The Design Your Own Park Competition

Empowering Neighborhoods and Restoring Outdoor Play on a Citywide Scale

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This article describes the thinking behind and the implementation of the Design Your Own Park (DYOP) Competition, a collaborative project of a university, a city, and a fund-raising organization to empower neighborhoods and restore outdoor play citywide in Binghamton, New York. The city makes vacant lots and other neglected spaces available for neighborhoods to turn into parks that residents design and build with the assistance of faculty and students from Binghamton University's Binghamton Neighborhood Project. The United Way of Broome County assists with funding required for implementation. Neighborhood groups help maintain their parks, which increases ongoing interactions among neighbors and reduces city maintenance costs. While it is too early to access the DYOP Competition fully, it provides a science-based model for other cities seeking to coordinate efforts around large-scale community projects. **Key words:** Binghamton Neighborhood Project; Design Your Own Park Competition; Elinor Ostrom; Evolution Institute; neighborhood organizations; park design

THE DESIGN YOUR OWN Park Competition (DYOP), launched in 2010, is a collaborative effort among Binghamton University's Binghamton Neighborhood Project, the United Way of Broome County, and the city of Binghamton, New York, to enhance opportunities for unstructured play on a citywide scale by empowering neighborhoods to create parks of their own design. Like most American cities, especially those in the Northeast, Binghamton is experiencing economic hardship, but the city is rich in at least one respect—it has many vacant lots and other neglected spaces. By making these available to neighborhood groups, the collaborating organizations seek to turn a liability into an asset.

Neighborhoods typically are not well suited for collective action. From the richest gated communities to the poorest ghettos, most people scarcely know their neighbors. But there is nothing like a common goal such as creating a

neighborhood park to bring people together. Good, old-fashioned, practical know-how and a reliance on the scientific literature about what makes groups function well or poorly can help organize neighborhoods. For this particular project, Binghamton University faculty members participating in the Binghamton Neighborhood Project provide the scientific expertise, and their students serve as eager helpers.

Creating and maintaining parks requires money, of course, and city budgets have lately been stressed to their limits. But people and organizations are still willing to give to good causes, and the United Way is well organized to coordinate fund-raising efforts. Thus the United Way of Broome County joined the city and the Binghamton Neighborhood Project to help turn residents' dream parks into reality. The fact that neighborhood groups are expected to keep up their own parks as much as possible presents another win-win situation by relieving the city of maintenance costs while providing a basis for ongoing relations among the neighbors.

Although DYOP is only a little more than a year old and cannot be called a proven success, it still provides a model for other cities because of the scope of its vision and the scientific principles that have contributed to its design.

The Science behind the
Design Your Own Park Competition

Neighborhood parks have been built by people simply coming together, without the help of scientists or a citywide program such as DYOP. The rationale of DYOP to promote neighborhood parks, in fact, seems clear enough without any scientific principles. Nevertheless, philosophical and scientific issues dwell beneath the surface of intuitive understanding. Why do people cooperate under some circumstances and not others? Why is working together so fulfilling and productive under some circumstances yet so tedious and counterproductive under other circumstances? What is it about a park that people regard as so important?

The Evolution Institute, an independent public-policy organization affiliated with The Binghamton Neighborhood Project, works with scientists from a variety of disciplines—including evolutionary biology, economics, political science, sociology, anthropology, and psychology—to provide useful answers for groups attempting to achieve a common goal, such as a single neighborhood

park or a citywide program for promoting neighborhood parks. Organizers of DYOP drew upon the work of the institute and designed the project with the following scientific principles in mind.

The importance of allowing local groups to manage their own affairs

Elinor Ostrom made headlines in 2009 as the first woman to win the Nobel Prize in economics. Her work is noteworthy for project purposes because she showed that groups of people are capable of managing their common resources, at least when certain conditions are met. This is in contrast to conventional economic wisdom, which holds that common-resource situations invariably result in overuse and that the only solutions are to privatize the resource or to regulate it externally (Ostrom 1990, 2005; Poteete, Janssen, and Ostrom 2010; Cox et al. 2010).

Ostrom and her associates assembled a worldwide database of groups that attempted to manage common resources such as fish stocks, forests, pastures, groundwater, and irrigation systems. An examination of Ostrom's database shows that in order to succeed such groups must coordinate their activities, refrain from short-term gain to achieve long-term sustainability, and work to provide common benefits at their own expense. There is always the potential that someone will cheat by taking more than one's share of the resource and providing less than one's share of the work. Nevertheless, groups can excel at managing their common resources for long periods and even have a good time doing so.

