the nation (table 11.1). Moreover, Detroit's African American population is the most isolated black population in the country.

Segregation statistics for the three counties covered in the Detroit Area Study – Wayne, Oakland, and Macomb – reveal the racial divide in the larger region. The index of residential segregation at the block group level for these counties is 87, 73, and 58, respectively. At the individual block level, the index is 89, 77, and 72, respectively. Racial groups are highly segregated into different neighborhoods in each of these counties. But there is some variation, with the highest segregation occurring in Wayne County (where Detroit is located) and the lowest in Macomb County.

A DIGITALLY DIVIDED DETROIT?

Social and spatial divisions are likely to coincide with, but need not necessarily imply, digital division. To what extent are the racial and geographic divisions of the Detroit area mirrored in the distribution of access to and use of computers and the Internet? To what extent does a digital divide exist in the area? To what extent does it replicate, extend, or even narrow existing socioeconomic and racial divisions represented in an economy now focused on information processing? Answers are critical because exclusion from the Internet and computer networks "is one of the most damaging forms of exclusion in our economy and in our culture" (Castells, 2001: 3). In the context of the urban metropolis, one prospect of exclusion is the development of what Castells (1999: 27–8) calls the "dual city":

> an urban system socially and spatially polarized between high value-making groups and functions on the one hand and devalued social groups and downgraded spaces on the other hand. This polarization induces increasing integration of the social and spatial core of the urban system, at the same time that it fragments devalued spaces of groups, and threatens them with social irrelevance.

Table 11.1   Black–white segregation and black isolation in top metropolitan areas in the United States (2000 census)

Area	Black–white segregation index	Black–white segregation rank	Black isolation index	Black isolation rank
Detroit, MI	85	1	79	1
Milwaukee–Waukesha, WI	82	2	67	8
New York, NY	82	3	60	18
Chicago, IL	81	4	73	3
Newark, NJ	80	5	67	9
Cleveland–Lorain–Elyria, OH	77	6	71	6
Cincinnati, OH–KY–IN	75	7	58	21
Nassau–Suffolk, NY	74	8	41	41
St Louis, MO–IL	74	9	65	12
Miami, FL	74	10	62	17

The index of residential segregation is also called the index of dissimilarity (D), defined as measuring "whether one particular group is distributed across census tracts in the metropolitan area in the same way as another group. A high value indicates that the two groups tend to live in different tracts. D ranges from 0 to 100. A value of 60 (or above) is considered very high. It means that 60 percent (or more) of the members of one group would need to move to a different tract in order for the two groups to be equally distributed. Values of 40 or 50 are considered a moderate level of segregation, and values of 30 or below are considered to be fairly low" (Lewis Mumford Center for Comparative Urban and Regional Research, University of Albany at http://mumford1.dyndns.org/cen2000/WholePop/CitySegdata/2622000City.htm). The Mumford Center defines the isolation index as "the percentage of same-group population in the census tract where the average member of a racial/ethnic group lives. It has a lower bound of zero (for a very small group that is quite dispersed) to 100 (meaning that group members are entirely isolated from other groups). It should be kept in mind that this index is affected by the size of the group – it is almost inevitably smaller for smaller groups, and it is likely to rise over time if the group becomes larger."

Source: Adapted from tables provided by the Lewis Mumford Center for Comparative Urban and Regional Research, University at Albany (2003)

BASIC PATTERNS OF COMPUTER AND INTERNET USE IN THE DETROIT REGION

We examined three indicators of computer and Internet usage – use of a computer, use of the Internet, and, if the Internet is used, connection from

: – by race, gender, age, education, household income, employment s, family structure, and city/suburb location. Overall, about 75 percent of residents report using a computer. For a rough comparison, note that the :mber 2001 Current Population Study (CPS) finds that 66 percent of ricans nationwide used a computer (NTIA, 2002: 24). This is a rough)arison because the CPS includes Americans aged 3 and up, while the)it Area Study covers adults aged 18 and older. Since Americans aged are more likely than any other age group to use computers (NTIA, 2002: the comparable proportion of Americans aged 18 and older who uses)uters is lower.

xty-eight percent of residents in the Detroit region say they use the net. For a rough comparison, note that 54 percent of Americans aged 3)lder used the Internet in September 2001 (NTIA, 2002: 26), with 55–58 :nt of Michigan residents aged 3 and up reporting that they used the net (NTIA, 2002: 8). Among those who use the Internet in the Detroit -county area, 87 percent connect from home.

