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ABSTRACT
                This study assessed factors related to literacy and literate
behavior, rating the most and least literate U.S. cities. Data came from the
U.S. Census Bureau, Audit Bureau of Circulations, American Booksellers
Association, Yellow Pages, American Library Directory, and National Directory
of Magazines. Thirteen measures were combined to form five indicators of
literacy: booksellers; library support, holdings, and utilization;
educational level; periodicals published; and newspaper circulation. Results
found no strong regional influence. The top 10 included four western cities
(Seattle, Denver, San Francisco, and Portland); two eastern (Washington and
Pittsburgh); one southern (Atlanta); and two midwestern (Cincinnati and
Minneapolis). The bottom 10 had a distinct "sun-belt" appearance (three in
Texas, four in California, and one each in Florida and Tennessee). None of
the eight cities with populations over 1,000,000 were in the top 50 percent.
This population disadvantage diminished for cities under 1,000,000. Boston
and New York, often considered more stereotypically literate, ranked 13th and
48th, respectively. They were very strong on a few factors causing them to be
viewed as centers of culture and literacy but had large numbers of people
apparently not buying newspapers and books, checking out library books, or
graduating from high school. Other cities not stereotypically considered
bastions of literacy did very well on at least a few factors. (SM)

ED 480 753

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A mericans are actively interested in issues affecting their quality of life and how that quality varies from place to place. People want to know how their community compares to others on a broad range of dimensions including crime rates, taxation levels, segregation levels, public health services available, and environmental quality, to name a few. The U.S. Environmental Protective Agency evaluates and reports on air quality by cities. Ladies Home Journal ranks the best cities in the United States for women on such issues as crime, lifestyle, and health factors. Forbes ranks cities by the best life quality for singles including factors such as the number of nightclubs and job growth.

People and businesses considering relocation are anxious to know how their current communities compare with potential new locations. Local governments and Chambers of Commerce pay careful attention to reports of studies on quality of life and use them in both promotion and improvement plans. One of the greatest topics of interest is educational or intellectual quality of life.

U.S. News and World Report annually evaluates colleges and universities on a broad range of variables. State education agencies release achievement test scores for all schools in a state, while the U.S. Department of Education monitors schools "needing improvement" and "persistently dangerous schools." These studies mainly assess the performance and behavior of in-school students and their schools at the primary, secondary, and post secondary levels. They are largely related to quality of schooling.

The purpose of this study is to assess a collection of important factors related to literacy and literate behaviors. This study rates the most and least literate cities in the United States. The focus is not to examine school achievement test scores, although such scores are undoubtedly correlated with many of the factors measured here. Rather, this study analyzes factors directly relating to the literacy of communities and their populations.

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Whether these quality of life analyses are "accurate" is not so much a point of fact as it is of interpretation and operational definition. Obviously, communities that score highly on given indicators tend to be supportive of the research methodology, while those who are not highly assessed question the variables selected and their measurement. The point is that the "accuracy" of reports depends on acceptance of the operational definitions of the factors measured. For example, the value of the U.S. News and World Report study of colleges depends on acceptance of graduation rates of students, opinions of university presidents, and admission rates as important indicators of academic quality. Similarly, the value of this literacy study depends on acceptance of newspaper circulation, numbers of bookstores, and educational attainment levels as indicators of literacy. The 13 variables measured and their combination into five ranked factors form the operational definition of literacy.

DATA SOURCES

Data were initially drawn from six key data bases. These included:

1 U.S. Census Bureau
United States Department of Commerce
(United States Census 2000)
http://www.census.gov/

2 Audit Bureau of Circulations
(Copyright 2003 Audit Bureau of Circulations)
http://www.accessabc.com/

3 American Booksellers Association
(Copyright 2002)
http://www.BookWeb.org/

4 Yellow Pages, Inc.
(Copyright 2002 Yellow Pages, Inc.)
http://www.yellowpagesinc.com/

5 55th Edition
American Library Directory
(2002-2003 Volume 1)

6 The National Directory
of Magazines 2002

Missing data, or apparent anomalies in the data, were resolved with direct phone call or email contacts with the original data sources. For example, this included contacting public libraries, school systems and newspaper publishers for either data completion or verification.

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THE VARIABLES

Operationally, defining literacy and literate practices was one of the most difficult aspects of completing this study. Thus, it is important to clarify, but not defend, the operational definitions. There may be better definitions of literacy, and if so, those factors will be considered and may be added to future analyses. The variables measured here and combined to form the literacy rankings in this study include thirteen separate variables grouped to form five factors of literacy.

