PAPER

Influence of Consumer Culture and Race on Travel Behavior

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ABSTRACT

In this paper, data from the National Personal Transportation Survey (NPTS), the American Travel Survey (ATS), the Consumer Expenditure Survey (CES), and the U.S. Bureau of the Census are used to examine the intersection of consumer culture and travel behavior, particularly as consumerism might influence differences in travel behavior by race/ethnicity. The data indicate that buying power and purchasing behavior among African Americans and Hispanics is increasing at the same time that the trips for consumer activities are nearing 50 percent of all trips made. Differences by race/ethnicity in travel mode and time of travel for consumer activities will significantly impact overall travel behavior patterns in major urban centers where African Americans and Hispanics are most concentrated. Finally, the social context of consumer activities among African Americans and Hispanics indicates that their trip making for consumer purposes will not be significantly influenced by e-commerce. This paper also suggests that coverage bias hampers analyses of differences by race/ethnicity using NPTS and ATS data.

INTRODUCTION

Between 1969 and 1995, the total U.S. population grew by about 23 percent, from 197.2 million to 262.8 million persons (1). The U.S. population at the end of 1998 was estimated at 270.9 million. Of these, more than 28 percent, or 75.8 million are non-Europeans. In comparison, Canada's entire population is smaller than either the African-American or the domestic Hispanic population. By 2010, African Americans, Hispanics, and Asian Americans, and other minorities will account for one-third of the population. Not only are these segments of the U.S. growing fast, but also they have a particularly strong demographic impact in major urban centers where they are most concentrated.

Federal government projections show African Americans' income matching non-Hispanic White income in 2027. Asian-American households have the highest income among all racial/ethnic groups in the United States, and the gap between them and non-Hispanic White households is expected to grow. Any significant growth in Hispanics' household income is seen as lagging behind that of other major groups well into the 21st century. These Hispanic projections reflect the income gap among the Hispanic population caused by the continued high rate of immigration. Census data on Mexican-American immigrants in Los Angeles, for example, show a dramatic difference in income between those who had been here for more than 5 years and those who had been here less than 2 years. At the same time, these high rates of immigration will cause Hispanics to become the largest U.S. minority group by 2005.

Depending on which study you follow, African Americans' purchasing power totals \$450 billion to \$533 billion. The amount also varies for Hispanics (\$300 billion to \$387 billion) and Asian Americans (\$101 billion to \$188 billion). Even at the low-end estimates, the numbers add up to tremendous influence on America's buying practices. The growing purchasing power of the U.S. non-European population, coupled with its growing size, will have an impact on U.S. travel behavior patterns. Prior studies have documented that increased income generally produces an upward trend in mobility or volume of daily travel (2). We expect that the growing purchasing power of the U.S. non-European population will affect not only the overall volume of travel but also the types of travel.

RISE IN NON-WORK TRAVEL

Between 1969 and 1995, the total number of person trips in the United States increased from 145.1 billion to 378.9 billion (*3*). This increase of 161 percent in person trips generated far outpaced the population increase of 39 percent during the same period of time. But it is in the types of trips and the per capita generation of trips by type that the changes are most dramatic. Work trips accounted for over a third (36 percent) of all trips in 1969 but was less than one-fifth (18 percent) just 25 years later. In fact, work trips between 1969 and 1985 increased by 31 percent in total numbers, thus lagging behind the population growth of 39 percent. In other words, per capita work trips actually declined by 6 percent during the period. In 1985, there were 247 annual work trips per capita, down from 264 work trips per capita in 1969.

So where has the massive increase in trips come from? In the aggregate, non-work trips nearly tripled for the country as a whole, even though the population grew by just over a third. On a per capita basis, non-work trips more than doubled, from 471 non-work trips per person in 1969 to 992 non-work trips per person in 1985.

Figure 1 shows the actual proportional shift between work and non-work trips during the 25 years for which National Personal Transportation Survey (NPTS) data are available.

The work purpose typology used in the NPTS includes several components that may be appropriately reclassified into "consumer trips." These include not only those trips that are clearly classified as shopping trips, but also additional trips that are "personal business" and other trips associated with personal activities that may well be linked to consumer activity. It is difficult to estimate what the aggregate number of such trips may be, but conservatively, the proportion may actually result in consumer activity accounting for nearly one-half of all personal travel in the United States at this time (Figure 2).