ates of use vary for different groups in the Detroit region in about the way as they vary in the American population (NTIA, 2002). For exam-\frican Americans in the Detroit area, like African Americans nationwide A, 2002: 24, 26), are less likely to use a computer or use the Internet. :theless, two-thirds of African Americans in the Detroit area aged 18 and report using a computer (table 11.2). The NTIA reports 56 percent for the nwide population aged 3 and up (NTIA, 2002: 24). And, the majority of :an Americans in the Detroit region (54 percent) use the Internet.)nwide, only 40 percent of African Americans aged 3 and older reported ; the Internet in 2001 (NTIA, 2002: 26). Gender differences have virtually ;hed nationwide (NTIA, 2002) and in the Detroit region (table 11.2).

1ere is essentially no difference between the young (ages 18–25) and the le-aged (26–54) in computer usage and in Internet usage, but those 55)lder are far behind on both indicators. As before, the odds ratios in table are comparable to national level data reported by DiMaggio et al. (2004). 1ing our age cohorts exactly as they did, we find that the odds ratio een youngest and oldest age cohorts on computer usage is 4.400, whereas aggio and associates report an odds ratio of 4.173 for national data in . If those 55 and older do use the Internet, however, they are more likely younger residents to connect from home.

huge gap exists between those with college degrees and all others (table . More than 90 percent of college graduates use computers, use the net, and connect from home. Forty percent of those with a high-school ation or less use a computer or the Internet. Clearly, college education rates computer and Internet usage in Detroit, as it does elsewhere. ever, the gap narrows for use of the Internet at home, if one uses the

Table 11.2 *Patterns of computer and Internet use by race, gender, age, education, household income, employment status, family structure, and location*

	Use a computer	Use the Internet	If use the Internet, connect from home
All (%)	74.9	68.3	86.7
Race			
White and other (%)	77.9	72.8	88.0
African American (%)	65.5	53.4	79.7
Odds ratio: white/other to African American	1.851	2.339	1.874
Gender			
Women (%)	71.8	66.3	82.8
Men (%)	78.7	70.6	91.0
Odds ratio: men/women	1.454	1.223	2.094
Age (years)			
18–25 (%)	83.3	80.6	75.9
26–54 (%)	83.4	78.3	87.2
> 55 (%)	53.2	40.4	94.7
Odds ratio: youngest to oldest age groupings	4.400	6.121	0.175
Education			
Less than high school (%)	40.3	40.3	74.1
High school degree (%)	54.5	45.9	82.1
College graduate (%)	92.5	90.3	93.4
Odds ratio: college grad to less than HS degree	12.776	13.789	4.944
Household income			
Less than $20,000 (%)	34.8	22.9	50.0
$20,000–49,999 (%)	75.5	64.9	76.0
$50,000 or more (%)	84.2	80.8	93.6

	Use a computer	Use the Internet	If use the Internet, connect from home
Odds ratio: highest group to lowest	9.986	14.163	14.667
Employment status			
Working now (%)	85.2	77.7	86.9
Not working now (%)	59.6	54.2	85.5
Odds ratio: working now to not working	3.900	2.947	1.131
Family structure			
Children at home (%)	80.1	74.9	90.2
Children not at home (%)	70.4	62.5	83.3
Odds ratio: children at home to no children at home	1.691	1.793	1.835
Location			
City of Detroit (%)	66.1	56.3	70.3
Suburbs (%)	77.5	71.5	90.1
Odds ratio: suburbs to city of Detroit	1.771	1.948	3.860

Internet. Nearly three-quarters (74.1 percent) of those with less than a high-school degree use the Net from home, if they use the Net at all, while the comparable figure is 93.4 percent among college graduates. These findings are also comparable to national patterns.

Income is the single biggest predictor of computer and Internet usage in the Detroit area, consistent with findings from other studies (Castells, 2001; DiMaggio, et al., 2004). From the lowest income category (under $20,000) through the highest ($50,000 and more), the growth in computer and Internet usage is astonishing – from roughly 23–35 percent to over 80 percent. For example, more than three times as many in the highest income group connect to the Internet, compared to those in the lowest income group. Odds ratios greatly favor those with high income.[2]

As in other studies, employment has a large impact on computer and Internet use, although over half of those who are not working now use a computer and use the Internet. Nonetheless, 85 percent of those who are

employed now use a computer and 78 percent use the Internet. Employment status does not have an effect on the proportion of Internet users who connect from home.

