

# URBAN PARK AND FOREST PARTICIPATION AND LANDSCAPE PREFERENCE: A COMPARISON BETWEEN BLACKS AND WHITES IN PHILADELPHIA AND ATLANTA, U.S.

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**Abstract.** Previous research has documented the existence of differences in the attitudes and behaviors of Blacks and Whites in American society toward urban parks and forest areas. However, many of these studies were carried out a decade or more ago and/or most focused on specific parks or localized areas. Data from a recent survey of residents in two metropolitan areas in the eastern United States allowed for updating of this research record. Using analysis of variance and covariance, consideration was given to racial differences between Blacks and Whites, regional differences between cities, and the effects of various socio-demographic characteristics on residents' park preferences and participation. Racial differences were similar to those reported by previous researchers, and these differences did not vary markedly between the two metropolitan study sites. These distinctions, combined with racial differences in subjects' expressed willingness to volunteer time to develop/maintain local park settings, suggest the importance of understanding the differing perspectives and actions of multi-ethnic user groups in urban park and forest management and maintenance.

**Key Words.** African American; discrimination; ethnic; landscapes; mail survey; marginality; minority; race; subculture.

## PARTICIPATION IN URBAN PARKS AND FORESTS

Differences between the participation and preferences of Black\* and White users of urban parks and forests have been documented by previous research studies (e.g., Lee 1972; Washburne 1978; Edwards 1981; Dwyer 1993; Gobster and Delgado 1993; Floyd 1999; Virden and Walker 1999; Cordell et al. 2002; Shinew et al. 2004) and summarized in an article in this journal (Elmendorf and Willits 2005).

In general, these studies found that African Americans were less likely than Whites to participate in undeveloped and remote areas and in solitary activities such as jogging, walking, hiking, wildlife photography, and wildlife observa-

tion. Blacks were more likely to prefer group activities, and activities involving social interaction such as team sports, talking, and socializing, rather than nature-based or solitary park pastimes. Whites tended to use parks alone or as couples, while Blacks came in larger groups. Blacks expressed greater fear of nature, a greater desire for urban environments, and less satisfaction with parks in their neighborhoods than did Whites. Several studies also reported that Blacks had higher rates of affiliation with voluntary associations of social, political, or religious natures than did Whites (e.g., Floyd et al. 1994).

## PREFERENCES FOR URBAN PARKS AND FORESTS

Past research on Whites and Blacks has also shown that these groups differ from one another in their open space, park, and forest landscape preferences (e.g., Anderson 1978; Zube and Pitt 1981; Kaplan and Talbot 1988; Dwyer and Hutchison 1990; Virden and Walker 1999; Gobster 2002). In general, these studies found that Blacks preferred parks characterized by open space with manicured and maintained landscapes. African Americans were more likely than Whites to perceive natural landscapes as more worrisome and less aesthetically pleasing than developed environments. Further, Black focus groups preferred recreational settings that were well lit and supervised. Whites preferred landscape scenes with trees, dense foliage, overgrown vegetation, and densely wooded areas, while Blacks cared more about facility and maintenance aspects. Whites also preferred less management and law enforcement presence and more remote, less developed settings than did Blacks. Blacks favored more formal landscape designs and greater openness and visibility than Whites.

## PURPOSE

The current article updates and extends the existing research literature on Black/White differences by reporting analysis from a new study of urban park and forest participation and landscape preferences of Blacks and Whites in Atlanta and Philadelphia. The study, funded by the National

\*The term "Black" or "African American" is defined by the 2000 U.S. Census as "people having origins in any of the Black race groups of Africa." Throughout this article, the terms "Black" and "African American" are used interchangeably.

Urban and Community Forestry Advisory Committee and overseen by the USDA Forest Service (Sasidharan 2001), sought to explore inter-ethnic differences in the use of, preference for, and attitudes about metropolitan parks, with the goal of providing information to urban foresters and arborists to better manage and maintain parks and landscapes used by multiple racial groups. This analysis examined frequency of visitation, perceived benefits, types of participation (solitary vs. group), landscape preferences, and expressed willingness to volunteer in park maintenance of Black and White residents in two metropolitan areas in the eastern United States.