Based on the worldwide database and on the theoretical principles of political science, game theory, and evolutionary theory, Ostrom identified eight design features that enable groups to manage successfully their commons. These include well-defined groups, proportional costs and benefits, consensus decision making, the ability to monitor good conduct, graduated sanctions to punish transgressions, fast and efficient conflict-resolution mechanisms, the authority for local groups to manage their own affairs, and interactions among local groups that reflect the same principles as interactions within groups.

Although Ostrom focused her attention on groups that manage natural resources, her design features are equally relevant to any group trying to achieve a common goal—including creating a neighborhood park. DYOP draws on Ostrom's work in two significant ways. First, DYOP creates a valuable common resource for neighbors to share. Second, it helps neighborhood groups acquire the design features. Once again, it is important to emphasize that even though

the design features might seem highly intuitive, groups do not necessarily adopt them on their own. So coaching and the incentives provided by the judging criteria are needed. Wilson, Marshall, and Iserhoff (2011) discuss how Ostrom's principles relate both to the DYOP competition and to the experience of other groups attempting to build playgrounds, parks, and community spaces.

Harnessing the motivating power of between-group competition while avoiding its destructive potential

We are inherently a group-living species, and the motivation to compete with other groups lies ingrained in our psychology (Berreby 2008). We are familiar with this fact from our common experiences, which include the popularity of team sports, the tendency of adolescents to form gangs, and the violent conflicts between groups around the world. There are even team competitions based on mental acuity, such as Science Olympiad, Odyssey of the Mind, and Mathletes. Science has done much to advance our knowledge of group psychology, and this knowledge is useful in harnessing the motivating power of competition between groups while avoiding its destructive potential.

DYOP was designed to encourage a friendly competition among groups and to develop team spirit and pride at the citywide level. The competitive element often causes groups to become more motivated and to develop a greater sense of team spirit than if they were using private funds to develop a park. Because all plans receiving an "excellent" rating will be implemented if funds allow, the competition will be repeated, and groups can freely borrow successful ideas from other groups, the competition itself remains friendly.

Using variation and selection to discover best practices

The three ingredients of evolution are variation, selection, and inheritance. Genetic evolution is based on genetic variation, natural or artificial selection, and genetic inheritance mechanisms. There is more to evolution than genetics, however, including psychological and cultural processes that count as evolutionary (Jablanka and Lamb 2005, Richerson and Boyd 2005, Wilson 2007). Indeed, every new solution to life's problems originates from a variation and selection process.

DYOP is explicitly designed as a managed process of cultural evolution. Each group that enters the competition becomes an independent social experiment. No one can predict how well it will function or what ideas will emerge from the group's brainstorming. In other words, there will surely be variation

in the plans that groups submit, which can be selected according to carefully designed judging criteria. Implementing the best plans and making them available to all groups for a future round of competition counts as inheritance, the cultural equivalent of genetic inheritance mechanisms. A second round of selection occurs when plans that are implemented succeed to varying degrees. In this sense, the practices that work best in the neighborhoods can be said to evolve, though of course the neighborhood groups and DYOP officials—and not nature—choose to continue those that work best.

The importance of beautiful, natural surroundings
All animals are genetically adapted to seek habitats that increase their chances of survival and reproduction. When they are forced to live in barren habitats, they become physiologically and psychologically stressed. Applied to our own species, this means that people find joy in water, in lush vegetation, in flowers and fruit, in nondangerous animals, and in structures that afford protection and safety. Our habitat-seeking instincts evolved over many millions of years in natural environments, and we cannot turn them off, of course, when we move into cities. Extensive research shows that barren urban landscapes cause stress and that providing natural surroundings substantially improve mental, physical, and social health (E. O. Wilson 1984; Ulrich et al. 1991; Kellert 2005; Grinde and Patil 2009).

A recent study of hospital recovery patients vividly illustrates the power of natural environments to improve health (Park and Mattson 2009). Eighty female patients who underwent thyroid surgery were assigned to identical rooms except some had plants and others did not. Patients with foliage and flowering plants in their rooms required less pain-killing medication; registered lower ratings of pain, anxiety, and fatigue; experienced more positive feelings about their rooms and their hospital stay; and left the hospital sooner than patients in rooms without plants.

DYOP holds that individuals reap similar benefits from natural spaces in their neighborhoods, which explains the joy and tranquility that most people experience when they visit a beautiful park. Neighborhood parks can provide the same kind of physiological and psychological benefits as plants placed in a hospital patient room. There is a tendency to regard concern for aesthetics, such as the appreciation of beauty, as more superficial and dispensable than concern for bread-and-butter issues such as education, jobs, and crime. To the contrary, creating an aesthetically pleasing park in a neighborhood is arguably

the most cost-effective way to improve the quality of life and can even address some of the bread-and-butter issues, as discussion of the following principles demonstrates.