Having children under the age of 18 at home, surprisingly, has only a modest impact on computer usage in the Detroit metropolitan area (an increase from 70.4 percent to 80.1 percent), a roughly comparable impact on use of the Internet (an increase from 62.5 percent to 74.9 percent), and, again, a minor impact on connecting to the Internet from home (an increase of 7 percentage points).

Location of residence appears, in this bivariate analysis, to have an influence on computer and Internet usage. Those who live in the city of Detroit are less likely to use a computer, to use the Internet, and to connect from home if they use the Internet. For these indicators, there is an 11–20 percentage point difference between Detroit and its suburbs.

These basic findings suggest that a digital divide continues to exist in the Detroit metropolitan area in 2003. Income, education, age, and employment status appear to be the main sources of this division in the digital world; race, location, and family structure are secondary determinants. Since some of these factors vary together, we now turn to multivariate analyses to assess the relative impact of each of these sources of the digital divide.

EXPLAINING PATTERNS OF COMPUTER AND INTERNET USE IN THE DETROIT REGION

We analyze the effects of race, gender, age,[3] education, household income, employment status, family structure,[4] and place of residence on the three indicators of computer and Internet usage discussed above, plus two more indicators: number of computers in the household and frequency of computer use. As shown in table 11.3, the three best predictors are income, education, and age, controlling for the other variables. Higher income is positively and significantly related to all five indicators of computer and Internet usage, controlling for multiple other variables. Education is positively correlated to four of the dependent variables in table 11.3. Note that there are independent contributions of income and education to explaining computer usage and Internet usage (models 1 and 4 in table 11.3). Similarly, youth is a significant predictor of four of these variables in the multivariate analysis, although being young makes one *less likely* to use the Internet at home. The middle-aged cohort (ages 26–54) exhibits exactly the same pattern as does the youth; that is, a significant predictor of four of these variables, and less likely to connect to the Net from home. Similarly, those who are currently employed are both more likely to use computers and to use them more frequently, compared to those who are unemployed. However, employment status does not predict the other three dependent variables.

Table 11.3 OLS and logistic coefficients from the regression of computer and Internet use on income, education, age, race, gender, employment status, location, and family structure

Variables	(1) Do you use a computer? (logistic)	(2) No. of computers used at home (OLS)	(3) Frequency of computer use (OLS)	(4) Do you use the Internet? (logistic)	(5) Do you use the Internet at home (logistic)
Income	0.350*** (0.070)	0.216*** (0.030)	0.242*** (0.035)	0.394*** (0.071)	0.430*** (0.112)
Education	0.676*** (0.124)	0.152** (0.050)	0.412*** (0.058)	0.745*** (0.121)	0.286 (0.175)
Youth (18–25)	1.811*** (0.442)	0.237 (0.187)	0.853*** (0.218)	2.495*** (0.441)	–1.677* (0.736)
Middle-aged (26–54)	1.309*** (0.342)	0.337* (0.152)	0.696*** (0.177)	1.799*** (0.334)	–1.439* (0.735)
African American	–0.285 (0.381)	0.081 (0.180)	–0.011 (0.210)	–0.737* (0.368)	0.349+ (0.641)
Gender (female)	–0.031 (0.259)	–0.059 (0.110)	–0.080 (0.129)	0.173 (0.251)	–0.759* (0.384)
Currently employed	0.553* (0.268)	0.170 (0.124)	0.409** (0.144)	0.098 (0.266)	–0.461 (0.437
Lives in suburbs	–0.218 (0.392)	0.201 (0.187)	–0.202 (0.218)	–0.409 (0.383)	1.859** (0.609)
Children at home	–0.276 (0.313)	0.248* (0.124)	–0.189 (0.144)	–0.270 (0.291)	1.117** (0.396)
Constant	–3.977***	–1.066***	–0.782*	–4.878***	–1.738
Adjusted r^2 or Nagelkerke r^2*	0.396	0.237	0.328	0.454	0.298
Correctly classified (%)	80.8	n.a.	n.a.	80.8	86.9
Weighted n of observations	508	508	507	508	346

*** p <0.001; ** p <0.01; * p <0.05; + p <0.10 (two-tailed test).
Adjusted r^2 is reported for OLS; Nagelkerke r^2 is reported for logistic regression.
n = 507 for model 3 due to missing data from one partial interview.
n.a. = not applicable.