## METHODS

Data were obtained from self-administered questionnaires mailed to samples of residents in the metropolitan areas of Atlanta, Georgia; and Philadelphia, Pennsylvania, U.S. These two urban locales were selected as study sites because both have numerous park and urban forest settings and both have sizable historic Black populations, particularly in the central cities where 61% of the Atlanta residents and 43% of those in Philadelphia were Black/African Americans at the time of the 2000 U.S. Census. Moreover, by selecting both a northeastern and a southeastern city, the study allowed for limited assessment of regional differences in racial differences in park usage and perceptions.

### The Survey

The survey instrument was developed drawing upon previous literature (e.g., Floyd 1998, 1999; Virden and Walker 1999) dealing with park participation, preferences, and attitudes, and reviewed by researchers and by Black and White group members.

Names and addresses of 750 Black and 500 White households in both the Atlanta and Philadelphia metropolitan areas were obtained from a commercial sampling organization, Survey Sampling, Inc. Pre-notice letters were sent to these persons 2 weeks prior to mailing the questionnaires, informing subjects that they had been selected for participation in the survey. Mailing of the questionnaire 2 weeks after the pre-notice letter was followed by a reminder postcard the following week, and two subsequent follow-up letters, both including duplicate survey forms.

A substantial proportion (20%) of the addresses proved to be inaccurate, and the letters were returned as undeliverable. Of those that were not returned by the postal service, response rates for the samples were 25% and 20% for the African American samples in Atlanta and Philadelphia, respectively, with 40%, and 32% response rates for the Atlanta and Philadelphia White households. To confirm the race of the individual sample members, subjects were asked to specify their race and ethnicity. A total of 427 reported that they were "White or Caucasian," and 232 indicated

they were "African American." The total samples available for analysis were as follows: Atlanta Blacks,  $n = 125$ ; Philadelphia Blacks,  $n = 107$ ; Atlanta Whites,  $n = 234$ ; Philadelphia Whites,  $n = 193$ .

### Measuring the Variables

Differences between Blacks and Whites in their frequency of park visitation, the extent to which they viewed parks as beneficial to their communities, the types of activities (solitary or group), their preferences in park landscapes and facilities, and their expressed willingness to participate in park maintenance were assessed.

**Frequency of Park Visitation.** Frequency of park usage was measured by directing subjects' attention to a page containing 12 color photographs of undeveloped and developed parks and open spaces included with the survey form. Respondents were asked how often in the last 12 months they had visited parks similar to those in the photos. Seven answer categories were included on the questionnaire: almost daily, weekly, three or more times a month, once or twice a month, three or more times in the last twelve months, once or twice in the last 12 months and never visited in the last 12 months. These categories were scored from 6 to 0, respectively for the analysis.

**Perceived Benefits.** Perceived benefits from parks were assessed by asking respondents whether they "agreed," were "neutral," or "disagreed" with each of the following descriptions of park-effects: (1) improve overall health, (2) improve social well being, (3) unnecessary tax burdens, (4) attract crime and create unsafe conditions, (5) increase littering, (6) improve the economy, (7) improve environmental quality, (8) attract undesirable animals, (9) improve spiritual well being, and (10) attract desirable animals and birds. Responses were scored from 1 to 3, with 3 representing the most positive perception. Principal components analysis supported the existence of a single factor. Composite mean scores for the ten items were calculated for each subject to measure the extent to which the individual held positive attitudes about the benefits provided by parks. Cronbach's Alpha, measuring the internal reliability of the scale, was an acceptable 0.785.