While we do not have longitudinal data to trend the purposes of long-distance travel, Table 1 indicates that a significant portion of long-distance travel is associated with consumer activities. We expect that this proportion (23 percent) is actually higher because most persons who travel for visiting, relaxation, and recreation engage in consumer activities during their stays. In fact, anecdotal information suggests that shopping is a major pastime while on "vacation" travel.



FIGURE 1 Work/non-work trips as a percent of vehicle trips. (Sources: 1996 NPTS and 1990 NPTS Databook, Vol. II.)





RISE OF CONSUMER CULTURE

Concomitant with an increase in travel for "consumer" purposes is a substantial increase in spending among the general population. Data from the Consumer Expenditure Survey (CES) indicate that the average household's spending increased nearly 60 percent between 1984 and 1997, from \$21,975 to \$34,819 (Figure 3).

The growth in travel for consumer activities can be related to the growth of consumer culture in the United States. By consumer culture, we refer to a consumer

| Trip Purpose | Frequency | Percent |
|-------------------------------|-----------|---------|
| Visit, relaxation, recreation | 440.5 | 51.5 |
| Consumer activity (4) | 199.4 | 23.3 |
| Business, work-related | 193.7 | 22.7 |
| School-related | 21.0 | 2.5 |
| Other | 0.2 | 0.0 |
| Total | 854.8 | 100.0 |

 TABLE 1
 Trip Purpose of Long-Distance Travel (In Millions). (Source: ATS)



FIGURE 3 Average annual expenditures, 1984–1997. (Source: CES, 1984–1997.)

society in which discretionary consumption becomes a mass phenomenon—not just the bastion of the rich and upper middle classes (5). The sociological trend is an upward shift in consumer aspirations—among all population groups. For example, Table 2 indicates that the percent change in consumer expenditures was highest for households with annual incomes of less than \$10,000 (28 percent increase from 1984 to 1997) and incomes between \$10,000 and \$19,999 (19 percent increase). Households with annual incomes over \$50,000 increased their spending at a rate of 16 percent, and those in the \$40,000 to \$49,999 range increased only 9 percent. Thus, consumer spending has increased at the highest rate among the lowest income groups.

It is apparent that throughout the 1980s and 1990s, Americans were acquiring consumer goods at an ever-increasing rate. Data from 1973, 1991, and 1996 show an increasing number of consumer items that are viewed necessities (6). In 1996, for example, an automobile was viewed as a necessity by 93 percent of Americans, and a second automobile as a necessity by 37 percent. About one-quarter view home computers and answering machines as necessities, and one-third view microwaves as necessities. The longitudinal data confirm that the list of "things" the general population "need to have" is growing.

ETHNIC MINORITIES, CONSUMER CULTURE, AND TRAVEL BEHAVIOR

The increasing proportion of the U.S. population comprised by non-Europeans, coupled with their increasing buying power and aspirations to "acquire goods," should be correlated with a dramatic increase in the volume, distribution, and characteristics of

| Household Income | 1984 | 1997 | % Change |
|--------------------|----------|----------|----------|
| Less than \$10,000 | \$11,365 | \$15,849 | 28% |
| \$10,000-\$19,999 | \$17,337 | \$21,338 | 19% |
| \$20,000-\$29,999 | \$23,429 | \$27,836 | 16% |
| \$30,000-\$39,000 | \$29,459 | \$32,376 | 9% |
| \$40,000-\$49,999 | \$36,953 | \$40,779 | 9% |
| Over \$50,000 | \$50,159 | \$60,036 | 16% |

TABLE 2 Change in Average Annual Expenditures, 1984–1997, By HouseholdIncome. (Source: CES, 1984, 1997)

travel conducted by these population groups. We expect that overall travel patterns in Los Angeles, San Diego, Houston, New York, Chicago, Miami, and San Francisco will be most influenced by the travel characteristics of ethnic/racial minorities. These are major cities where the proportions of immigrants and near descendants of immigrants comprise nearly half the population.

For purposes of this paper, the term "differences by ethnicity" is used to mean differences by "race/ethnicity." In addition, ethnic differences are defined as differences among African Americans, Hispanics, and non-Hispanic Whites. We focus only on the race/ethnic categories of African Americans and Hispanics and not on Asians, Native-American, and other non-European subgroups because there are available and sufficient data only on African Americans and Hispanics (7).