African Americans are not significantly less likely than others to use a computer; similarly, race does not predict the number of computers used at home or the frequency of computer use, after controlling for the effects of household income, education, and other factors. African Americans are significantly less likely to use the Internet, compared to non-blacks, but the effects of income, education, and age are stronger than the effect of race on Internet use. If African Americans do use the Internet, they are *more* likely to use it from home, once other predictors are controlled. While some analysts of the digital divide might expect otherwise, race appears *not to be* the crucial variable in structuring Detroit's digital divide.

It is reasonable to suppose that computer use is a phenomenon of affluent social strata and, therefore, it might be structured in part by where one resides in a metropolitan area. Sheer propinquity to other computer users might have a social influence effect (for example, Lenhart, 2000; Goolsbee and Klenow, 2002; DiMaggio et al., 2004). Consequently, suburban residents might be higher computer users. The multivariate analyses suggest otherwise (table 11.3), with one exception. Most patterns of computer and Internet usage are not significantly different for residents of the suburbs versus residents of Detroit. Only use of the Internet at home distinguishes suburban residents from those who live in the city of Detroit, with suburbanites more likely to connect from home.

Overall, gender is not a significant factor: men and women do not differ in their patterns of computer and Internet usage, controlling for other factors, with one exception – connecting to the Internet from home, which women are less likely to do. Moreover, having children under the age of 18 at home is significantly associated only with the number of computers in the household and with connecting to the Internet from home.

While not shown in table 11.3, a good way to judge the relative impact of various independent variables on a dependent variable is to compare Betas, or standardized regression coefficients. Comparing Betas for all variables in models 2 and 3,[5] we find that the Beta for income is the largest one in each equation and education is second. That is, household income produces the greatest amount of change in each indicator of Internet and computer usage, with education accounting for the second largest change in each indicator. These findings suggest that, to the extent that there is a digital divide in Detroit, it is structured primarily by income and education, age and work status, and to a much lesser extent by other variables, such as race or inner-city location. For example, returning to table 11.2, we see the odds ratios for whites and others versus African Americans represent an increase of only 1.9 to 2.3 times the probabilities of given computer-use outcomes. But the income variable produces an increase in probabilities of certain outcomes by 10.0 to 14.7 times, while the effects of education change the odds by 4.9 to 13.8 times. A

variety of indicators suggests that income, education, and age are the key determinants of computer and Internet use.

Thus, there *does* appear to be a digital divide in Detroit, but one structured primarily by income, education, age, and, to a lesser extent, by employment status. Race and inner-city location are far less important than might have been expected, though they still matter on selected uses. Differentiated use of the Internet is as important as differences in access (DiMaggio et al., 2004). Next, we consider what Detroiters use the Internet for, taking up part of the agenda for research on digital inequality proposed by DiMaggio et al. (2004).

WHAT DO DETROIT AREA RESIDENTS DO ON THE INTERNET?

Residents of the city of Detroit and the three counties of Wayne, Oakland, and Macomb use the Internet for a variety of purposes (table 11.4). The most popular activities (done by over 50 percent of Internet users) are getting information about a product or service, learning more about something that has to be done for work or school, getting information about a health concern, actually making a purchase online, and going to a website to find information about government services, public policy issues, or world events. The least popular activities (done by fewer than 20 percent of Internet users) are participating in chat rooms and interactively discussing political or social issues with others.

Some of the activities that people do on the Internet vary by race and location but many do not, according to the results of multivariate analyses using race, gender, age, education, household income, employment status, family structure, and place of residence to predict the likelihood of doing each of the ten Internet activities (tables not shown here). For example, there are no significant differences between African Americans and others, or between Detroit and suburban residents, for six of the ten activities we examined: getting information about a product or service, getting information about a health concern, actually making a purchase, going to a website to find information about government services, public policy, or world issues, locating contact information, or getting help with home finances or doing banking on-line. The *only* significant difference between Detroiters and suburbanites is learning about something a respondent had to do for work or school, with residents of Detroit more likely to do so. Significant racial difference appears for three Internet activities: looking for a new job or exploring career opportunities, participating in chat rooms, and interactively discussing political or social issues with others (table 11.4). Compared to non-blacks, African Americans are almost four times as likely to use the Internet to look for employment or career opportunities, and almost five times as likely to use it to interactively

Table 11.4   Activities done on the Internet in the past 12 months by race and location