Booksellers

Three variables are combined to form the factor Booksellers. Members of the American Booksellers Association (2002), which is an organization that represents independently owned bookstores with storefront locations, were indexed by city. Those member booksellers were then divided by the city population in order to calculate a ratio of booksellers to population. Yellow Pages (2002) listings were used to form two other variables. The number of retail booksellers and rare and used booksellers were each indexed. They were then divided by city population to calculate ratios of booksellers to population.

Library Support, Holdings, and Utilization

Public school library support was assessed by indexing the number of library/school media specialists and the number of public school students in the school district that serves each city as reported in the U.S. Census 2000. A ratio of librarians to students was calculated. The total circulation, volumes held, and branches operated for the public libraries that serve the cities in the study and reported in the American Library Directory (2002) were indexed. These numbers were then divided by the city population in order to calculate ratios of library services and resources available to the population.

Educational Level

Education Attainment was indexed with two variables. The percentage of the adult (over 23 years of age) population having a high school diploma or greater as reported in the United States Census 2000 was indexed. The percentage of the adult population having a bachelor's degree was also indexed.

Periodicals Published

The number of periodicals published in a city was indexed through analysis of the National Directory of Magazines (2002) database. Because of the high number of very small single publication publishers, it was deemed more appropriate to utilize the list of multi-periodical publishers of which there are approximately six hundred in the U.S. The number of multi-periodical publishers located in a city was indexed to form one variable. A ratio of those publishers to the population of the city was also calculated to form another variable.

Newspaper Circulation

Newspaper circulation was indexed as two variables. Newspaper circulation for the Sunday paper as reported in the Audit Bureau of Circulation (2003) official circulation averages for the six months ending 3/31/2003 was indexed. This number was then divided by population of the city to calculate a ratio of circulation population. The weekday circulation for the weekday variable, which included the Monday edition, was indexed and divided by the population to calculate a ratio of circulation to population.

POPULATION

The U.S. Census (2000) was used to identify the metropolitan areas over 250,000 in the United States. Thus, New York was the largest of the 64 communities rated, and Arlington, Texas, was the smallest evaluated in order to determine the most literate and least literate cities in the United States. Although many smaller cities could have been included, one-quarter of 1,000,000 people seemed to be a logical breaking point, and also helped to avoid some of the following measurement concerns.

MEASUREMENT CONCERNS

One important concern was overlapping and non-identical geographical areas used in different databases. For example, newspapers serve-and are circulated in-areas larger than single cities. Many serve metropolitan areas, entire states, regions of the country, or the nation. Some school districts are citywide, while others are countywide. The same is true for library service areas. Although these geographical discrepancies are troublesome, they have been operationally resolved.

The issue of geographical areas came clearly into play with newspapers. Undoubtedly, the circulation of both daily and Sunday newspapers in metropolitan areas extend well beyond the boundaries of the city. Thus, populations not counted in the census basis for the city are subscribers and increase the circulation number. On the other hand, there are also suburban dailies with large circulations that were not counted even though some papers are distributed inside of the city limits. By way of operational defini-

tion, it was concluded that newspapers published in the city would be counted in the variable, and newspapers published outside the city in suburban areas for the primary purpose of suburban distribution were not counted. Therefore, newspapers like the Chicago suburban Daily Herald were not counted. Another example is that the Los Angeles newspaper group circulation was not counted in total. The Los Angeles Daily News, which is the one of the eight papers in the newspaper group published in, and primarily for, the Los Angeles market is counted, while papers such as San Gabriel Valley Tribune, and Pasadena Star, are not counted.

Another geographical issue concerning newspaper circulation is that some newspapers, while written primarily for the city and metropolitan area they serve, also have a much wider readership. For example, The New York Times, while printed mainly for New York, is marketed as a national publication. The Washington Post is often seen in a similar way. The Atlanta Journal-Constitution has a regional audience that extends well beyond Atlanta or Fulton County. Nevertheless, these newspaper circulations were counted in totals for the cities in which they are published.

More geographical issues concerning newspapers occurred in instances where two cities shared the same daily newspaper, and it was not published primarily for one city or the other. In those instances, the percentage of the population of the two cities was used to divide the circulation of the newspaper in ratio to the population of the two cities. This was true for cities such as Santa Anna and Anaheim, California.

Another geographical issue, not related to newspapers, where some anomalies occurred was library circulation. Most often data were associated with a city public library system, but in a few instances the data were aggregated at the county levels because that was the geographical area served by the library system. In several instances, the data could not be disaggregated for city branches only. In those instances, the county metropolitan statistical population was used to calculate the ratio. This was true for cities such as Indianapolis in Marion County.

