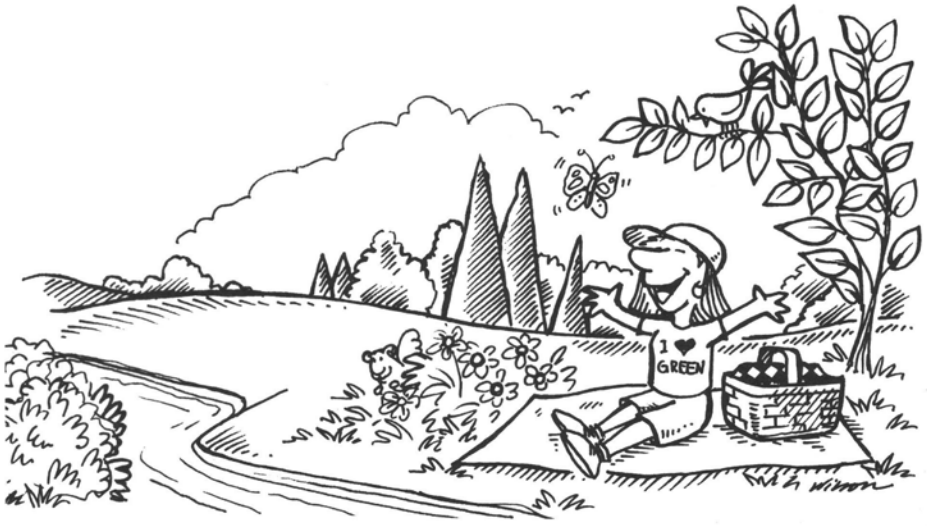
Psychological & Physiological Benefits of Greenspace



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Growing evidence underscores the positive benefits to the mind and body offered by golf courses and similar landscapes

It is often considered that turf and ornamental plantings have great aesthetic value but are fundamentally frivolous and of little real importance. In fact, the U.S. Department of Agriculture clearly views research on turfgrasses and ornamentals as far less important to human welfare than studies on plant foods' fibre or wood. And during times of severe economic constraints, many believe it is more important to design and build for functional efficiency than for landscape aesthetics.

Even those professionally committed to the culture and management of turf and ornamentals would probably not disagree strongly with such statements. It is only natural that we place great value on those elements in our environment on which our survival depends and relegate all else to secondary importance.

In this presentation, I will discuss evidence that these attitudes are at best naive and shortsighted and at worse dehumanizing and dangerous.

The physical decay of our inner cities has been an ongoing problem for decades. While the core of any cities has been revitalized with the construction of civic and convention centres, hotels, shopping malls and other examples of urban renewal, there often remains an expanding zone of neglect and poverty between this core and the suburbs. In this zone crime and violence may be commonplace and, while police have become more aggressive and residents more defensive, the level of violence continues to increase and become more pervasive.

Perhaps it is time to consider the environmental conditions that may promote hostility and anti-social behaviour. This is not meant to minimize the negative impacts of chronic unemployment, drug addiction, broken homes and general feeling of hopelessness that pervade many inter-city communities. Nevertheless, many urban problems may come down to a simple question: Are our attitudes, and behaviours resulting from them, influenced by the physical environment in which we live and work? If they are, the role of the environment in human society can be established and given its true value.

Environmental Preference

Is there any evidence to support the idea that surroundings influence individuals' outlook on life, sense of wellbeing and ultimately their attitude and behaviour towards others? The answer to this question is not easily obtained, but discussion of it may begin simply as a matter of preference.

When given a choice, people prefer or respond more favourably to some environments than they do to others. In this context, environment refers to types of landscapes, or more generally, physical surroundings. This preference for certain surroundings has been the subject of much research conducted by environmental psychologists.

As reviewed by one team of researchers, this research most often involves showing subjects a series of photographic images depicting landscapes of different compositions, complexities and orders. These images may concentrate on natural scenes, those containing primarily man-made structures or a blend of the two.

Viewers are asked to rate each scene on a preference scale of 1 to 5, though the photographs are usually observed for only a few seconds to gauge instinctive reactions. The results of such ratings are subjected to statistical analysis from which patterns of preference can be detected and the elements contributing to preference identified.

In general, people from different socio-economic levels in several countries expressed preference for landscapes of moderately structured complexity exhibiting unobstructed depth and deflected vista that suggested there was more to be seen just around the corner or over the horizon.