Activity	Use the Internet (%)	Race and location of Internet users (%)			
		African American	Non-black	Suburbs	Detroit
Got information about a product or service	83.7	88.3	82.6	83.3	85.0
Learned more about something for work or school	73.3	82.0	71.2	71.2	83.3
Got information about a health concern	65.5	57.4	67.3	66.3	61.7
Made a purchase, incl. travel reservations	60.9	51.7	63.0	63.5	48.3
Got information about government services, public policy issues, or world events	58.0	58.3	58.0	58.5	55.0
Located someone's phone number, e-mail, or mailing address	47.2	43.3	48.0	47.5	46.7
Looked for a new job or explored career opportunities	47.0	65.6	43.1	44.5	58.3
Help with home finances or did banking	40.9	34.4	42.3	42.3	33.3
Participated in chat rooms	14.3	11.5	14.9	13.8	16.7
Interactively discussed political or social issues with others	10.9	16.7	9.6	10.7	11.7

discuss political and social issues. African Americas are less likely than non-blacks to participate in chat rooms.[6] (Note, however, that interactive discussions and chat-room participation are low-volume activities on the Internet.)

Overall, these findings suggest that the Internet may be a means to overcome racial and residential barriers. Many activities, where racial prejudice or residential segregation could interfere with access to important information or to the consumer market, do not exhibit significant differences by race or residence. Moreover, African Americans may be using the Internet to overcome barriers in the labor market. Not only do the majority of African Americans who use the Internet use it to access information about employment and career opportunities, but they are much more likely to do so than non-blacks. Of course, African Americans who are excluded from using the Internet do not enjoy these informational advantages.

THE EFFECT OF COMPUTER AND INTERNET USE ON SOCIAL INTERACTION ACROSS SPACE AND RACE

Most research on Internet use documents positive effects on social interaction, sociability, community participation, and political involvement (for reviews, see Castells, 2001: 118–25; DiMaggio et al., 2004). We consider the impact of computer and Internet usage on two key indicators of social capital: whether a respondent has been in the home of someone of a different neighborhood (or had them in his or her home) in the past twelve months, and whether a respondent has been in the home of someone of a different race (or had them in his or her home) in the same time period. These items are replicated from the Social Capital Benchmark Survey (2000) "short form."

Neither race nor residence is a significant predictor of either form of socializing, controlling for gender, education, household income, employment status, family structure, and computer and Internet usage (see table 11.5). African Americans are not more or less likely than non-blacks to have been in the home of someone of a different neighborhood (or to have had them in their homes) or to have been in the home of someone of a different race (or to have had them in their homes). Similarly, Detroiters are not more or less likely than suburbanites to have been in the home of someone of a different neighborhood (or to have had them in their homes) or to have been in the home of someone of a different race (or to have had them in their homes). Similarly, gender does not have significant effects on inter-neighborhood or inter-racial socializing.

Age is a big predictor of both forms of social interaction. The young (ages 18–25) are always much more likely than the old (ages 55+) to have engaged in both types of socializing. Those who are middle-aged (ages 26–54) are much more likely than the old to have been in the home of someone of another

Table 11.5 *Logistic coefficients from regression of inter-neighborhood and inter-racial socializing on income, education, age, race, gender, employment status, location, family structure, and computer and Internet usage*

