Urban Residents' Priorities for Neighborhood Features

A Survey of New Orleans Residents After Hurricane Katrina

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Background: Efforts to promote physical activity through environmental changes in low-income, urban, and minority areas should be informed by an understanding of the value that residents place on different neighborhood features and characteristics.

Methods: Neighborhood rebuilding preferences among 442 New Orleans residents after the damage from Hurricane Katrina were assessed by a random-digit-dialed telephone survey conducted between April 25, 2006 and May 2, 2006. The survey instrument assessed the importance (on a 5-point Likert-type scale on which 1=not at all important and 5=extremely important) for 24 neighborhood features and characteristics. Ratings of neighborhood features were compared by race and income.

Results: Overall, residents rated most highly the features that reflected low levels of neighborhood crime and disorder. There was moderate support for features that promote physical activity, specifically sidewalks and crosswalks, neighborhood grocery stores, and parks or playgrounds. Blacks rated more highly than whites 13 neighborhood features such as good schools, lack of noise, a park or playground, affordable housing, health clinics, and the absence of liquor stores. The low-income group rated the following features as being more important than the high-income group: affordable housing, a bus or streetcar line, and the presence of a corner store.

Conclusions: New Orleans residents' top neighborhood priority is reducing crime and disorder, but all groups otherwise support neighborhood features that promote physical activity.
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Introduction

Environmental factors can influence physical activity and related health outcomes.[1,2] An active area of research is the investigation of the importance of specific neighborhood features in promoting physical activity.[3] Much of this literature differentiates between observed neighborhood features and perceived neighborhood features,[4] but studies of the neighborhood features that residents would like to see are less prominent in the literature. Understanding residents' priorities for neighborhood features is important in determining the types of designs that are feasible to implement.

Research on active communities has occurred in predominantly upper-income and predominantly white communities. The concerns of urban, low-income, and minority populations may be different from those of residents in previously studied communities. New Orleans is a predominantly low-income black community that historically has had a moderately high population density and a good land-use mix, but a deteriorated transportation infrastructure and a high crime rate.[5,6] Hurricane Katrina severely damaged the infrastructure of New Orleans, flooding 80% of the city.[7] The rebuilding process offers residents and planners the opportunity to alter neighborhoods to better reflect their needs and priorities. A survey of New Orleans residents was conducted regarding their priorities for neighborhood characteristics for the purpose of informing this planning effort.

Methods

Sample and Survey

A telephone survey was conducted between April 25, 2006, and May 2, 2006. Respondents (N=442) were people who were in New Orleans at the time of the survey and who: (1) had lived in New Orleans for 2 weeks prior to Hurricane Katrina, and (2) planned to remain residents of the city. Random-digit dialing (RDD) was used, and a professional telephone survey center administered the survey. Over 51.3% cooperated with the survey,[8] reflecting the number of interviews divided by the number of interviews, partial interviews, and non-interviews. Non-interviews include respondents who were contacted but refused to be interviewed. The sample consisted of 60.4% white, 24.7% black, 2.9% Hispanic,

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Table 1. Descriptive statistics of telephone survey sample by race[c]

	Black[a] % (SD)	White[b] % (SD)
Age, mean years ±SD	46.63 ± 15.17	51.96 ± 15.82
18–49	56 (51.38)	102 (38.20)
≥50	53 (48.62)	165 (61.80)
Gender		
Female	82 (75.23)	156 (58.42)
Education		
Never attended school	2 (1.83)	2 (0.75)
Elementary	3 (2.75)	2 (0.75)
Some high school	12 (11.01)	5 (1.87)
High school graduate	27 (24.77)	33 (12.36)
Some college	37 (33.95)	58 (21.72)
College graduate or greater	28 (25.69)	167 (62.55)
Income		
Low	42 (46.15)	24 (11.54)
High	49 (53.85)	184 (88.46)

[a](n=109); [b](n=267); [c]Low-income is <$14,697.

and 2.3% Asian respondents; the majority of black respondents were women. Additional descriptive statistics of the sample appear in Table 1.

The survey instrument assessed the importance of 24 neighborhood features that participants preferred to be present in their rebuilt neighborhoods, using a 5-point Likert-type scale, where 1=not at all important and 5=extremely important. These features pertain to social and physical attributes of the neighborhood to which residents planned to return. The list of neighborhood features was culled from previously validated instruments on physical activity and environmental factors.[3,9–11] Neighborhood was defined as the area within a half-mile of the respondent's home.[10] The survey instrument was pretested on 25 residents who were randomly intercepted at retail stores, and the final wording of the instrument was tailored to resonate with the jargon used by residents based on this pretesting. For example, "corner store" refers to a small neighborhood food store that is locally owned. This study was approved by the Human Subjects Review Board at Tulane.