**Participation.** To assess the nature of their participation in urban parks and forests, respondents were asked, "How many times have you done the following activities during your visits to park areas in the last 12 months?" (1 = none, 2 = once or twice, 3 = three or more times). The list of eight activities included solitary activities, social activities, food-related activities, team activities, outdoor land activities, outdoor activities, physical exercise, and community activities. In addition, separate items asked how many of these visits were undertaken alone and how many were with three or more people; responses were 1 = none, 2 = some, and 3 = almost all. A principal components analysis of responses to these ten items supported the existence of two

factors. One factor, termed *Solitary Participation*, included solitary activities, outdoor land activities, outdoor water activities, physical exercise, and visiting alone. The second factor, termed *Group Participation*, contained social activities, food-related activities, team activities, community activities, and visiting with three or more people. Composite scores were calculated for each of these two factors by computing the mean scores of the individual items for each subject in the sample. The higher the scores, the greater the subject's *Solitary* or *Group Participation*. Cronbach's Alpha for the two scores was 0.612 and 0.695, respectively.

**Landscape Preference.** Respondents were asked how important (1 = not important, 2 = somewhat important, 3 = very important) it was for parks to have each of a list of specific attributes. A principal components analysis with varimax rotation suggested the presence of five factors. Items loading highest on the first factor referred to *Nature* (streams, rivers, lakes, animals, fish, and birds). The second factor dealt with *Recreational Facilities* (picnic areas, family areas, outdoor cooking facilities, restrooms, drinking fountains, game fields, and recreational facilities). The third factor referred to *Maintenance/Security* (litter-free areas, safety, trash containers, parking spaces, and proper signs). The fourth factor focused on *Ethnic Concerns* (presence of others of same ethnicity, availability of information in ethnic languages, and staff knowledge of visitors' customs). The fifth factor described *Traditional Park Landscapes* (short grass, open forests, and paved paths). Composite scores were calculated for each of the five factors by computing the mean scores of the individual item for each subject in the sample. Cronbach's Alpha for the five scales were, respectively: 0.876, 0.824, 0.713, 0.700, and 0.651. For all measures, higher scores indicated higher importance of landscape characteristics.

**Willingness to Volunteer.** To assess the respondents' attitudes about volunteering in urban parks, respondents were asked, "Are you interested in doing any of the following as a volunteer (without pay) to help parks in your area (yes or no)?" Items included (1) planting trees in parks, (2) cleaning up vacant lots for planting gardens, (3) cleaning up trash from parks, (4) helping prevent crime in parks, and (5) working with others to improve the quality of parks. Composite scores were determined by the number of "yes" answers. Cronbach's Alpha was 0.847.

### Statistical Procedures

The analysis was carried out in two steps. First, a two-factor analysis of variance tested the differences between Blacks and Whites, and between Atlanta and Philadelphia (Table 1). Such an analysis allowed for assessing not only overall or main differences between the two racial groups, and between the two study sites, but it also provided information on whether differences between Blacks and Whites

differed depending on the metropolitan area in which they lived through testing of the Race  $\times$  city interaction.

It was also anticipated that Blacks and Whites would differ in regard to such characteristics such as age, gender, education, or income. If this were the case, any observed differences in participation and preferences might result from these socio-demographic differences rather than from race *per se*. Consequently, the relationships were re-examined using two-factor covariance analysis in which race and city were again included as the factors, along with age, gender, education, and income as covariates, thus statistically controlling for the effects of these latter variables (Table 2). For this analysis, age was measured in years, gender was dummy coded with "male" as the reference category, education was operationalized so that 1 = less than high school graduation; 2 = high school graduate, no further schooling; 3 = some post-high school education but not a college graduate; 4 = bachelor's degree; 5 = some post-graduate education; and 6 = advanced college degree. Income was measured by six categories ranging from less than \$5,000 to more than \$100,000 and scored from 1 to 6 for analysis (Table 3).

### RESULTS

The results of the two-stage analysis (the two-factor analysis of variance and the covariance analysis) are presented below. Consideration is given not only to the differences between Blacks and Whites, but also to possible regional differences, to the interaction of region and race, and to the effects of the covariates (age, gender, education, and income) on frequency of park visitation, perceived benefits, the type of participation (solitary or group), landscape preferences, and willingness to volunteer. Findings from the analysis of variance for all variables are presented in Table 1; findings from the covariance analysis are contained in Tables 2 and 3.

