Landscape and Urban Planning, 15 (1988) 107–117
Elsevier Science Publishers B.V., Amsterdam — Printed in The Netherlands

Ethnicity and Preference for Natural Settings: A Review and Recent Findings

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(Accepted for publication 24 March 1987)

ABSTRACT

Kaplan, R. and Talbot, J.F., 1988. Ethnicity and preference for natural settings: a review and recent findings. Landscape Urban Plann., *15: 107–117.*

Substantial differences have been found between the recreational pursuits of blacks and whites. In the related area of environmental preference, however, agreement generally exists across many cultural groups. None the less, the existence of some discrepant findings suggests that further explorations of black and white preferences for the nearby natural environment are appropriate. This paper addresses three specific issues. Are there substantial ethnic differences in preference? Are there identifiable environmental variables underlying such differences? If differences exist, do they reflect differing preferences for built as opposed to natural settings? A literature review and the results of a three-phase photograph study suggest answers to these questions. Substantial preference differences do exist, and they show strikingly consistent patterns. At the same time, blacks and whites clearly share a very high regard for their nearby natural surroundings. This is a vital aspect of the everyday environment which requires design and management solutions that are responsive to these ethnic variations in preferences.

INTRODUCTION

Quite frequently, when discussing the results of research on preferences for natural environments, one finds that the scenes which were favored by the study participants are not the ones which are preferred by one's professional and academic colleagues. This difference in preferences is not noticeable in relation to the most spectacular nature views – which everyone appreciates – but rather when considering ordinary, unspectacular outdoor settings like those commonly found in and near large urban areas.

In contrast with such personal experiences, where experts are often surprised to find that their preferences are not generally shared, the landscape assessment literature has repeatedly demonstrated consistency across a variety of samples in preference ratings for natural set-

0169-2046/88/$03.50

tings (Zube, 1984). None the less, even in the context of studies which have reported general agreement on environmental preferences, a few cultural and ethnic differences have been noted.

The purpose of this paper is to examine more closely the difference between black and white Americans in preferences for natural environments, both as reported previously by others and as shown in a sequence of studies of urban residents' responses to photographs of nearby natural settings. Three specific issues are addressed by the research results presented here. (1) Do substantial differences exist between black and white Americans in nature preference? (2) If there are such differences, do they follow predictable lines (i.e. are specific environmental features associated with these differences)? (3) If such differences do exist, is this because of a relative disinterest in the natural environment among blacks?

Access to nature has been shown to play a pivotal role in neighborhood satisfaction (Cooper, 1975; Kaplan, 1983) and to contribute to general psychological well-being (Frey, 1981) as well as to physical health (Moore, 1981; Verderber, 1982; Ulrich, 1984). If professionals are to design and manage natural settings for the benefit of the public, their awareness of the preferences of different segments of the public is essential. Furthermore, to the extent that residents and professionals have preferences for such areas which are sharply discrepant, it is particularly important that such differences become acknowledged and understood.

While a number of studies have reported ethnic differences in preferences, it is important to realize that few of these studies were designed with the purpose of focusing on ethnic issues. Instead, they were conducted to gain local input for specific planning projects, or to explore theoretical issues such as preference differences between experts and the public or the relationship between preference and the size of an area. In a few instances the black samples are smaller than one would generally consider acceptable. In addition, detailed demographic data about the participants which would be useful in eliminating other explanations of the studies' findings (such as income, education level, and rural or urban background) are rarely available.

Although unfortunate, such limitations need not preclude a tentative exploration of consistencies found in comparing the results of many different studies. Discovering a pattern of ethnic differences by re-examining earlier findings can offer guidance in the preparation of more comprehensive studies which can focus on ethnic issues. Furthermore, this investigation can also suggest previously unanticipated areas of concern which are likely to arise when designs for open spaces in areas populated by black residents are being prepared. While not yet definitive, this pattern of results is none the less strongly suggestive of substantial differences in preferences, and can be fruitfully utilized in guiding further work in this area.