Statistical Analysis

Data were analyzed using Stata version 9 software.[12] The analysis included use of the appropriate sampling weight, the Stata survey function, and the Stata subpopulation function to assess differences between black and white respondents. Hispanics and Asians were excluded from the analysis because their sample sizes were insufficient to lend adequate statistical power for separate examination of these groups. The data were weighted by race using sampling weights that were determined by population estimates made by the city in June 2006.[12]

To assess racial and income differences, separate multivariate ordinary least squares regression analyses were conducted for each of 24 neighborhood features. The predictor variables were race (1=white, 0=black), income (1=high, 0=low), and education. Low income was defined as having an annual household income less than $14,697, which is the 2006 U.S. poverty threshold[13] for a household with 2.5 residents.[12] Education was measured on a 6-point scale, from 1 (no school) to 6 (college graduate).

Results

Table 2 displays the overall importance means for the neighborhood features in descending order, as well as the adjusted means by race and income. Overall, the characteristics and features rated most highly were no litter, good street lighting, and low crime rate (means 4.62–4.65). Neighborhood features that would tend to promote physical activity, such as sidewalks and crosswalks and a park or a playground, were also rated moderately highly (means 4.05–4.21).

The ranking of the most important neighborhood features and characteristics was similar across race and income groups. For example, of the ten features and characteristics ranked most highly by blacks, nine were also ranked in the top ten by whites.

There were, however, differences by race in the mean ratings of specific items. Of the 24 neighborhood features, there were significant differences between whites and blacks on 14 items. Among these 14 neighborhood features, blacks rated the following 13 neighborhood features to be more important than whites: no litter, good street lighting, good schools, not much noise, a park or playground, neighbors from different races, affordable housing, bus or streetcar lines, neighbors with similar lifestyles, health clinics, no liquor stores, houses with big lawns, and corner stores do not sell alcohol.

Low- and high-income groups differed on three neighborhood features, with the low-income group rating affordable housing and bus or streetcar lines as being more important. The high-income group rated low crime rate as being more important.

Discussion

Overall, this survey proposes that New Orleans residents' highest priorities for their neighborhoods are reductions in crime and disorder. While the high rating for no litter may reflect in part a reaction to the hurricane-related debris that was still present at the time of the survey, it may also be related to the high ratings for "low crime rate" and "good street lighting," suggesting that residents believed their neighborhoods were disorderly and unsafe and that this lack of safety greatly detracted from their ability to enjoy them. The survey also shows moderately strong support for neighborhood features that support physical activity, such as pedestrian infrastructure.

That the rankings of neighborhood features did not vary much by race or income suggests that these conclusions about neighborhood safety and active living infrastructure are consistent across subpopulations in the city. Notably, when there were rating differences by race, blacks almost always gave higher

Table 2. Adjusted mean importance scores of neighborhood features and characteristics to New Orleans residents by race and income

		Adjusted mean					
		By race[a]			By income[b]		
Neighborhood features	Overall mean	Black	White	*p*	Low	High	*p*
No litter	4.65	4.83	4.61	0.01	4.40	4.59	0.26
Good street lighting	4.64	4.76	4.55	0.04	4.40	4.53	0.45
Low crime rate	4.62	4.72	4.76	0.66	4.21	4.87	0.00
Good schools	4.42	4.69	4.12	0.00	3.89	4.03	0.51
Not much noise	4.30	4.47	4.00	0.00	3.85	3.92	0.70
Sidewalks and crosswalks	4.21	4.33	4.04	0.06	3.85	4.01	0.54
Trees and other greenery	4.19	4.08	4.31	0.14	4.23	4.38	0.53
A park or playground	4.05	4.31	3.77	0.00	3.33	3.73	0.11
Neighbors from different races	3.91	4.25	3.48	0.00	3.45	3.31	0.58
Grocery stores	3.90	3.97	3.77	0.22	3.65	3.74	0.71
Affordable housing	3.79	4.00	3.44	0.00	3.84	3.25	0.00
Little car traffic	3.69	3.81	3.65	0.35	3.56	3.63	0.78
Bus or streetcar lines	3.69	3.83	3.45	0.04	3.95	3.28	0.00
Neighbors with similar lifestyles	3.66	3.80	3.44	0.05	3.49	3.36	0.58
Houses with porches	3.47	3.47	3.54	0.74	3.64	3.53	0.72
Health clinics	3.47	3.66	3.12	0.00	3.06	3.01	0.85
Work place is nearby	3.37	3.33	3.12	0.27	3.13	3.07	0.83
Neighbors with different incomes	3.36	3.40	3.18	0.24	3.20	3.12	0.81
No liquor stores	3.33	3.90	2.81	0.00	2.42	2.63	0.49
Places for people to gather outside	3.31	3.32	3.41	0.64	3.59	3.41	0.49
Neighbors with different lifestyles	3.26	3.37	3.03	0.06	3.34	2.90	0.07
Houses with big lawns	3.20	3.43	2.82	0.00	2.34	2.76	0.09
Corner stores do not sell alcohol	3.15	3.47	2.75	0.00	2.65	2.60	0.87
Corner stores	2.93	2.58	3.22	0.00	3.84	3.25	0.06