#### Frequency of Park Visitation

Blacks reported visiting urban parks and forests less frequently than Whites ( $P < 0.001$ ). There was no significant difference between the two cities for this variable. The difference between Blacks and Whites in frequency of visitation did not differ significantly for Atlanta and Philadelphia respondents (i.e., the statistical interaction of Race  $\times$  city was not significant at the 0.05 level) (Table 1). When age, gender, education, and income were controlled in the analysis of covariance, the difference between Blacks and Whites in visitation frequency declined somewhat but remained statistically significant ( $P = 0.016$ ). Income level was positively associated and age was negatively associated with frequency of parks visitation, but gender, education, and city were not statistically related to visitation frequency.

**Table 1. Two-factor analysis of variance relating race and city to park participation and attitudes.**

	Adjusted means*				ANOVA P-values		
	Race		City		Race	City	Interaction
	Black	White	Atlanta	Philadelphia			
Frequency of visits	1.67	2.30	2.09	2.05	.000	.848	.150
Perceived benefits	2.50	2.60	2.60	2.55	.001	.301	.260
Park preferences							
Nature	2.05	2.19	2.19	2.07	.003	.011	.061
Recreation facilities	2.58	2.27	2.44	2.31	.000	.000	.213
Maintenance/security	2.83	2.76	2.80	2.70	.011	.118	.177
Ethnicity	2.13	1.69	1.87	1.81	.000	.147	.961
Traditional park	2.48	2.11	2.24	2.24	.000	.885	.586
Activities							
Alone/solitary	1.67	1.77	1.72	1.76	.063	.460	.473
Group	1.97	1.80	1.92	1.77	.002	.001	.098
Willingness to volunteer	2.44	1.72	2.19	1.71	.000	.002	.616

\*Adjusted for the effect of the other factor (race or city).

**Table 2. Analysis of covariance relating race and city to park participation and attitude, adjusting for age, gender, education, and income.**

	Adjusted means*				ANOVA P-values		
	Race		City		Race	City	Interaction
	Black	White	Atlanta	Philadelphia			
Frequency of visits	1.82	2.22	1.98	2.19	.016	.171	.258
Perceived benefits	2.52	2.60	2.58	2.56	.032	.744	.677
Park preferences							
Nature	2.08	2.17	2.17	2.11	.081	.163	.066
Recreation facilities	2.55	2.29	2.45	2.36	.000	.000	.850
Maintenance/security	2.81	2.76	2.80	2.76	.104	.150	.046
Ethnicity	2.08	1.72	1.89	1.81	.000	.122	.548
Traditional park	2.45	2.11	2.25	2.20	.000	.316	.647
Activities							
Alone/solitary	1.69	1.76	1.71	1.78	.218	.236	.768
Group	1.94	1.80	1.90	1.77	.012	.012	.139
Willingness to volunteer	2.53	1.71	2.16	1.82	.000	.036	.785

\*Adjusted for the effect of the other factor (race or city) and covariates of age, gender, education, and income.

### Perceived Benefits

Blacks were statistically less likely than Whites to perceive urban parks and forests as providing benefits. There was no significant difference between the two cities in the perception of benefits or in the extent to which Blacks and Whites differed in their attitudes concerning park benefits. When age, gender, education, and income were controlled in the

analysis of covariance, Blacks were still statistically less likely than Whites to perceive urban parks and forests as providing benefits. Persons with higher incomes were more likely than those with lower income levels to view parks as beneficial, but education, age, gender, and city of residence were not significantly related to the extent to which subjects endorsed parks as beneficial.

**Table 3. Standardized regression coefficients relating the covariates of gender, age, education, and income to park participation and attitudes.**

	Beta values			
	Gender	Age	Education	Income
Frequency of visits	-.051	-.138**	.077	.122**
Perceived benefits	.010	-.002	.008	.193***
Park preferences				
Nature	-.119**	-.134**	.056	.057
Recreation facilities	.074	-.052	-.138**	-.161***
Maintenance/security	.125**	.081	-.067	.027
Ethnic concerns	.112**	.003	-.062	-.198***
Traditional park landscapes	.142***	.038	-.104*	-.104*
Activities				
Alone/solitary	-.033	.060	.116	.088
Group	.075	-.216***	-.071	.023
Willingness to volunteer	-.025	-.227***	-.027	-.040

\*Significant .05.