REVIEW OF LITERATURE

A literature on ethnic differences in the field of recreation has recently emerged (Wendling, 1980; Leatherberry, 1984). (The terms ethnic and racial will be used interchangeably in this report.) The focus in these studies has largely been on activities (Washburne, 1978; Klobus-Edwards, 1981; Stamps and Stamps, 1985), but the results also offer insight into the types of recreational settings which are differentially preferred. Participation rates in various activities show that blacks are less involved than whites in wildland recreation, but are involved in leisure pursuits such as picnicking, fishing, and activities that use cars or vehicles at rates similar to whites (Leatherberry, 1984).

The distance traveled to a recreation site tends to be significantly shorter for blacks than for whites (Dwyer et al., 1981). Dinkel (reported in Hester, 1984) found that the use of neighborhood parks and open spaces was

greater in black neighborhoods than in white areas, and that whites more frequently used open spaces outside their own neighborhoods. Washburne and Wall (1979) found that blacks desired urban parks rather than rural ones, indoor as opposed to outdoor facilities, and more facilities rather than more land. Butterfield (1984) reviewed several planning department surveys which were conducted to aid in designing a park in a neighborhood of black, low-income residents. The results suggested that maintenance and safety issues, as well as the adequacy of the proposed park's recreational facilities, were especially important to the local residents.

Dwyer et al. (1981, p. 21) point out that "While it is useful to identify activities engaged in and those that are preferred, it is at least as important to know the preferred settings or environments for these activities". In their study of residents in the Chicago area, they found strong ethnic differences on two survey questions that help explain the types of settings that may be preferred. Blacks indicated a strong orientation toward "meeting people" as opposed to "getting away" during their recreational pursuits, while whites were more evenly divided in choosing between these options. Blacks also showed a very strong preference for "developed facilities and conveniences" as opposed to "preserved natural areas" in answer to an item about site development. This pattern was reversed for whites, and was consistent across different income classes.

Peterson (1977) studied the preferences of urban high school students for photographs of various leisure activities. The black students in his sample preferred activities pictured as occurring in developed rather than unmodified outdoor settings. Blacks also scored higher than whites on verbal items reflecting preferences for urbanized settings, and lower than whites on a "pastoral" dimension.

Although based on a small sample, Zube et al. (1975, p. 157) report that a group of 11 black city-center participants in their study stood out from 12 other local subsamples in their distinctly different ratings of photographs of natural areas. "It appears that man-made structures, regardless of landscape context, were viewed more favorably" by the black participants in this study. Zube and Pitt (1981) report similar findings in a study of preferences for local coastline scenes in the U.S. Virgin Islands. A stratified random sample of 743 black Virgin Islands residents responded much more favorably to beach scenes which included built structures, and much less favorably to scenes without structures, than did a sample of Yugoslavian students or a sample of students and staff at the University of Massachusetts.

Several other studies also suggest ethnic differences along these lines. Medina (1983) found striking differences in preference for natural settings between inner-city seventh graders and environmental educators. The educators preferred tree-lined residential settings and scenes of relatively unmodified natural areas. In contrast, the black adolescents favored such settings far less than scenes depicting urban life (e.g. commercial strips and parking areas), with trees and vegetation playing a relatively minor role in preference. Kielbaso (1983) found that black residents preferred open over more dense woods and developed paths over less manicured, more rustic pathways.

In comparing ethnic preferences for highly familiar scenes in a rural setting, Anderson (1978) also found similar results. The blacks in his sample expressed lower preferences than whites for scenes of dense forest and higher preferences than whites for scenes of relatively open, more manicured settings, although preferences for the more manicured scenes were very high for all study participants.

Research on preferences for natural settings generally shows a high level of inter-group agreement. However, the studies reviewed above indicate that the preference patterns of

blacks and whites may be different in important respects. It is necessary to establish whether this is, in fact, the case, since the implications for environmental design and planning could be considerable.