Measurement concerns with newspaper circulation not related to geographic issues included eliminating newspapers specifically not written for a local audience. For example, the USA Today was not counted in the Washington, DC, figures, or The Wall Street Journal in New York City figures, or The Christian Science Monitor in the Boston figures. Only newspapers that were published daily were considered. Specialty newspapers for given industries were not considered, such as Women's Wear Daily, Daily

Racing Form, or Variety. Both English and non-English newspapers were counted to take into consideration large groups of Hispanic-speaking or bilingual readers. Thus, such newspapers as El Diario la Prensa, La Opinion, and El Nuevo Herald were counted in the circulations for New York, Los Angeles, and Miami respectively.

A population factor caused concern with some of the smaller population cities. This happened when a city was part of a metropolitan area in which it was not the largest city. Examples of this situation included Arlington, TX; Anaheim and Santa Ana, CA; and St. Paul, MN. This created issues in newspaper circulation because many people in the smaller city contribute to circulation of the newspaper in the larger cities such as Dallas, TX; Los Angeles, CA; and Minneapolis, MN.

Using ratios versus simple counts to index variables was also an issue. In some cases such as retail booksellers, the number of people in the city obviously has a direct relationship to the total number of retail booksellers that can be supported. In other instances, the relationship was not so clear. For example, should the ratio of periodical publishers to the population be used as the variable or should the simple count of periodical publishers be used? In some cases the market for periodicals is very local, such as Dallas Health and Fitness Magazine, Milwaukee Magazine, and San Diego Parent Magazine. The market for the number of such periodicals is in part related to the size of the local population, and therefore, should be indexed by a ratio. On the other hand, many periodicals-such as Field and Stream, TV Guide, or Sports Illustrated- have little relationship to the size of the population center in the city in which they are published because their appeal is not primarily to a local population. Thus, simple count is appropriate as an index of centers of publishing activity, and both of these two approaches were used and two variables indexed.

RESULTS

After each of the thirteen variables was calculated, they were rank-ordered by city, one through 64. These thirteen rank order scores were then combined to form five factors of literacy scores, which were also rank ordered. Finally, the five rank scores were numbered to form a simple score for literacy. The final rankings for all 64 cities are found in Table I.

TABLE I HERE

Each of the five factor rankings that contributed to overall rankings are presented as follows:

TABLE I-Overall Rankings				TABLE II-Newspapers		

	CITY	POPULATION				CITY	POPULATION	
1	MINNEAPOLIS, MN	368,383	154.5	39.5	1	NEWARK, NJ	275,221	2.0
2	SEATTLE, WA	516,259	163.5	44.0	2	WASHINGTON, DC	606,900	5.0
3	DENVER, CO	467,610	158.5	50.5	3	DENVER, CO	467,610	7.0
4	ATLANTA, GA	394,017	207.0	61.0	4	MINNEAPOLIS, MN	368,383	9.0
5	SAN FRANCISCO, CA	723,959	234.0	73.5	6.0	ATLANTA, GA	394,017	11.0
6	PITTSBURGH, PA	369,879	207.0	74.0	6.0	MIAMI, FL	358,548	11.0
7	WASHINGTON, DC	606,900	249.5	78.5	6.0	BOSTON, MA	574,283	11.0
8	LOUISVILLE, KY	269,063	216.5	81.0	8	TAMPA, FL	280,015	17.0
9	PORTLAND, OR	437,319	261.0	90.5	9	LOUISVILLE, KY	269,063	20.0
10	CINCINNATI, OH	364,040	238.0	95.5	10	ST. LOUIS, MO	396,685	23.0
11	ST. PAUL, MN	272,235	286.5	96.5	11.5	PORTLAND, OR	437,319	24.0
12	MIAMI, FL	358,548	259.0	97.0	11.5	SACRAMENTO, CA	369,365	24.0
13.5	BOSTON, MA	574,283	310.0	101.0	13	CLEVELAND, OH	505,616	27.0
13.5	LAS VEGAS, NV	258,295	247.0	101.0	14	PITTSBURGH, PA	369,879	28.0
15	COLORADO SPRINGS, CO	281,140	277.5	104.5	15	LAS VEGAS, NV	258,295	29.0
16	TAMPA, FL	280,015	270.0	105.0	16	SEATTLE, WA	516,259	30.0
17	ST. LOUIS, MO	396,685	318.5	113.0	17	ST. PAUL, MN	272,235	33.0
18	NEWARK, NJ	275,221	364.5	119.0	18	BUFFALO, NY	328,123	34.0
19	BIRMINGHAM, AL	265,968	326.5	124.5	19	SAN FRANCISCO, CA	723,959	38.0
20	CLEVELAND, OH	505,616	322.5	127.5	20.5	CINCINNATI, OH	364,040	40.0
21	NASHVILLE, TN	488,374	354.5	128.5	20.5	KANSAS CITY, MO	435,146	40.0
22	AUSTIN, TX	465,622	357.5	129.0	22.5	CHARLOTTE, NC	395,934	46.0
23	CHARLOTTE, NC	395,934	377.5	130.0	23	BIRMINGHAM, AL	265,968	48.0
24	COLUMBUS, OH	632,910	383.0	133.5	24.5	OMAHA, NE	335,795	50.0
25	SACRAMENTO, CA	369,365	350.5	136.5	24.5	DALLAS, TX	1,006,877	50.0
26	OMAHA, NE	335,795	383.0	138.0	26	DETROIT, MI	1,027,974	52.0
27	TULSA, OK	367,302	369.5	145.0	27	FORT WORTH, TX	447,619	54.0
28	TUCSON, AZ	405,390	372.5	153.5	28	AHAHEIM, CA	266,406	56.0
29	VIRGINIA BEACH, VA	393,069	411.0	156.5	29	SANTA ANA, CA	293,742	58.0
30	OKLAHOMA CITY, OK	444,719	413.5	158.0	30	OKLAHOMA CITY, OK	444,719	61.0
31	ALBUQUERQUE, NM	384,736	416.5	164.5	31.5	VIRGINIA BEACH, VA	393,069	64.0
32	NORFOLK, VA	261,229	447.0	167.5	31.5	NEW ORLEANS, LA	496,938	64.0