In a follow-up report, one researcher illustrated a scene of high preference that appears to be a park or a view down a golf course fairway. Features that contribute to high-preference landscapes include unobstructed visibility, a smooth ground surface that invites movement and a curved line of attention that introduces an element of mystery by suggesting there is more to be learned by entering the scene and moving forward. The presence of a water feature often increases viewer preference. Clearly the landscape provided by a golf course are among the types highly preferred in these studies.

Preference for a landscape or environment exerts a greater influence on human

psychology than a mere like or dislike for a picture. Because like or dislike for the environment is an ever-present stimulus, it can profoundly influence one's outlook and attitude - positively or negatively.

This was effectively demonstrated by a researcher who distributed a questionnaire to residents of nine housing projects in Ann Arbor, Mich. The projects ranged in size from 10 to 55 acres and from 167 to 600 units. The response rate was 33 percent, which generated 268 returns suitable for analysis.

One component of the survey was a photo questionnaire, in which residents were asked to rate a variety of scenes that were similar to those typically viewed from an urban apartment. Not surprisingly, views of parking lots and city street were least preferred, while large expanses of open lawn areas ranked somewhat better. The introduction of trees and landscaping features added considerably to the degree of preference, and views of natural areas that contained the elements of openness and mystery discussed previously received the highest ratings.

The second section of the survey provided particularly significant data. Residents were asked to rate the views from their apartment as they did the photos in the initial portion of the survey. This was followed by a number of questions that attempted to determine the residents' degree of satisfaction with their living conditions, their sense of well-being and their community involvement.

In general, less preferred views (parking lots, city streets and playgrounds) correlated with reduced neighbourhood satisfaction. Views of woods and landscaping, on the other hand, related to much stronger neighbourhood satisfaction and a greater sense of community as expressed in a perception of friendliness and positive relations between neighbours.

A high numerical response to the simple question, "About how many trees would you say are very near your home?" showed the same pattern of satisfaction as questions relating to a preferred apartment view. The perceived availability of nature and open spaces also correlated positively with neighbourhood satisfaction. Even if not visible from an apartment, the knowledge that "natural areas" and "good places for taking walks" were nearby promoted a greater level of satisfaction and connectedness with their neighbourhood.

A Preference for Nature

These findings should come as no great surprise. After all, home owners pay premium prices for lots that afford a desirable view. A preferred view is normally defined as one of natural areas or of designed landscapes that posses those features identified as favoured in the preference studies.

Lots in a suburban development adjacent to a golf course are often the most highly prized - especially if a water feature is included. Conversely, views of a neighbour's backyard or an urban landscape devoid of natural elements add little to real estate values. The billions of dollars spent each year on lawn and garden supplies and services attest to the value most of us place on the natural elements in our home environment.

Most of us have a preference for nature even though we may not be aware of it. Visualize two photographs of an urban street scene. The same subject is presented in both photographs but one contains mostly architectural or built elements while the other shows a foreground of plants and turf. If you were selecting one of these photographs to be enlarged, framed and displayed in your home or office, which would you choose? If given a large choice of photographs, you probably wouldn't select either of these because the subject itself is not one of high preference. However, if the choice were limited to one of the two, most people would select the one with the natural elements.

It does not take many natural elements to increase the appeal of an urban scene. Imagine two views of an apartment complex. Both show the principal buildings in a landscape consisting of a paved plaza with sculptured features and structures for sitting. In one, there are no natural elements. In the other, a small row of trees have been added. Though the first scene is attractive, it would likely be less preferred than the other, whose natural features make it more inviting and thus increase its appeal.

Sociological Impacts of Nature

There are documented examples of urban communities that have been revitalized because of the introduction of nature into their neighbourhoods.

One researcher describes the sociological impacts of a tree planting program in Oakland Calif. The Oakland Tree Task Force, with aid from a citizens group, organized an eight-month tree planting project. Local residents were involved in the program and performed much of the physical work. Every effort was made to use the project as an opportunity to bring people together and establish a sense of shared ownership in and commitment to the neighbourhood.

Inner-city residents often have a poor image of, and sense of, not being connected with their neighbourhoods because of their environment of absentee landlords and general physical neglect. The tree planting program, by giving residents a feeling of involvement and a measure of control over their surroundings, spawned numerous paint-up, fix-up parties, neighbourhood watch associations and community garden projects. An atmosphere of community was frequently established that expressed itself in numerous ways long after the initial tree planting was completed.