The following discussion presents the results of three studies which complement and extend the research results described above. These studies were not designed to focus on ethnic differences in preferences, and they share certain limitations with some of the earlier studies (i.e. small samples and an absence of detailed demographic data). However, the additional insights which these studies offer make them worthy of detailed examination.

METHOD

The three studies described here are part of a larger research program exploring the perceived benefits of urban nature. The focus of this larger program is on studying the measurable impacts of the entire range of natural settings found in urban areas. Public parks are included, as well as privately owned vacant lands, and other people's yard and gardens which are appreciated only visually.

Interviews were conducted for each study during which individual participants were asked to respond to photographs of a variety of urban natural areas, including well-manicured park settings as well as overgrown, undeveloped areas. All of the studies involved the use of black and white photographs which participants sorted into five piles according to their own preferences. Participants were asked to indicate "how well you like each of the areas", with 1 being the least-preferred and 5 indicating the most-preferred scenes. After completing the sorting task, the participant examined the two piles containing the highest- and lowest-rated photographs and described the "particular things" in these settings which they "found displeasing or unattractive", or which they "found most attractive ... (and) especially liked".

TABLE 1

Description of studies

Study	Sample characteristics	Data collected
1	21 whites, 10 blacks, ages teens through elderly, demographically diverse, Ann Arbor residents	Preference ratings for 37 scenes, with brief comments on liked and disliked features
2	97 residents of inner-city black neighborhoods in Detroit, ages 20's through elderly, low to moderate income	Preference ratings for 26 of the Study 1 scenes, with detailed lists of liked and disliked features
3	47 whites, 9 blacks, ages 20's through elderly, demographically diverse, mostly Ann Arbor residents	Preference ratings for 15 settings, with brief comments on liked and disliked features

Sample characteristics and the type of data collected in the three studies are summarized in Table 1. The first study focused on preferences for different types of urban natural settings. In this study, a sample of Ann Arbor, Michigan, residents sorted 37 photographs for preference. The interviews, which took place in a variety of locations, were conducted by a white woman. Some of the participants were contacted and interviewed at a neighborhood activity center in a low-income area. Others were interviewed in their offices, on campus, or in the senior-citizens' apartment building in which they lived.

A subset of 26 photographs from the first study was also used in the second study, which sampled residents of three black neighborhoods in Detroit. These inner-city neighborhoods were areas of single-family homes, duplexes and small multiple-family structures, and were surrounded by commercial and industrial development. The interviews were conducted by a retired black woman who lived in Detroit and who had extensive experience interviewing Detroit residents. The interviewer approached randomly-distributed

dwellings within the three neighborhoods. Since an equal distribution of sexes and a sizable elderly sample were both desired, some individuals who were contacted through this method were not asked to participate in the survey.

As in the first study, the Detroit participants in the second study sorted the photographs for preference and then described the features in the highest- and lowest-rated settings which they particularly liked or disliked. The results of the first study had been used in developing a checklist of specific environmental features which were perceived as affecting preferences. Using this instrument and noting other comments in full, the interviewer recorded the specific environmental factors which participants associated with their least- and most-preferred areas. (Further details on the second study are available in Talbot and Kaplan (1984).)

The third study focused on the relationship between the relative sizes of settings and people's preferences for those places. The participants in this study were approached and interviewed by a white woman at a variety of public settings, including a church-sponsored free breakfast, a laundromat, a park and an outdoor concert.

Since pretesting had indicated that subjects found it difficult to judge an area's size from a single photograph, each of the 15 settings used in this study was represented by a set of four photographs. After the size-judgment task, the participants sorted the photograph sets into five piles according to preference, as in the other two studies. Again, this sorting task was followed by a re-examination of the highest- and lowest-rated scenes, and brief descriptions by the participants of the specific features which they particularly liked and disliked in these settings. (The third study is discussed more fully in Talbot and Kaplan (1986).)