33	BUFFALO, NY	328,123	409.5	168.0	33	MILWAUKEE, WI	628,088	65.0
34	HONOLULU, HI	365,272	459.0	172.0	34	PHOENIX, AZ	983,403	66.0
35	FORT WORTH, TX	447,619	437.0	173.0	35	COLUMBUS, OH	632,910	71.0
36	DALLAS, TX	1,006,877	470.5	174.5	36.5	TOLEDO, OH	332,943	72.0
37	INDIANAPOLIS, IN	731,327	461.5	177.0	36.5	FRESNO, CA	354,202	72.0
38	KANSAS CITY, MO	435,146	466.0	179.0	38	AUSTIN, TX	465,622	79.0
39	WICHITA, KS	304,011	483.5	182.5	39	NASHVILLE, TN	488,374	80.0
40.5	SAN DIEGO, CA	1,110,549	473.5	183.0	41.0	HONOLULU, HI	365,272	84.0
40.5	NEW ORLEANS, LA	496,938	488.0	183.0	41.0	CHICAGO, IL	2,783,726	84.0
42	MILWAUKEE, WI	628,088	473.0	184.0	41.0	BALTIMORE, MD	736,014	84.0
43	PHOENIX, AZ	983,403	472.0	184.5	43	INDIANAPOLIS, IN	731,327	89.0
44	OAKLAND, CA	372,242	488.0	192.0	45.0	TUCSON, AZ	405,390	93.0
45	CHICAGO, IL	2,783,726	516.0	200.0	45.0	PHILADELPHIA, PA	1,585,577	93.0
46	ARLINGTON, TX	261,721	544.0	201.0	45.0	LOS ANGELES, CA	3,485,398	93.0
47	NEW YORK CITY, NY	7,322,564	526.5	204.5	47	NEW YORK CITY, NY	7,322,564	94.0
48	PHILADELPHIA, PA	1,585,577	536.5	209.0	48	COLORADO SPRINGS, CO	281,140	96.0
49	HOUSTON, TX	1,630,553	529.0	215.5	48	WICHITA, KS	304,011	96.0
50	MESA, AZ	288,091	537.5	218.5	50	HOUSTON, TX	1,630,553	97.0
51	BALTIMORE, MD	736,014	536.0	219.0	51	MESA, AZ	288,091	99.0
52	SAN JOSE, CA	782,248	552.5	221.5	51	SAN JOSE, CA	782,248	99.0
53	AHAHEIM, CA	266,406	584.5	229.0	53	ALBUQUERQUE, NM	384,736	101.0
54.5	LOS ANGELES, CA	3,485,398	576.5	232.0	54	SAN DIEGO, CA	1,110,549	106.0
54.5	TOLEDO, OH	332,943	575.5	232.0	55.5	TULSA, OK	367,302	111.0
56	FRESNO, CA	354,202	582.5	236.5	55.5	MEMPHIS, TN	610,337	111.0
57	JACKSONVILLE, FL	635,230	586.0	238.0	57	NORFOLK, VA	261,229	112.0
58	MEMPHIS, TN	610,337	598.5	247.5	58	JACKSONVILLE, FL	635,230	113.0
59	SANTA ANA, CA	293,742	678.0	256.5	59	SAN ANTONIO, TX	935,933	114.0
60	SAN ANTONIO, TX	935,933	616.5	261.0	60	CORPUS CHRISTI, TX	257,453	120.0
61	DETROIT, MI	1,027,974	655.5	264.5	61	LONG BEACH, CA	429,433	122.0
62	LONG BEACH, CA	429,433	647.0	269.5	62.5	OAKLAND, CA	372,242	125.0
63	CORPUS CHRISTI, TX	257,453	678.0	279.5	62.5	EL PASO, TX	515,342	125.0
64	EL PASO, TX	515,342	700.5	295.0	64	ARLINGTON, TX	261,721	128.0