Before reviewing trip pattern differentials among ethnic minorities and the majority population, it is essential to assess the quality of ethnic minority data from the NPTS. Many national surveys tend to underrepresent minority groups and these surveys sometimes "balance" the data by applying a statistical weight to the sample in order to make the marginal statistics match those of critical variables in the population. In the case of the NPTS, the minority underrepresentation appears to be very severe and it is likely that this problem makes many comparisons somewhat suspect. The following shows the actual distribution of the NPTS sample both in the raw, unbalanced data and in the weighted data.

Based on this simple review of the marginal distributions, Hispanic households are underrepresented in the NPTS data by 56 percent (Figure 4). In other words only about 44 percent of the Hispanic households that should have been sampled in a survey without coverage bias were actually sampled. If Hispanic households were systematically underrepresented (that is, Hispanic households that were included in the NPTS do not differ from Hispanic that were not included), then the problem would be less serious and could easily be corrected through various types of statistical balancing.

However, it is almost certain that those Hispanics that did not get sampled in probability equal to all other types of households differ substantially from the Hispanics in the NPTS. The NPTS Hispanics most likely come from among Hispanics that are most like the White population in income, residential status, language, and other lifestyles. Thus, we would find that any Hispanic to majority population differences would be muted. Our following analysis must therefore be viewed as understating the differences between Hispanics and non-Hispanics. To a slightly lesser degree, the same pattern applies to the African-American population. The degree of underrepresentation is less



FIGURE 4 Race/ethnicity distribution comparison between NPTS and U.S. Census.



FIGURE 5 Median income in 1997 dollars, by race/ethnicity, 1967–1997. (Source: U.S. Census Bureau, 1967–1997, as 1997 CPI-U adjusted dollars.)

severe, but it still reaches 44 percent. Analyses of the ATS data indicate a comparable underrepresentation of minorities.

Figure 5 portrays income trends for Whites, African Americans, and Hispanics over the past three decades. The leveling affects of "replenishment" (i.e., continuing immigration) among the Hispanic population is evidenced by the lack of significant increases in median income. As noted previously, this Hispanic trend reflects the income gap caused by the continued high rate of immigration, whereby new immigrants have much lower median incomes that do Hispanics who have been in the United States for 5





years or more. On the other hand, the median income among African Americans has increased steadily, from \$19,123 to \$25,050. Median income of both African Americans and Hispanics is significantly less than that of Whites.

The differences in average annual expenditures by race/ethnicity are much less than the income gaps noted above. As African Americans and Hispanics are becoming more prosperous, they are increasingly part of the U.S. consumer culture. Spending among African Americans increased 28 percent since 1984, compared to 20 percent among Whites. In just the past 3 years, spending among Hispanics has increased 10 percent. While the gap is decreasing, average annual expenditures among Whites is still significantly higher than that of African Americans and Hispanics.

Despite differences in income and average annual expenditure totals by race/ethnicity, the percent of trips for consumer activities is comparable among Whites, Hispanics, and African Americans (see Tables 3, 4, and 5). Consumer culture does appear to influence travel behavior.

While African Americans' and Hispanics' proportions of travel for consumer activities are comparable to that of Whites, the characteristics of their consumer-oriented travel differ. Table 6 indicates that the use of motor vehicles for shopping trips is much less likely among African Americans and Hispanics. At the same time, African Americans and Hispanics are much more likely than Whites to walk or use public transit

TABLE 3 Distribution of Person Trips by Travel Purpose by Race/Ethnicity
(Source: 1995 NPTS)

| Trip Purpose | White | Hispanic | African American |
|--------------------------------|--------|----------|------------------|
| Consumer activities | 44.3% | 44.0% | 46.0% |
| Work and work-related | 20.3% | 20.2% | 19.1% |
| Visiting, social, recreational | 25.5% | 23.4% | 20.6% |
| School/church | 8.0% | 10.7% | 12.5% |
| Medical/dental | 1.5% | 1.4% | 1.6% |
| Vacation | 0.2% | 0.2% | 0.1% |
| Other | 0.2% | 0.1% | 0.1% |
| | 100.0% | 100.0% | 100.0% |

| (| , (| , | |
|-----------------------------|----------|------------------|-----------|
| Trip Purpose | Hispanic | African American | White |
| Consumer activity | 16,135.2 | 18,849.2 | 125,759.2 |
| Visit, social, recreational | 8,562.6 | 8,423.9 | 72,411.4 |
| Work/work-related | 7,419.6 | 7,804.0 | 57,730.3 |
| School/church | 3,925.0 | 5,115.1 | 22,600.9 |
| Medical/dental | 506.9 | 666.5 | 4,165.3 |
| Vacation | 68.0 | 18.5 | 681.8 |
| Other (specify) | 42.7 | 47.5 | 515.6 |
| Not ascertained | 7.9 | 24.5 | 33.9 |
| | 36,667.9 | 40,949.2 | 283,898.4 |