\*\*Significant .01.

\*\*\*Significant .001.

### Landscape Preference

In the two-factor ANOVA, Blacks were significantly less likely than Whites to agree that *Nature* amenities were important in urban parks and forests, but for all of the other landscape characteristics addressed in this study, Blacks gave higher importance ratings than did Whites. These included *Recreational Facilities*, *Maintenance/Security*, *Ethnic Concerns*, and *Traditional Park Landscapes*. The difference between the races in the importance given to these park attributes was greatest for *Ethnic Concerns*, *Traditional Park Landscapes*, and the presence of *Recreational Facilities*. These three relationships remained significant when the effects of age, gender, education, and income were controlled in the covariance analysis, although racial differences in regard to the importance given to *Nature* and *Maintenance/Security* declined to nonsignificance, with *P*-values of 0.081 and 0.104, respectively. In the case of *Maintenance/Security*, the interaction of Race  $\times$  city reached statistical significance ( $P = 0.045$ ) when age, gender, education, and income were controlled, with Blacks in Atlanta giving more importance to this park characteristic than did the other three race/city categories. There were significant differences between the two cities in regard to the importance given to *Recreational Facilities*, even when controlling for the covariates. Residents of Atlanta gave higher importance ratings to *Recreational Facilities* than did Philadelphians.

Persons with higher incomes were less likely than their lower-income counterparts to report that *Recreational Facilities*, *Ethnic Concerns*, and *Traditional Park Landscapes* were important park attributes. Females more than males

reported that *Maintenance/Security*, *Ethnic Representation/Sensitivity*, and *Traditional Park Landscapes* were important; males were more likely than females to emphasize the importance of *Nature* amenities. As educational level increased, the importance given to *Recreational Facilities* and *Traditional Park Landscapes* declined. Older subjects were less likely to report that forests, lakes, and wildlife were important than were younger individuals.

### Participation

Blacks were significantly more likely than Whites to use these urban parks for *Group Participation*, and this difference persisted even when controls for age, gender, education and income were included in the covariance analysis. However, while Whites in the sample were somewhat more likely than Blacks to report *Solitary Participation*, this difference was not statistically significant, especially when the effects of age, gender, education,

and income were adjusted for. The Race  $\times$  city interaction was also not statistically significant, suggesting that the racial differences in participation did not vary by study site. Atlanta residents were more likely than residents of Philadelphia to report that they used parks and urban forests for *Group Participation*. Gender, age, education, and income were not found to be significantly related to participation in solitary activities; age was negatively correlated with participation in group activities.

### Willingness to Volunteer

Expressed willingness to volunteer in developing and maintaining park areas (planting trees, cleaning up, helping to reduce crime, and working with others to improve park areas) was significantly greater for Blacks than for Whites. This was true both in Atlanta and in Philadelphia, and when adjustments were made for age, gender, education, and income differences between the samples. Moreover, there was a significant difference between the two cities for this variable: residents of Atlanta were more willing to volunteer than Philadelphians. There were no significant differences among subjects in regard to gender, education, or income, although older respondents were less likely than their younger counterparts to express a willingness to volunteer in these areas of park development and maintenance.

### SUMMARY AND DISCUSSION

Congruent with the findings of previous researchers (Dwyer 1993; Edwards 1981), Blacks visited parks less frequently than Whites in the same areas. Moreover, this racial difference persisted even when gender, age, education, and

income were controlled. Other variables, such as access to and distance to urban parks and forests, transportation, interest, and perceived discrimination were not assessed in the current study; hence, the extent to which these factors may have disproportionately served as constraints on Black visitation could not be determined (Floyd 1999).

In both the Atlanta and Philadelphia data, Blacks were less likely than Whites to perceive benefits from urban parks and forests. However, these racial differences, while statistically significant, were small, and it would be incorrect to conclude that Whites perceived benefits from parks that Blacks did not. A closer analysis of the individual items used to assess perceived benefits in the current study found that, while Blacks were somewhat less likely than Whites to agree that parks improved overall health, social well being, environmental quality, and spiritual well being, most respondents of both races agreed that parks did provide these benefits. Conversely, few subjects of either race agreed that parks were unnecessary tax burdens, created unsafe conditions, or increased littering.