Variables	Been in the home of someone from a different neighborhood (or had them in your home) in the past 12 months			Been in the home of someone of a different race (or had them in your home) in the past 12 months		
	(1)	(2)	(3)	(4)	(5)	(6)
Income	0.228** (0.080)	0.205** (0.080)	0.193* (0.079)	0.059 (0.057)	0.052 (0.057)	0.051 (0.056)
Education	0.368** (0.143)	0.343* (0.144)	0.289* (0.147)	0.199 (0.363)	0.184+ (0.095)	0.072+ (0.096)
Youth (18–25)	1.685* (0.804)	1.465+ (0.812)	1.470+ (0.807)	1.439*** (0.363)	1.368*** (0.370)	1.383*** (0.364)
Middle-aged (26-54)	-0.287 (0.419)	-0.429 (0.428)	-0.416 (0.420)	0.802** (0.272)	0.748** (0.278)	0.777** (0.272)
African American	0.545 (0.469)	0.622 (0.474)	0.604 (0.470)	0.296 (0.326)	0.334 (0.329)	0.314 (0.327)
Gender (female)	-0.380 (0.312)	-0.397 (0.313)	-0.415 (0.315)	-0.310 (0.202)	-0.319 (0.202)	-0.312 (0.202)
Currently employed	0.654* (0.339)	0.669* (0.340)	0.652+ (0.341)	0.355 (0.220)	0.374+ (0.219)	0.363+ (0.220)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Lives in suburbs	0.449 (0.465)	0.464 (0.468)	0.439 (0.466)	0.462 (0.335)	0.476 (0.336)	0.476 (0.336)
Children at home	0.187 (0.371)	0.230 (0.373)	0.237 (0.376)	0.134 (0.229)	0.137 (0.229)	0.135 (0.229)
Use a computer	0.409 (0.342)			0.264 (0.254)		
Use the Internet		0.718* (0.352)			0.354 (0.248)	
Use e-mail			1.044** (0.393)			0.387+ (0.233)
Constant	-1.391	-1.264	-1.080	-2.022***	-1.955***	-1.917***
Nagelkerke r^2	0.220	0.229	0.245	0.167	0.169	0.171
Correctly classified (%)	88.3	88.4	88.8	68.5	69.0	69.0
Weighted n of observations.	508	508	508	507	507	507

*** $p <0.001$, ** $p <0.01$, * $p <0.05$, + $p <0.10$ (two-tailed test).
$n = 507$ for models 4–6 due to missing data from one partial interview.

race (or had them in their homes). Employment has a positive effect on both forms of social interaction. Education, too, has a positive effect on both forms. Compared to respondents with less formal education, those with more education are more likely to have socialized with someone from another neighborhood and to have socialized with someone of a different race. Household income influences the likelihood of inter-neighborhood socializing but not inter-racial socializing. Respondents from households with higher incomes are more likely than those from households with lower incomes to have socialized with someone from a different neighborhood.

Simply using a computer does not increase or decrease the chances of inter-neighborhood socializing or inter-racial socializing (see models 1 and 4 in table 11.5). Using the Internet has a positive effect on the likelihood of inter-neighborhood socializing but not inter-racial socializing (models 2 and 5). Using e-mail, however, significantly increases the probability of both types of social interaction (models 3 and 6). Compared to respondents who do not use e-mail, those who do are 2.8 times as likely to have socialized with someone from a different neighborhood, and 1.5 times as likely to have socialized with someone of a different race.

These findings suggest that the new information and communication technologies may help to overcome the barriers of race and space, even in an urban system that is as severely segregated as the Detroit region. In contrast, the "old" communication technologies do not appear to have an influence. The number of telephone numbers in a household, for example, does not have a significant effect on either form of social interaction (tables not shown here). Those who use the new technologies are more likely to engage in both inter-neighborhood and inter-racial socializing, even when controlling for race, gender, education, household income, employment status, family structure, and place of residence.

CONCLUSION

The "new American dilemma," argues Castells (2000: 128–9), is the combination of inequality, urban poverty, and social exclusion in the information age. If ever there were an urban system that illustrates this dilemma, it is metropolitan Detroit. Inequality is vast, urban poverty is high, and, as we have documented here, segregation, isolation, and social exclusion are as severe as anywhere in the United States. However, this view of "Detroit divided" should not be overstated. As Farley and colleagues (2000) note, many manufacturing jobs moved to the suburbs in recent decades, and some blacks managed to follow those jobs. The percentage of African Americans in the Detroit suburban ring is now 7 percent and in certain suburbs, such as Southfield, the

percentage is much higher, with employment in high-paying manufacturing jobs available to some African Americans.

Additionally, in an effort to revitalize the city – which stayed stagnant for some decades after the 1967 riot – major new investments have been made. Not the least of these is the signature urban redevelopment project, the Renaissance Center, now home to the headquarters of General Motors. Additionally, an entertainment complex is growing in downtown Detroit, including an opera house, Ford Field (for football's Detroit Lions), Comerca Park (for baseball's Detroit Tigers), various casinos, and other theaters (such as a remodeled Fox Theater). Perhaps most symbolic of the passing of one economic era and the advent of another is that a major new office tower in downtown Detroit is home to Compuware, a leading developer and provider of software applications for business, which opened in 2003 and brings hundreds of high-tech jobs back from the suburbs to downtown Detroit. To the extent that Detroit has a local symbol of the informatics economy, the physical presence of that entity has just moved to the city center, a site emptied out by racial tension, socioeconomic division, and the collapse of the old economy.