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TABLE III-Booksellers   TABLE IV-Libraries

	CITY	POPULATION			CITY	POPULATION	
1.0	SEATTLE, WA	516,259	14.0	1.0	MIAMI, FL	358,548	37.0
2.0	SAN FRANCISCO, CA	723,959	16.0	2.0	LAS VEGAS, NV	258,295	38.0
3.0	PORTLAND, OR	437,319	17.0	3.0	LOUISVILLE, KY	269,063	46.0
4.0	MINNEAPOLIS, MN	368,383	22.0	4.0	TUCSON, AZ	405,390	49.0
5.0	ATLANTA, GA	394,017	23.0	5.0	BUFFALO, NY	328,123	50.0
6.0	CINCINNATI, OH	364,040	25.0	7.0	CINCINNATI, OH	364,040	53.0
7.0	DENVER, CO	467,610	28.0	7.0	DENVER, CO	467,610	53.0
8.0	LAS VEGAS, NV	258,295	30.0	7.0	TULSA, OK	367,302	53.0
9.0	ALBUQUERQUE, NM	384,736	31.0	9.0	TAMPA, FL	280,015	56.0
10.0	LOUISVILLE, KY	269,063	36.0	10.0	COLORADO SPRINGS, CO	281,140	61.0
11.0	TUCSON, AZ	405,390	39.0	11.0	PITTSBURGH, PA	369,879	63.0
12.0	PITTSBURGH, PA	369,879	41.0	12.5	CLEVELAND, OH	505,616	64.0
13.0	AUSTIN, TX	465,622	47.0	12.5	BIRMINGHAM, AL	265,968	64.0
14.0	ST. PAUL, MN	272,235	49.0	14.0	ST. LOUIS, MO	396,685	83.0
15.0	WASHINGTON, DC	606,900	50.0	15.5	MINNEAPOLIS, MN	368,383	87.0
16.0	TAMPA, FL	280,015	54.0	15.5	VIRGINIA BEACH, VA	393,069	87.0
17.0	SACRAMENTO, CA	369,365	55.0	17.0	SACRAMENTO, CA	369,365	95.0
18.0	COLORADO SPRINGS, CO	281,140	59.0	18.0	FORT WORTH, TX	447,619	96.0
19.0	MIAMI, FL	358,548	69.0	19.0	SEATTLE, WA	516,259	97.0
20.0	TULSA, OK	367,302	72.0	20.0	OKLAHOMA CITY, OK	444,719	103.0
21.5	OMAHA, NE	335,795	77.0	21.0	NEWARK, NJ	275,221	104.0
21.5	OAKLAND, CA	372,242	77.0	22.0	NASHVILLE, TN	488,374	105.0
23.0	CLEVELAND, OH	505,616	82.0	23.0	AUSTIN, TX	465,622	114.0
24.5	NEW ORLEANS, LA	496,938	88.0	24.0	CHARLOTTE, NC	395,934	118.0
24.5	COLUMBUS, OH	632,910	88.0	25.5	INDIANAPOLIS, IN	731,327	120.0
26.0	ST. LOUIS, MO	396,685	89.0	25.5	HONOLULU, HI	365,272	120.0
27.0	WICHITA, KS	304,011	93.0	27.0	PORTLAND, OR	437,319	121.0
28.0	CHARLOTTE, NC	395,934	94.0	28.0	BOSTON, MA	574,283	124.0
29.0	OKLAHOMA CITY, OK	444,719	95.0	29.0	ATLANTA, GA	394,017	126.0
30.0	FORT WORTH, TX	447,619	98.0	30.0	MESA, AZ	288,091	132.0
31.5	MESA, AZ	288,091	99.0	31.0	PHOENIX, AZ	983,403	134.0
31.5	SAN DIEGO, CA	1,110,549	99.0	32.0	COLUMBUS, OH	632,910	135.0
33.0	MILWAUKEE, WI	628,088	101.0	33.0	WICHITA, KS	304,011	136.0
34.0	BALTIMORE, MD	736,014	103.0	34.5	SAN FRANCISCO, CA	723,959	137.0
35.5	BIRMINGHAM, AL	265,968	104.0	34.5	NORFOLK, VA	261,229	137.0
35.5	FRESNO, CA	354,202	104.0	36.5	KANSAS CITY, MO	435,146	142.0
37.0	NASHVILLE, TN	488,374	107.0	36.5	JACKSONVILLE, FL	635,230	142.0
38.0	HOUSTON, TX	1,630,553	111.0	38.0	OAKLAND, CA	372,242	145.0
39.0	VIRGINIA BEACH, VA	393,069	115.0	39.0	TOLEDO, OH	332,943	146.0
40.0	NORFOLK, VA	261,229	117.0	40.0	WASHINGTON, DC	606,900	151.0
41.0	BUFFALO, NY	328,123	120.0	41.0	ST. PAUL, MN	272,235	152.0
42.0	LONG BEACH, CA	429,433	121.0	42.0	OMAHA, NE	335,795	155.0
43.0	BOSTON, MA	574,283	122.0	43.0	MILWAUKEE, WI	628,088	161.0
44.5	SAN ANTONIO, TX	935,933	124.0	44.0	SAN DIEGO, CA	1,110,549	164.0
44.5	ARLINGTON, TX	261,721	124.0	45.0	PHILADELPHIA, PA	1,585,577	165.0
46.0	CORPUS CHRISTI, TX	257,453	129.0	46.5	ALBUQUERQUE, NM	384,736	166.0
47.0	KANSAS CITY, MO	435,146	133.0	46.5	HOUSTON, TX	1,630,553	166.0
48.0	AHAHEIM, CA	266,406	134.0	48.5	BALTIMORE, MD	736,014	169.0
49.0	DALLAS, TX	1,006,877	137.0	48.5	SAN ANTONIO, TX	935,933	169.0
50.0	SAN JOSE, CA	782,248	139.0	50.0	MEMPHIS, TN	610,337	174.0
51.5	PHOENIX, AZ	983,403	143.0	51.0	CHICAGO, IL	2,783,726	178.0
51.5	INDIANAPOLIS, IN	731,327	143.0	52.0	DALLAS, TX	1,006,877	179.0
53.0	PHILADELPHIA, PA	1,585,577	147.0	53.0	SAN JOSE, CA	782,248	180.0
54.0	CHICAGO, IL	2,783,726	149.0	54.0	LONG BEACH, CA	429,433	181.0
55.0	JACKSONVILLE, FL	635,230	150.0	55.5	NEW YORK CITY, NY	7,322,564	185.0
56.0	MEMPHIS, TN	610,337	151.0	55.5	LOS ANGELES, CA	3,485,398	185.0
57.0	HONOLULU, HI	365,272	155.0	57.0	DETROIT, MI	1,027,974	191.0
58.0	TOLEDO, OH	332,943	160.0	58.0	EL PASO, TX	515,342	195.0
59.0	NEW YORK CITY, NY	7,322,564	162.0	59.0	CORPUS CHRISTI, TX	257,453	203.0
60.5	LOS ANGELES, CA	3,485,398	164.0	60.5	FRESNO, CA	354,202	204.0
60.5	EL PASO, TX	515,342	164.0	60.5	AHAHEIM, CA	266,406	204.0
62.0	NEWARK, NJ	275,221	183.0	62.0	NEW ORLEANS, LA	496,938	206.0
63.5	DETROIT, MI	1,027,974	184.0	63.0	ARLINGTON, TX	261,721	225.0
63.5	SANTA ANA, CA	293,742	184.0	64.0	SANTA ANA, CA	293,742	239.0