Findings from the current study were supportive of previous research findings in regard to racial differences in landscape preferences. Thus, in the two-factor analysis of variance, Blacks were less likely than Whites to report that natural amenities (streams, lakes, animals, birds, etc.) were important park attributes, and their relationship approached significance in the analysis of covariance (also see Zube and Pitt 1981; Shinew et al. 2004). Blacks were more likely than Whites to report that the presence of recreation facilities, traditional park landscapes, and evidence of ethnic representation/sensitivity were important to them (Lee 1972; Dwyer and Hutchinson 1990; Dwyer 1993; Viriden and Walker 1999; Gobster 2002). However, there were also similarities in the degree of importance given to the various landscape preferences. Both Blacks and Whites gave their highest importance ratings to maintenance and security issues, followed by the presence of recreation facilities. Ethnicity concerns, while more important for Blacks than Whites, nevertheless, were among the least likely to be rated as very important by respondents of both races.

Other researchers have suggested that Blacks are more likely than Whites to participate in group activities and are less likely to engage in solitary pursuits in their visits to urban parks and forests (Gobster and Delgado 1993; Floyd et al. 1994; Gobster 2002). The current study only partially supported this suggestion. Blacks reported significantly greater participation in group activities than Whites, but the slight tendency for Whites to report more solitary participation than Blacks was not statistically significant, and even that small difference declined when the effects of respondent's age, gender, education, and income were controlled. Group activities were more common than were solitary pursuits, especially among Blacks. There was no

indication that gender, age, education, or income were associated with reported incidence of solitary activities, contradicting the suggestion of Viriden and Walker (1999) that women and the elderly are less likely to engage in solitary pursuits because of safety concerns.

There were striking differences between Blacks and Whites in their expressed willingness to participate in volunteer activities to help develop and maintain parks in their areas, with Blacks more likely to work without pay to do such things as plant trees, clean up trash, help prevent crime, and work with others to improve the quality of their parks. Floyd et al. (1994) also found Blacks significantly more likely than Whites to express an interest in volunteering for urban park and forest activities. Expanding on a discussion by Shinew et al. (2004), one explanation of a greater spirit of volunteerism in urban Blacks is that neighborhood and volunteer organizations are critical adaptive strategies used by African Americans to negotiate the pressures of a life with limited resources. Another explanation is that volunteer activities are used by African Americans to provide safe and nurturing opportunities for children and others. Volunteerism is a crucial element in community development and stability in many Black neighborhoods.

This study also found some differences in the attitudes of Philadelphia and Atlanta residents toward urban parks and forests. Subjects in Atlanta were more likely than those in Philadelphia to report that the presence of park recreational facilities were important and were somewhat more likely to participate in group activities and to express willingness to volunteer to help improve the quality of parks and urban forests. However, these differences between Blacks and Whites in Atlanta and those in Philadelphia did not differ significantly (the Race  $\times$  city interaction was not significant), suggesting that generalizations about racial differences in urban park and forest participations, preferences, and attitudes were consistent for both of the cities studied and may be relatively consistent regardless of region. Additional research, focusing on other regions is needed to confirm the veracity of this idea.

Variables other than race were also found to be important in understanding urban park and forest participation and landscape preferences. Gender, age, education, and income were all found to influence aspects of urban park and forest participation, landscape preference, and willingness to volunteer. Many leisure research studies have discussed differences in participation and landscape preference using these and other variables (e.g. Johnson et al. 1998; Floyd and Shinew 1999). Thus, Hutchison (1994) in a study of Chicago public parks, found that women were more likely than men to be engaged in stationary activities associated with child care and in activities as a family member or as a member of a mixed social group. Men were