Might, in fact, the informatics economy be an agency for the rebirth and reconstruction of one of America's quintessentially troubled manufacturing cities? And are there any potentially "leveling" consequences of Internet usage in metropolitan areas as polarized as Detroit's? Our data suggest cautious optimism. First, the digital divide that exists in Detroit is not primarily structured by race; rather, it is structured mainly by income, education, age, and work status. Young, educated, and employed African Americans are vastly more likely to be frequent computer and Internet users than are older, less well educated and retired or unemployed African Americans. Education is generating opportunity among the young. Second, a revealing datum in table 11.4 pertains to the use of the Internet by African Americans. Sixty-six percent of African American Internet users used the Internet to "look for a new job or explore career opportunities" versus 43 percent for non-black Internet users. This fact is crucial in a city that lacks an effective public transportation system to connect suburbs and inner city.[7] Knowing where the jobs are is essential to pursuing jobs. A significant part of social exclusion is employment based. The Internet appears already, in metropolitan Detroit, to be affording a tool with which to attack this dimension of social exclusion.

Finally, and perhaps most hopefully, our multivariate analysis in table 11.5 suggests that using the Internet and using e-mail helps to break down isolation and exclusion. E-mail users in the metropolitan Detroit region are significantly more likely than non-users to visit the homes of people living outside their neighborhood (or have them visit their homes), and they are significantly more likely to visit the home of someone of a different race (or have them visit their

own homes). This contribution is statistically independent of income, education, age, suburban versus inner-city residence, and other possible determinants of these social interactions.

There is a public policy implication here. Metropolitan Detroit is the most racially segregated and isolated city in the United States. Recent budgetary crises in state government have led to cutbacks in public investments in computers for classrooms. This may be precisely the kind of decision that reinforces, rather than reduces, social exclusion in a manufacturing state trying to adjust to the informatics economy. Public investments (via tax subsidies) have lured major industries back to downtown Detroit. But the presence of high-tech jobs will not suffice to erode social exclusion until public investment in educational opportunity for the young subverts a digital divide that persists on the basis of education, income, and employment.

ACKNOWLEDGMENTS

NOTES

1. $n = 508$, based on a multi-stage area probability sample of residents living in the Detroit three-county region (Wayne, Oakland, and Macomb). Sampling weights were constructed to account for variation in probabilities of selection and non-response rates, and to adjust sample results to match known US Census totals for the Detroit three-county region for age, gender, and race. The probabilities of selection varied because a single adult was selected from each household, in effect over-representing in the sample persons who live in households with fewer adults. Non-response rates were higher in some areas than others, and the inverse of the response rates in sample areas was used as an adjustment factor. Post-stratification weights were developed so that the final weighted estimates agreed with census distributions by age, gender, and race for the metropolitan area. A rescaled final weight, which is the product of all three adjustments, was computed which sums to the unweighted sample size of 508. All analyses employ the final rescaled weight in computation. Missing data for key variables were imputed using IVEware, which performs imputations of missing values using the sequential regression imputation method (Raghunathan et al., 2001).

2. Our odds ratios on the effects of income are higher than those derived from national level data reported by DiMaggio et al. (2004) because our lowest income category (under $20,000) is lower than the $20,000–$20,999 category employed by the Current Population Study. Hence, the contrast is greater.

3. In analyzing the effects of age, we have created two dummy variables for youth (18–25) and middle-age (26–54). Their coefficients should be interpreted as the effect of an individual

falling into one of these groups versus being of age 55 and above, which constitutes the "excluded" group used as a baseline.

4. Family structure is a dichotomous variable, which = 1 if a household has one or more residents under the age of 18 (0 = otherwise).

5. These equations have interval-level dependent variables, thereby allowing the use of OLS procedures, which permit the calculation of standard parameter estimates. A Beta coefficient is essentially the amount of change in standard deviation units in the dependent variable for each change in a standard deviation unit of the independent variable, holding other predictor variables constant.

6. Norris (2003) suggests that participation in online communities can affect two forms of social capital: "bonding social capital" and "bridging social capital" (Putnam, 2000). Participation can deepen connections among similar people ("bonding social capital") and it can increase linkages of different sorts of people ("bridging social capital").

7. And, as Farley et al. (2000: 253) suggest, metropolitan Detroit lacks such an integrated system of public transport in part precisely so as to enforce barriers of racial isolation.

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