RESULTS

Ethnic differences in preference

The results of the two studies, which permit direct comparisons in ethnic preference patterns, are summarized in the top half of Table 2. These results reflect striking differences between blacks and whites in preferences for nature settings: significant differences in preference ratings were found for 30 and 47% of the areas in these studies. Correlations were also computed using the average rated preferences among blacks and whites for each setting. As seen in the table, these correlations were low and were not statistically significant. This is particularly noteworthy in light of other studies (as summarized in Zube and Pitt, 1981) in which high correlations (ranging from 0.80 to 0.96) have been reported when comparing the preferences of American and European samples, but lower correlations (ranging from 0.44 to 0.63) have been found between

TABLE 2

Comparisons between black and white preferences for natural settings

Study	Subsamples compared	Settings showing significant[1] preference differences	Preference correlation across settings
1	Ann Arbor whites and blacks	11 of 37 scenes (30%)	0.05 (n.s.)
3	Ann Arbor whites and blacks	7 of 15 scenes (47%)	0.42 (n.s.)
1, 2	Ann Arbor whites and Detroit blacks	22 of 26 scenes (85%)	-0.51 ($P<0.05$)
1, 2	Ann Arbor blacks and Detroit blacks	3 of 26 scenes (12%)	0.77 ($P<0.05$)

[1]Significant differences are the results of Student t-tests, $P<0.05$.

the preferences of these groups and those of American blacks.

Since the same 26 scenes were included in both the first and the second study, it was possible to make direct comparisons of the preference ratings given by the black and white participants in these two studies. As shown in the bottom half of Table 2, the responses of the two black samples to these photographs were quite similar, while the responses of the Ann Arbor whites and the Detroit blacks were strikingly different.

Figure 1 illustrates the most extreme variations in preference, presenting scenes which were liked by one ethnic group and disliked by the other. The two scenes in the top row received low ratings from both black samples, but significantly higher preference ratings from the white participants (black preferences averaged 2.5 for these scenes, while white preferences averaged 3.8). All of the scenes which were non-preferred by the two black samples had an undeveloped or unmanicured appearance. These scenes typically received moderate to high preference ratings from the white sample.

Two scenes which were highly preferred by the black participants but not favored by whites are shown in the bottom row of Fig. 1 (black preferences averaged 4.2 and white preferences averaged 2.8 for these scenes). Again, none of the scenes which both groups of black participants preferred received high ratings from the white participants. These scenes con-

Fig. 1. Scenes from Study 1 and Study 2 which show sizable variation in preference between black and white samples. The top two scenes were preferred by whites but not by blacks. The bottom two scenes were preferred by blacks but not by whites.

TABLE 3

Descriptions[1] of settings differentially preferred[2] by blacks and whites, and those receiving similar ratings

Study	Settings rated higher by whites	Settings rated higher by blacks	Settings rated equally by all
1	Little visible sky, densely wooded with low branches, weedy or overgrown	Public areas with walkways and benches, open with a few large trees, mowed or manicured	River scenes, sidewalks along residential streets, scenes with attractive individual trees
3	Views taken within a wooded area, minimal buildings visible	Open with a few large trees, institutional or residential areas visible beyond the natural setting	Parks, scenes with one house visible beyond the natural setting

[1]Descriptions reflect the assessments of a panel of three judges.
[2]Differences are the results of Student *t*-tests, $P < 0.05$.

sistently include built elements such as benches, park equipment, paved walks, and picnic shelters. Despite these constructed components, most of the settings which were favored by the black samples are not lacking in trees and vegetation. The open, spacious quality of several of these scenes is similar to those which were rated as most preferred by the rural blacks in Anderson's (1978) study. Each is characterized by smooth ground texture and by a generally well-kept appearance. Many of these scenes were among the least liked for the white participants; others received more moderate ratings.

Table 3 presents brief descriptions of the settings from both the first and the third studies which received significantly different ratings from blacks and whites, along with descriptions of settings which were preferred similarly by both races. In both studies, the white participants were more favorable to scenes with dense foliage, with weedy or overgrown areas, or with a sense that the trees and vegetation surround one. Blacks responded positively to many scenes showing numerous trees, but they preferred more widely spaced trees in settings characterized by greater visibility and openness. These were areas in which trees were present but, as one participant commented, the trees were "not overpowering" and one "could still see the sun". In addition, buildings and other signs of development were often visible in natural settings which were preferred by blacks, but were usually absent from scenes preferred by whites.