more likely to participate in mobile activities such as sports and walking, and do so as individuals or with their peers. Women were also more likely than men to see the forest or undeveloped landscape as threatening and expressed preference for park manager presence and developed settings as compared to less managed and more remote natural settings preferred by men (Viriden and Walker 1999). The current analysis found gender differences in regard to landscape preferences, with women more likely than men to feel that maintenance and security, ethnic concerns, and traditional park landscapes were important; they were less likely than men to emphasize nature amenities. However, there were no significant differences between men and women in the frequency of park visitation, perceived benefits, tendency to engage in group or solitary activities, or willingness to volunteer for park development and maintenance. Older persons were somewhat less likely than younger persons to visit parks and urban forests, to express interest in natural landscapes, to participate in group activities, and to express willingness to volunteer for park development and maintenance, but age was not related to any of the other preferences, perceptions, or practices assessed. Although respondents with less education were more likely than their more highly educated counterparts to view recreational facilities and traditional park landscapes as important attributes, educational level was not statistically related to park participation and attitudes. As income increased, frequency of park visitation increased and people were more likely to perceive parks as beneficial; increasing income was negatively associated with importance ratings for the presence of recreational facilities, traditional park landscapes, and ethnic concerns.

## CONCLUSION

Considered together, these findings underscore the existence of numerous differences between Blacks and Whites in participation, preferences, and perceptions of urban parks and forests. This study supported a pattern of results that was largely consistent with the findings of previous research. However, many of the earlier studies dealt with limited samples and concentrated on a single area, or even a single urban park. By studying Black and White subjects drawn from the populations in two metropolitan areas, the current research broadened the basis of generalization for these findings and suggested that many of these differences persist today and do not vary appreciably across regions of the country.

Race continues to be an important factor in urban park and forest participation and landscape preference. African Americans, more than Whites, prefer developed facilities and services; Whites, more likely than Blacks, prefer undeveloped and more nature-based settings. This study also suggested that social motives may drive African

Americans more than Whites in urban park and forest use. This was seen in African Americans' preferences for socially developed landscapes, group activities, and their willingness to volunteer. This study did not directly consider the effects of discrimination on park and urban forest use. It is apparent from the literature that this social problem continues to exist. It is reasonable to assume that racial discrimination can exist in the landscapes of urban parks and forests and affect decision making, participation, and preference. The negative impacts of discrimination should be understood and avoided in management and maintenance and discrimination should be distinguished as an explanatory variable in research examining urban park and forest participation and landscape preference.

The Black population of the United States increased faster than the general population as a whole between 1990 and 2000 at 21.5% compared to 13%. Urban foresters and arborists need to recognize that Black and other ethnic populations, such as Hispanics and Asians, will continue to increase both in absolute numbers and as a proportion of all residents due to high birth rates, immigration, or both. Ethnic populations represent important and growing users of urban parks and forests. However, the differences between Whites and Blacks, such as those discussed in this study, are distinctive in that they are not simply ethnic assimilation issues associated with new immigrant populations. Overall, the attitudes and behaviors of Black populations in the United States may differ not only from Whites, but from newer ethnic populations because of their long-term presence in the nation, their historical importance as a disenfranchised group that has experienced social discrimination, and their growing political importance, especially in many eastern cities of the United States.

Floyd (1999) discussed the assimilation and acculturation theories. Cultural assimilation, or acculturation, is a minority group's acquisition of cultural characteristics of the majority group, such as language, diet, and religion. Floyd described structural assimilation as the extent of social interaction between majority and minority in the fabric of community life, such as family, friends, school, work, and residence. Assimilation and acculturation theories state that greater cultural and structural assimilation leads to patterns of urban park and forest participation similar to the majority group. Floyd (1999) described this theory as important in predicting urban park and forest participation and landscape preference. He also debated the theory, questioning the patronizing and prejudicial viewpoints of theories that assume that these two social phenomena should be both expected and desirable in a growing multicultural environment. It is clear from the results of this and other studies that successful urban park and forest management is not just a matter of cultural assimilation and acculturation. As discussed in other papers, today, with growing ethnic populations, it is

vital for urban foresters and arborists to understand and respond to differences in participation and the expectations of diverse users. Furthermore, urban foresters and arborists should be aware of and consider the spirit of volunteerism that African Americans have and continue to exhibit in their neighborhoods and communities.