This approach is not unique. Inner-city gardening projects have been enormously successful in most urban communities where they have been organized. The Philadelphia Green program sponsored by the Pennsylvania Horticultural Society has initiated more than 1,300 projects at a 1988 cost of more than $1.5 million. Featured on national television, this program has virtually transformed several depressed neighbourhoods of inner Philadelphia into vital communities displaying enthusiasm, pride and economic revival without displacing the original residents.

It is surprising, however, that such examples of urban rejuvenation go largely unnoticed and that programs that permit residents to introduce nature into inner-city neighbourhoods are rarely listed among priority approaches for addressing urban problems. ***It may be that the conventional wisdom that holds lawns, trees and flowers as purely decorative with little fundamental human value is so deeply ingrained in the minds of planners and city managers that they are blind to successful programs even in their own communities.***

It may seem ludicrous to propose that guns, drugs and violence can be effectively countered by the practice of urban horticulture. Although lawns and gardens cannot necessarily correct social ills, it is likely that the changes in the attitude and outlook of the residents could.

Physiological Impacts of Nature

Although the psychological value of nature in the human environment is supported by most pertinent research, there are a number of studies that show that nature can promote physiological benefits as well.

One study focused on the rate of recovery from stress using students at the University of Delaware. Volunteers (60 men and 60 women) were subjected to emotional stress by viewing a relatively graphic videotape of work-related accidents.

After a short rest, they looked at a tape of a natural setting or one of either vehicular or pedestrian traffic in an urban setting. Each tape was accompanied by an appropriate sound track set at a decibel level consistent with the scene being viewed. While watching the stressor and recovery tapes, subjects were monitored for the following physiological activities: muscle tension, skin conductance and pulse transit time (a non-invasive measurement that correlates well with blood pressure).

As expected, all subjects responded to the stressor tape with increased muscle tension, greater conductance and pulse transit time (elevated blood pressure). While watching the recovery tapes, all students exhibited a reversal of the stress measures, but those looking at the natural setting recovered more quickly and more completely. Viewing the street vehicular traffic or pedestrian traffic in a shopping mall caused a more prolonged duration of stress than did experiencing scenes and sounds of nature.

The authors concluded that everyday surroundings can significantly influence an individual's physiological state and rate of recovery from stress. Therefore, it appears that a preference for nature manifests itself at both psychological and physiological levels.

In a more 'classic' study, one researcher employed hospital records to assess the impact of a window view on the performance of patients recovering from gallbladder surgery.

Patients assigned to the surgical wing of a suburban Pennsylvania hospital between 1972 and 1981 were grouped into 23 similar pairs matched by sex, age, smoking habits, obesity, and previous hospitalization history. The rooms in the wing were identical except that half of them had a window that overlooked a park with trees, lawns and flower gardens, while the other rooms had a window view of the brick wall of an adjacent hospital wing. Data were collected only from patients who were admitted during the period from May 1 through October 20 when the trees were in foliage.

Highly significant differences in patient recovery performance were noticed between members of each pair. Those with a view of the park were discharged almost a full day earlier than patients with the view of the wall. The amount of pain medication required by the wall-view patients was about three times greater than for patients with the park view.

Apparently, the visual stimulus provided by a view of nature has beneficial physiological impacts that may very well derive from positive psychological responses. In any event, the experiences of nature positively influences both the mental and physical health of individuals.

Implications for Golf Courses

What does this have to do with golf courses and their management? It is clear that the natural environments that evoked the highest preference ratings and appeared to elicit the most positive physiological responses are just the sort of views common to a well-designed, mature golf course. The unobstructed views of trees, water bodies and other natural features with a smooth ground surface and a curved vanishing point that invites further exploration are all common to golf courses and are features that promote maximum preference. Thus, if you need to relax and seek relief from the stresses of life, you could find few places close to home better than a golf course. Perhaps this partly explains the enormous popularity of golf with people of all ages and socioeconomic statuses.

The presence of golf courses in urban or suburban settings should be considered community assets. Golf courses provide psychological and physiological benefits not only to those who utilize them directly, but also to passersby, nearby home owners and those who simply know they are close by.

Golf courses could be better integrated into the community fabric by incorporating hiking trails, picnic areas and benches for relaxation and observation of nature. This vision of golf facilities as positive contributors to the physical and mental health of the community and its residents could do much to dispel the image of elitism and frivolous extravagance in which they are sometimes viewed.

Evidence exists that strongly supports the value of open, park-like spaces to a community. It should take no leap of imagination to see golf courses in a similarly positive light.

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