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TABLE V-Education   TABLE VI-Publications

	CITY	POPULATION				CITY	POPULATION	
1.0	SEATTLE, WA	516,259	4.0		1.0	WASHINGTON, DC	606,900	3.0
2.0	AUSTIN, TX	465,622	14.0		2.0	ATLANTA, GA	394,017	7.5
3.0	NORFOLK, VA	261,229	15.0		3.0	NEW YORK CITY, NY	7,322,564	8.0
4.0	COLORADO SPRINGS, CO	281,140	16.0		4.0	ST. LOUIS, MO	396,685	12.0
5.0	CHARLOTTE, NC	395,934	18.0		5.0	MINNEAPOLIS, MN	368,383	13.0
6.0	ALBUQUERQUE, NM	384,736	19.0		6.0	BOSTON, MA	574,283	14.0
7.0	PORTLAND, OR	437,319	20.0		7.0	SEATTLE, WA	516,259	18.5
8.0	ST. PAUL, MN	272,235	20.5		8.0	MIAMI, FL	358,548	19.0
9.0	SAN FRANCISCO, CA	723,959	22.0		9.0	SAN FRANCISCO, CA	723,959	21.0
10.0	VIRGINIA BEACH, VA	393,069	23.0		10.0	NASHVILLE, TN	488,374	22.0
11.0	MINNEAPOLIS, MN	368,383	23.5		11.0	CHICAGO, IL	2,783,726	24.0
12.0	OMAHA, NE	335,795	29.0		12.0	PHILADELPHIA, PA	1,585,577	27.5
13.0	COLUMBUS, OH	632,910	29.5		13.0	PITTSBURGH, PA	369,879	29.0
14.5	TULSA, OK	367,302	36.0		14.0	DALLAS, TX	1,006,877	30.5
14.5	ARLINGTON, TX	261,721	36.0		15.0	ARLINGTON, TX	261,721	31.0
16.0	NEWARK, NJ	275,221	38.0		16.5	ST. PAUL, MN	272,235	32.0
17.0	DENVER, CO	467,610	38.5		16.5	DENVER, CO	467,610	32.0
18.0	BOSTON, MA	574,283	39.0		18.0	CLEVELAND, OH	505,616	33.0
19.0	ATLANTA, GA	394,017	39.5		19.0	NEWARK, NJ	275,221	37.5
20.5	NASHVILLE, TN	488,374	40.5		20.0	PHOENIX, AZ	983,403	38.0
20.5	WASHINGTON, DC	606,900	40.5		21.0	LOS ANGELES, CA	3,485,398	41.0
22.0	HONOLULU, HI	365,272	44.0		22.0	CINCINNATI, OH	364,040	42.5
23.0	SAN JOSE, CA	782,248	45.5		23.0	BIRMINGHAM, AL	265,968	44.5
24.0	PITTSBURGH, PA	369,879	46.0		24.0	COLORADO SPRINGS, CO	281,140	45.5
25.0	LOUISVILLE, KY	269,063	47.5		25.0	NEW ORLEANS, LA	496,938	52.5
26.0	INDIANAPOLIS, IN	731,327	48.0		26.5	HONOLULU, HI	365,272	56.0
27.0	SAN DIEGO, CA	1,110,549	48.5		26.5	SAN DIEGO, CA	1,110,549	56.0
28.0	JACKSONVILLE, FL	635,230	59.0		28.0	MILWAUKEE, WI	628,088	58.5
29.0	WICHITA, KS	304,011	64.0		29.0	COLUMBUS, OH	632,910	59.5
30.5	BIRMINGHAM, AL	265,968	66.0		30.0	HOUSTON, TX	1,630,553	61.0
30.5	OAKLAND, CA	372,242	66.0		31.0	INDIANAPOLIS, IN	731,327	61.5
32.0	AHAHEIM, CA	266,406	68.5		32.0	LAS VEGAS, NV	258,295	65.0
33.0	TUCSON, AZ	405,390	69.5		33.0	NORFOLK, VA	261,229	66.0
34.0	KANSAS CITY, MO	435,146	73.0		34.0	LOUISVILLE, KY	269,063	67.0
35.0	DALLAS, TX	1,006,877	74.0		35.0	TAMPA, FL	280,015	68.0
36.0	OKLAHOMA CITY, OK	444,719	74.5		36.0	SANTA ANA, CA	293,742	69.0
37.0	TAMPA, FL	280,015	75.0		37.0	MEMPHIS, TN	610,337	70.0
38.0	TOLEDO, OH	332,943	75.5		38.0	OMAHA, NE	335,795	72.0
40.0	CINCINNATI, OH	364,040	77.5		39.5	OAKLAND, CA	372,242	75.0
40.0	NEW YORK CITY, NY	7,322,564	77.5		39.5	BALTIMORE, MD	736,014	75.0
40.0	NEW ORLEANS, LA	496,938	77.5		41.0	KANSAS CITY, MO	435,146	78.0
42.0	SACRAMENTO, CA	369,365	78.0		42.0	PORTLAND, OR	437,319	79.0
43.0	CHICAGO, IL	2,783,726	81.0		43.0	OKLAHOMA CITY, OK	444,719	80.0
44.0	LAS VEGAS, NV	258,295	85.0		44.0	SAN JOSE, CA	782,248	89.0
45.0	MESA, AZ	288,091	85.5		45.0	WICHITA, KS	304,011	94.5
46.0	FORT WORTH, TX	447,619	86.5		46.0	BUFFALO, NY	328,123	95.5
47.0	MILWAUKEE, WI	628,088	87.5		47.0	FRESNO, CA	354,202	96.5
48.0	PHOENIX, AZ	983,403	91.0		48.0	TULSA, OK	367,302	97.5
49.0	MEMPHIS, TN	610,337	92.5		49.0	SACRAMENTO, CA	369,365	98.5
50.0	LOS ANGELES, CA	3,485,398	93.5		50.0	ALBUQUERQUE, NM	384,736	99.5
51.0	HOUSTON, TX	1,630,553	94.0		51.0	CHARLOTTE, NC	395,934	101.5
52.0	LONG BEACH, CA	429,433	101.0		52.0	FORT WORTH, TX	447,619	102.5
54.0	PHILADELPHIA, PA	1,585,577	104.0		53.0	AUSTIN, TX	465,622	103.5
54.0	SAN ANTONIO, TX	935,933	104.0		54.0	EL PASO, TX	515,342	104.5
54.0	CORPUS CHRISTI, TX	257,453	104.0		55.0	SAN ANTONIO, TX	935,933	105.5
56.0	BALTIMORE, MD	736,014	105.0		56.0	DETROIT, MI	1,027,974	106.5
57.0	FRESNO, CA	354,202	106.0		60.5	VIRGINIA BEACH, VA	393,069	122.0
58.0	BUFFALO, NY	328,123	110.0		60.5	JACKSONVILLE, FL	635,230	122.0
59.0	ST. LOUIS, MO	396,685	111.5		60.5	AHAHEIM, CA	266,406	122.0
60.0	EL PASO, TX	515,342	112.0		60.5	TUCSON, AZ	405,390	122.0
61.0	CLEVELAND, OH	505,616	116.5		60.5	TOLEDO, OH	332,943	122.0
62.0	DETROIT, MI	1,027,974	122.0		60.5	MESA, AZ	288,091	122.0
63.0	MIAMI, FL	358,548	123.0		60.5	LONG BEACH, CA	429,433	122.0
64.0	SANTA ANA, CA	293,742	128.0		60.5	CORPUS CHRISTI, TX	257,453	122.0