TABLE 4 Volume of Person Trips by Travel Purpose by Race/Ethnicity(In Millions) (Source: 1995 NPTS)

TABLE 5 Trip Purpose of Long-Distance Travel by Race/Ethnicity(Source: 1995 ATS)

| Trip Purpose | Hispanic | White | African American |
|-------------------------------|----------|--------|---------------------|
| Visit, relaxation, recreation | 57.7% | 51.0% | 58.0% |
| Consumer activities | 25.3% | 22.8% | 24.4% |
| Business, work-related | 14.9% | 23.8% | 14.6% |
| School-related | 2.0% | 2.4% | 3.0% |
| Other | 0.1% | 0.0% | 0.0% |
| Total | 100.0% | 100.0% | 100.0% |

| | TABLE 6 | Travel Mode | for Shopping | g Trips, | 1995 NPTS (Source: | 1995 NPTS) |
|--|---------|--------------------|--------------|----------|--------------------|------------|
|--|---------|--------------------|--------------|----------|--------------------|------------|

| Mode | Hispa | White | African American |
|-----------------|-------|--------|---------------------|
| Motor vehicle | 83.6% | 92.1% | 78.9% |
| Walk | 10.8% | 3.6% | 10.5% |
| Public transit | 1.3% | 0.1% | 4.8% |
| Bicycle | 0.2% | 0.4% | 0.8% |
| Not ascertained | 3.9% | 2.9% | 4.6% |
| Total | 100.0 | 100.0% | 100.0% |
| | % | | |

for shopping trips. Vehicle availability may account for differences in travel by mode. The 1997 CES data show that only 71 percent of African Americans own or lease at least one vehicle, compared to 80 percent of Hispanics and 89 percent of Whites.

It is in this type of travel pattern that the problem of underrepresentation of Hispanics and African Americans in the NPTS almost certainly mutes the differences. It is very probable that the Hispanic and African American use of public transit for shopping trips is very likely nearly 3 percent for Hispanics and over 6 percent for African Americans. The difference between those rates and the White population are thus magnified. In urban settings where Hispanics and African Americans are concentrated, the muted national rates would then need to be adjusted massively. An empirical adjustment is almost impossible, given the lack of independent, verifiable data. The need for better information that can serve the large urban transit systems is obvious.

The data in Table 7 suggest that the consumer behavior of African Americans and Hispanics are conducted within a social context that is different from Whites. Whites were much more likely than African Americans or Hispanics to do their shopping trips as single individuals. African Americans and Hispanics on the other hand were much more likely to do their shopping trips in groups of three or more persons. American Travel Survey (ATS) data confirm the NPTS findings. The average travel party size varies by race—Whites (3.03), African Americans (3.64), and Hispanics (3.70).

Not only does the social context of shopping trips differ by race/ethnicity, but also the time frame in which shopping occurs differs. Table 8 indicates that shopping trips among African Americans and Hispanics are spread throughout the day to a greater degree than is evidenced for Whites. It is likely that African Americans and Hispanics who have higher rates of engaging in multiple jobs require spreading their shopping to more portions of the day.

EFFECT OF E-COMMERCE ON CONSUMER TRIPS AMONG AFRICAN AMERICANS AND HISPANICS

We acknowledge that the prevalence of personal computers at work and at home will have an impact on people's need to "travel" to for consumer purposes. U.S. online sales (i.e., the e-commerce industry) are on the rise. Optimistic projections show online sales as rising from an estimated \$7.8 billion in 1998 to \$108 billion in 2003 (8).