Additional results from the second study are consistent with the preference summaries presented in Table 3. As described above, detailed records of each participant's comments about specific liked and disliked environmental features were made in the Detroit study. A review of the features mentioned by the majority of these participants reiterates the preference for manicured settings incorporating constructed components, and reflects a general distaste for unmanaged settings among blacks. Over half of the Detroit sample mentioned neatness (89%), the presence of trees or water (95 and 71%, respectively), and the incorporation of built elements such as benches and walkways (89%) as being characteristic of preferred settings. On the other hand, the presence of weeds (57%) and a generally messy or unmaintained quality (58%) were both mentioned as describing settings which were disliked.

Besides noting these differences, it is important to note the characteristics of settings which were preferred equally by blacks and whites. Figure 2 illustrates such scenes. The two scenes in the top row received mean preference ratings between 3.4 and 3.7 across the three subsamples. There were no significant differences in preferences for these and other scenes, which typically included both trees as well as more open areas of filtered sunlight. The bottom of Fig. 2 shows two scenes which were moderately preferred overall (receiving at least a 3.5 preference rating from each sample), but also were especially preferred by one group. The scene with the curving path and railing was es-

Fig. 2. Scenes from Study 1 and Study 2 which received moderately high preference ratings from all samples. The top two scenes were not significantly different in preference ratings for any subgroup, receiving moderately high measures in all cases. The bottom two scenes, while significantly different, received relatively high preference ratings from both whites and blacks. The left scene was mong the most preferred by blacks and the scene at the right was the white sample's most preferred photograph.

pecially liked by blacks (with a preference rating of 4.5), and the river scene with the willow trees was particularly pleasing to whites (with a rating of 4.4).

In the third study, differences between blacks and whites were also examined by comparing their answers using a similar open-ended question about specific liked and disliked features. While blacks and whites were not significantly different in how frequently they mentioned trees, a well-manicured appearance or the presence of built components, blacks more frequently mentioned liking openness and disliking scenes that felt closed-in ("too enclosed", "too confined", etc.) when compared with the white participants in this study (χ^2 test, $P<0.05$, from a 2-way table comparing race and the presence or absence of comments about openness).

The value of nature contacts

The results of these studies indicate that blacks and whites have distinctly different preferences for commonplace natural areas in urban surroundings. Not only have these studies shown that differences exist, but the landscape qualities of places which were differentially preferred are consistent with the results of earlier work cited in the literature.

While these results show substantial ethnic preference differences, they do not specifically

TABLE 4

Variation of preferences within samples

Study	Subsample	Percentage of preferred scenes	Percentage of non-preferred scenes	Mean preference rating
1[1]	Whites	31	15	3.4
1[1]	Blacks	31	12	3.5
2	Blacks	35	12	3.5
3	Whites	20	27	3.1
3	Blacks	20	20	3.3

[1]To assure comparability of experimental stimuli across the first two studies, these percentages and mean ratings are based on the 26 photographs which were used in both Study 1 and Study 2.

address the third research question: whether or not there are differences in the relative importance of nature to blacks and whites. Insight into this issue was obtained from additional analyses based on these three studies: by comparing black and white preference ratings across all the settings in each study; and by examining answers to questions focusing directly on the perceived value of nature contacts.

Table 4 compares the percentage of scenes in each of the three studies which received high and low preference ratings from blacks and whites. The percentage of highly preferred scenes in each set of photographs (with mean ratings of 4 or higher) was quite similar for all subgroups; the percentage of non-preferred scenes (ratings of 2.5 or lower) was slightly larger for whites in each case; and the average rating over all the scenes in each set of photographs was quite similar.

Furthermore, all the participants in the third study gave ratings (on 5-point scales) to two questions asking "how much contact do you have with nature near where you live", and "how important to you is your contact with nature near where you live". Blacks and whites were not significantly different in their responses to these questions.