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The scores in these tables are calculated by using the composite of the individual variables ranking associated with the appropriate literacy factor. For example, the rank order for Sunday circulation and the rank order for weekday circulation are combined to form the newspaper factor.

CONCLUSIONS

In examining the most literate cities, there does not seem to be a strong regional influence. The "top ten" does include four western cities (Seattle, Denver, San Francisco, and Portland), but Washington and Pittsburgh represent the East, Louisville and Atlanta the South, and Cincinnati and Minneapolis the Midwest. On the other hand, the "bottom ten" has a distinct "sun-belt" appearance with Detroit being the only "industrial" city from the East or Midwest. California has four of the "bottom ten" cities, Texas has three, and Florida and Tennessee one each. This may well be associated with the high number of recent immigrants and lower incomes of individuals in these states.

The number of factors calculated as a ratio to size of the population seems to have had a negative effect on very large cities. None of the eight cities with populations over 1,000,000 were in the top 50% of the rankings. This population disadvantage seems to diminish or disappear for cities under 1,000,000. There are large and small cities in the "top ten," e.g. San Francisco and Louisville, and in the "bottom ten," e.g. Los Angeles and Corpus Christi.

There are some interesting results when looking at the cities that are often considered more stereotypically literate. For example, Boston and New York did not fare as well as might be expected with their rankings of 13 and 48. Certainly they scored quite well on some factors. New York City was clearly first in the number of periodicals published, but was below the median on percentage of the population who are high school graduates. Even with high total number of newspapers circulated, the circulation per person was well below the median. Boston was first in library holdings per person, and in the "top ten" in Sunday and weekday newspaper circulation, but below the median on all three of the retail booksellers per person variables and the percentage of the population who are high school graduates. In short, these cities are very strong on a few factors causing them to be viewed as centers of culture and literacy, but they have large numbers of people apparently not buying newspapers and books, not checking out library materials, or graduating from high school.

There are also some interesting counter examples of cities not stereotypically considered as bastions of literacy that did quite well on at least a few factors. Examples include: Newark, NJ, on newspaper circulation per person; Las Vegas, NV, and Buffalo, NY, on library circulation, and library branches per person; and Miami, FL, on retail bookstores per person.

In summary, the results of this study must be taken in total. A certain anomaly may positively or adversely affect a single variable, but when the thirteen variables are combined to form five factors and ultimately a single ranking, those idiosyncrasies tend to equalize themselves. Insofar as availability of booksellers, resources of libraries, educational attainment level of the population, periodicals published, and paid newspaper circulations are indicators of literacy, these are America's most and least literate cities.

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