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**Résumé.** Les recherches antérieures ont documenté l'existence de différences entre les attitudes et les comportements des Blancs et des Noirs de la société américaine au sein des parcs urbains et forestiers. Cependant, plusieurs de ces études ont été faites il a une décennie ou plus et mettaient plus l'emphase sur des parcs spécifiques ou des secteurs très localisés. Les données recueillies à partir d'un récent sondage fait auprès des résidents de deux zones métropolitaines de l'Est des États-Unis ont permis de mettre à jour les informations de ces études antérieures. Au moyen d'analyses de variance et de covariance, une attention a été portée aux différences raciales entre les Blancs et les Noirs, aux différences régionales entre ces villes, ainsi qu'aux effets de la variation des caractéristiques socio-démographiques en regard des préférences et de la participation au sein de ces parcs. Les différences raciales étaient encore similaires à celles reportées au sein des études antérieures, et ces différences ne variaient pas de manière notable entre les deux sites métropolitains étudiés. Ces distinctions, combinées avec les différences raciales exprimées quant au désir de développer et/ou de maintenir le bénévolat au sein des parcs, laissent à penser qu'il est important de comprendre les différentes perspectives d'action des groupes d'utilisateurs multiethniques en regard de la gestion et de l'entretien des parcs urbains et des forestiers.

**Zusammenfassung.** Frühere Studien haben die Existenz von Unterschieden in dem Verhalten und Eigenschaften von Schwarzen und Weißen in der amerikanischen Gesellschaft bezüglich Park- und Forstanlagen dokumentiert. Dennoch wurden viele dieser Studien vor 10 oder mehr Jahren durchgeführt und/oder fokussierten auf bestimmte Parkanlagen oder lokal begrenzten Gebieten. Die Daten aus einer kürzlichen Umfrage bei Bewohnern zweier Großstadtgebiete in den östlichen Vereinigten Staaten erlaubten uns einer Aktualisierung dieser Untersuchungsdaten. Mit der Analyse der Varianz und Kovarianz manifestierten sich Rassenunterschiede

zwischen Schwarzen und Weißen, regionale Unterschiede zwischen Städten und die Effekte von verschiedenen soziodemographischen Charakteristika der Anwohner bezüglich der Nutzungspräferenzen. Die Rassenunterschiede waren ähnlich denen aus früheren Berichten und diese Unterschiede variierten nicht besonders zwischen den beiden untersuchten Großstadtgebieten. Diese Unterschiede, in Kombination mit den Rassenunterschieden drücken die Bereitschaft für freiwilliges Engagement, lokale Parkanlagen zu entwickeln und pflegen und unterstreichen die Wichtigkeit von Verständnis für die unterschiedlichen Aktionen von multiethnischen Nutzergruppen in städtischen Parks und Forstmanagement und Erhaltung.

**Resumen.** La investigación previa ha documentado la existencia de diferencias en las actitudes y comportamientos de Negros y Blancos en la sociedad Americana en relación a parques y bosques urbanos. Sin embargo, mucho de estos estudios fueron llevados a cabo hace más de una década y/o se enfocaron a parques específicos y áreas localizadas. Los datos de encuestas recientes de residentes en dos áreas metropolitanas en el este de los Estados Unidos permitieron actualizar esta investigación. Con el uso de análisis de varianza y covarianza, se consideraron las diferencias raciales entre Blancos y Negros, diferencias regionales entre ciudades, y los efectos de las características socio-demográficas sobre las preferencias de los usuarios y la participación. Las diferencias raciales fueron similares a las reportadas por investigadores anteriores, y estas diferencias no variaron marcadamente entre los dos sitios estudiados. Estas distinciones, combinadas con las diferencias raciales en los deseos expresados de los sujetos de tiempo voluntario para desarrollo/mantenimiento de asentamientos en parques locales, sugiere la importancia de entender las perspectivas de los usuarios multi-étnicos, en el manejo y mantenimiento de parques y bosques urbanos.