The all-Detroit sample in the second study gave highly positive responses to two similar open-ended questions about their nature contacts, as well. Of these participants, 77% indicated both that they considered nature extremely important to them, and that their involvement with nature was a very frequent concern, if not a central part of their daily lives. (When asked "how important do you think these kinds of outdoor places are for you", 77% of the Detroit participants answered "very" or "extremely" important. When asked "to what extent would you say your thoughts about the outdoors and your contact with it are valuable parts of your everyday life", 39% of these participants indicated a moderate degree and 61% indicated a very great extent ("a great part", "very valued part", "to a great extent", etc.).) It was possible with the large Detroit black sample to examine the importance of income levels in perceived values and preferences. The results of Student *t*-tests indicated no significant differences in preference ratings for outdoor areas, or in the values attached to nature contacts, when the low and moderate income participants in this study were compared.

DISCUSSION AND IMPLICATIONS

The results of these three studies, which were based on photographs of "everyday" natural areas, show substantial ethnic differences in environmental preference. The results from the first and third studies are based on very small samples of blacks (as were those reported by Zube et al., 1975). However, the pattern of these results is totally consistent with the findings based on the larger Detroit sample in the second study, as well as with results reported in the literature previously reviewed. Although the consistencies among the results of a number of studies lend weight to their credence, more detailed work with large samples is clearly needed. In particular, the significant negative correlation in preference between the Detroit (black) sample and the white portion of the

Ann Arbor sample in the first study reflects noteworthy differences in preference, with important design implications. (Although negative correlations have been found before when comparing the preferences of different groups for various built environments, these authors are not aware of any other study in which a negative correlation has been found when comparing group responses to photographs of natural environments.) If this finding is confirmed by further studies, this suggests that both ethnic and demographic differences can affect the types of natural settings which are preferred, and highlights the importance of utilizing participatory input in situations where the designer is least familiar with the local context.

Based on the results of these rating tasks, as well as the verbal comments made by the participants, it is clear that settings with dense vegetation or with a sense of enclosure are not preferred by blacks. In contrast, outdoor settings which include built components, or which have a sense of openness and visibility, are generally favored. It is also apparent that a sense of order or neatness is generally considered to be of great importance.

The first two study objectives are thus answered in the affirmative. These studies clearly demonstrate ethnic differences in preferences for natural environments, and the pattern of differences is consistent with the results of previous work in this area. There remains, then, the question of whether nature may simply be relatively unimportant to blacks.

The results of these studies do not indicate that blacks simply prefer built over natural environments. It is essential to recognize that the ethnic differences reported here reflect preferences for different arrangements within a nature setting, rather than a lack of preference among blacks for natural areas in general. In fact, Anderson and Schroeder (1983) compared black and white preferences for a variety of outdoor urban scenes and found no racial differences in preferences, with all subsamples preferring views showing more foliage to those of more urbanized settings. Rather than suggesting that blacks do not value natural environments, the data presented in this report indicate that blacks greatly value their contacts with nature, and are not different from whites in this regard. That the natural environment is important and valued seems to be true regardless of demographic characteristics.

The differences in the types of nature settings which are preferred by blacks are important to recognize, however. They suggest that different design and management solutions are needed to reflect the concerns and to accommodate the satisfactions of different segments within the culture. It may not be surprising that professional and academic experts have preferences which differ from those of the general public. Indeed, research which demonstrates and clarifies these differences can be invaluable in augmenting the expertise of professionals who are in a position to change the condition of the natural environment in urban areas.

ACKNOWLEDGEMENTS

The studies reported here were supported, in part, through Cooperative Agreement 13-655, U.S. Forest Service, North Central Forest Experiment Station, Urban Forestry Project. We wish to thank Stephen Kaplan, co-principal investigator on the project, and John F. Dwyer, Project Leader of the Urban Forestry Project, for their continuous and helpful support. We also wish to thank Richard C. Knopf and Herbert W. Schroeder for their helpful comments on an earlier draft of this paper.

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