Note: Neighborhood features ranged from 1=not at all important to 5=extremely important.
[a]Controlling for income and education.
[b]Controlling for race and education.

ratings to features than whites. In New Orleans, blacks may depend more than whites on neighborhood facilities. This may explain their higher ratings for items such as neighborhood grocery stores and health clinics.

A limitation of this study and other RDD survey-based research is that the proliferation of call-screening devices and other related factors contribute to high survey nonresponse rates, such that some eligible responders could not be reached or chose not to be contacted.[14] Blacks were under-represented in the sampling; thus their responses may not be representative of the average black resident of the city. Another limitation of this study is that it may not be representative of individuals who could not return to the city at the time the survey was conducted. To the extent that this survey is representative of residents in cities with similar demographics and land-use patterns, the results suggest that efforts to redesign urban neighborhoods to promote physical activity should concentrate first on reducing disorder and improving perceived neighborhood safety through approaches such as "crime prevention through environmental design."[15] It also suggests that if neighborhood safety is addressed, there may be widespread support for other active living changes.

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References

1. Sallis JF, Bauman AE, Pratt M. Environmental and policy interventions to promote physical activity. Am J Prev Med 1998;15:379–97.
2. Humpel N, Neville O, Leslie E. Environmental factors associated with adults' participation in physical activity. Am J Prev Med 2002;22:188–99.
3. Brownson RC, Chang JJ, Eyler AA, et al. Measuring the environment for friendliness toward physical activity: a comparison of the reliability of 3 questionnaires. Am J Public Health 2004;94:473–83.
4. Hoehner CM, Brennan Ramirez LK, Elliott MB, Handy SL, Brownson RC. Perceived and objective environmental measures and physical activity among urban adults. Am J Prev Med 2005;28(Suppl 2):105–16.
5. U.S. Census Bureau. American Community Survey. Washington DC: The Bureau, 2007. www.census.gov/acs/www/.
6. Federal Bureau of Investigation. Crime in the U.S—2003. Washington DC: The Bureau, 2004. www.fbi.gov/ucr/03cius.htm.

7. NOAA's National Climatic Data Center. Hurricane Katrina: a climatological perspective. Asheville NC: National Oceanic and Atmospheric Administration, 2005.
8. AAPOR. Standard definitions: final dispositions of case codes and outcome rates for surveys. 4th ed. Lenexa KS: American Association for Public Opinion Research, 2006.
9. Saelens BE, Sallis JF, Black JB, Chen D. Neighborhood-based differences in physical activity: an environment scale evaluation. Am J Public Health 2003;93:1552–8.
10. SIP 4-99 Research Group. Environmental supports for physical activity questionnaire. Columbia SC: Prevention Research Center, Norman J. Arnold School of Public Health, University of South Carolina, 2002.
11. Brownson RC, Eyler AA, King AC, et al. Reliability of information on physical activity and other chronic disease risk factors among U.S. women aged 40 years or older. Am J Epidemiol 1999;149:379–91.
12. Louisiana Department of Health and Hospitals. 2006 Louisiana health and population survey: Orleans parish survey results. New Orleans LA: The Department, 2006.
13. U.S. Census Bureau. Poverty Threshold 2006. www.census.gov/hhes/www/poverty/threshld.html.
14. Groves RM, Couper MP. Nonresponse in household interview surveys. New York: Wiley, 1998.
15. Crowe T. Crime prevention through environmental design. Boston: Butterworth-Heinemann, 2000.