Currently, data do not exist which measure the impact that electronic and Internet communications is having or may have in the future on travel behavior. However, we believe that e-commerce will have only a minor impact on the travel characteristics of African Americans and Hispanics for a combination of reasons that are related to demography and culture. For example, access to and comfort with Internet technology will be a continuing barrier among African-American and Hispanic households.

| Number of Others | Hispanic | White | African American | |
|------------------|----------|-------|------------------|--|
| 1 | 39.8% | 49.8% | 45.6% | |
| 2 | 30.8% | 30.9% | 28.1% | |
| 3 | 13.0% | 10.9% | 13.8% | |
| 4 | 7.3% | 5.4% | 7.4% | |
| 5+ | 9.2% | 2.9% | 5.1% | |

 TABLE 7 Average Number of Others on Same Shopping Trip (Source: 1995 NPTS)

| TIDLE o Shopping Trip Start Time (Source: 1995 IVI IS) | | | | |
|--|----------|-------|------------------|--|
| Time Period | Hispanic | White | African American | |
| Before 8 a.m. | 4.4% | 2.9% | 3.5% | |
| 8 to 11:59 a.m. | 24.6% | 28.1% | 23.1% | |
| Noon to 3:59 p.m. | 35.4% | 36.1% | 32.8% | |
| 4 to 7:59 p.m. | 28.2% | 27.8% | 32.3% | |
| 8 to 11:59 p.m. | 7.5% | 5.1% | 8.3% | |

TABLE 8 Shopping Trip Start Time (Source: 1995 NPTS)

Consumer data indicate that the primary market for Internet use and on-line purchasing is high-income households. In 1998, 39 percent of households earning over \$50,000 were "wired," compared to 18 percent of households earning under \$25,000 (9). In 1998, households with annual incomes of more than \$50,000 accounted for 47 percent of total retail sales—but 74 percent of online sales (8). As noted earlier in this paper, it will take at least another 25 years (and no change in current social trends) for African Americans and Hispanics to reflect the income levels of Whites.

Just as important as demographics, the culture of African Americans and Hispanics may influence the degree to which these groups engage in e-commerce activities. So that even as e-commerce technology gets less expensive, they may not engage in e-commerce at the same levels as Whites. As noted previously, African Americans and Hispanics appear to conduct their consumer trips within more of a social context than do Whites. Not only do African Americans and Hispanics do their shopping as larger groups, but they also do their shopping spread out throughout the day. These data suggest that consumer travel among these groups is more group-oriented and the shopping activity fulfills both purchasing requirements and social interaction needs. E-Commerce will not likely be able to substitute for the social context of the traditional shopping environment.

CONCLUSION

Based on our analysis and some creative interpretation of the direction of biases in the available data, we can conclude that Hispanic and African-American "consumer" travel will continue to grow as the income and expenditure levels of these groups increase. The consumer travel of African Americans and Hispanics is much more familistic and group-oriented than White travel. African Americans and Hispanics are also many times more likely than Whites to rely on public transit or walking, and to spread their travel throughout the day. Population projections indicate that these segments of the U.S. population are growing fast and will have a strong demographic impact on the major urban centers where they are most concentrated. Thus, one might speculate that travel for consumer purposes in cities such as Los Angeles, San Francisco, Chicago, New York, Miami, and Houston will follow a traditional model (i.e., *actual* tripmaking) rather than an e-commerce model. The likely increase in the volume of consumer trips in cities such as these among African Americans and Hispanics will impact demand for public transit. Our ability to understand and forecast the impacts of consumer culture and changing demographics on travel behavior in the United States will be affected by the degree to which travel surveys, such as the NPTS, ATS, or those for specific metropolitan areas, accurately capture representative samples of race/ethnic minorities.

NOTES

1. *Population Profile of the United States*. Current Population Reports, Special Studies Services, P-23, Bureau of the Census, U.S. Department of Commerce. No. 173–67, 1997.

2. Lave, C., and R. Crepeau. Travel by Households without Vehicles. In *National Personal Transportation Survey: Travel Mode Special Reports*. Washington, D.C., 1994.

3. 1995 NPTS Data Set.

4. When describing long-distance travel, consumer activities are defined as shopping, other family/personal, entertainment, and sightseeing.

5. Schor, J. The Overspent American. Basic Books, New York, 1989.

6. American Enterprise. May–June 1993, p. 89.

7. The race variable in the NPTS data is created from two other variables. These variables are race (White, African American, Asian, other) and Hispanic (Hispanic, non-Hispanic).

8. 'Twas the Season for E-Splurging. *Newsweek*, Jan. 18, 1999.

9. Is a Web Political Poll Reliable? Wall Street Journal, April 13, 1999.