The importance of unstructured play in mixed-age groups for children
We are a cultural species. We have a prolonged childhood and live to an advanced age because we have so much to learn, as youngsters, and to teach, as adults. This holds true for all cultures, especially for hunter-gatherer societies where members practice and improve subsistence skills well into adulthood (e.g., Liebenberg 1990; Kaplan et al. 2000; Bock 2005; Gray, forthcoming). Yet, in hunter-gatherer and many other traditional societies, there is almost nothing that resembles formal education. Instead, children gather in mixed-aged groups. The younger kids try to imitate the older kids, and the older kids want imitate the adults who provide explicit instructions when needed. Most learning takes place in self-motivated observation, exploration, and play (Gray 2009; Hewlett and Lamb 2005).

Through free play (that is, play directed by children themselves), children acquire valuable cultural and social skills—including, especially, skills in getting along with others, negotiating differences, abiding by agreed-upon rules, overcoming impulsiveness, and following through on self-generated plans. These skills cannot be taught in a top-down way; they can only be learned through practice. From the earliest hunter-gatherer cultures to our own, free play with other children has been a primary means by which children have practiced and learned such skills. The drive to play is nature's way of motivating children to learn the range of skills they must acquire to become competent adults.

Mixed-age groups can be a potent defense against bullying, which might otherwise cause problems for unsupervised groups of children. A thirteen-year-old boy might be tempted to employ aggressive tactics against same-age peers but not in the presence of eight-year olds or eighteen-year-olds. Research in mixed-age settings suggests that the presence of younger children has a pacifying effect on older children and adolescents and that older children and adolescents intervene to prevent and stop aggression in younger ones (Gray and Feldman 2004). In addition, adults can provide loose oversight without micromanaging the play activities of children.

As the opportunities for free play have declined in America over the past fifty years, the lives of children have become increasingly structured by adults. During this same period, psychologists and medical researchers have docu-

mented a continual and dramatic rise in childhood anxiety, depression, obesity, and other mental and physical disorders (Twenge et al. 2010). Researchers have also documented a continual decline in young people's perception of the control they have over their own lives (Twenge et al. 2004). Traditionally, play has been the primary means by which children practice and exert control over their own actions and by which they develop fit bodies. Although correlation does not prove causation, a causal link between the decline in free social play and the declines in the mental and physical health of young people seems fully plausible (Gray 2011a).

Peter Gray, a psychologist at Boston College closely associated with DYOP, has spent many years researching the benefits of self-motivated play in mixed-age groups. He has found that children and adolescents enjoy playing together and that what he calls "age-mixed" play is particularly conducive to learning. In such play, younger children learn physical, intellectual, and social skills from older ones, and older children practice skills in nurturing, leading, and teaching—which help them develop a sense of their own growing maturity (Gray and Feldman 2004; Gray 2011b). In short, the considerable benefits of free, mixed-age play suggest new, highly feasible, cost-effective educational strategies. By providing a safe environment for unstructured play for mixed-age groups, neighborhood parks become part of the solution for bread-and-butter issues such as education and healthy child development.

The importance of safety, relaxation, and playfulness in adults

Fear and stress help us cope with immediate threats but become toxic when experienced for a long time, as Robert Sapolsky (2004) describes in *Why Zebras Don't Get Ulcers*. The long-term welfare of both individuals and societies requires a feeling of safety, relaxation, and playfulness in which immediate threats are absent, as Barbara Frederickson (2009) describes in *Positivity: Top-Notch Research Reveals the 3-to-1 Ratio That Will Change Your Life*.

We make a mistake when we regard quality time as somehow less important than getting down to business, just as we err when we regard beautiful surroundings as less important than bread-and-butter issues. To the extent that a neighborhood park provides a place for adults to relax, reflect, and get together, it enables them to "broaden and build" (a phrase used by Frederickson) their personal qualities and their relationships with each other. Once again, a seeming luxury, such as a neighborhood park, provides solutions for a bread-and-butter issue such as adult social welfare.

The importance of social control and how it can emerge spontaneously
Social life is always vulnerable to exploitation, and in any group some members simply fail to do their part. Unless a group monitors and punishes transgressions at a low cost to the enforcers, cooperation within the group becomes difficult to maintain. Rewards are even more important than punishments. The healthiest social environments provide abundant rewards for good behavior coupled with mild punishment for bad behavior and the capacity for more severe punishment when required (Biglan 1995, Gintis et al. 2005).

Sociologists have measured the capacity for social control in a neighborhood by asking residents to rank the truthfulness of such statements as "If there were a fight in this neighborhood, neighbors would interfere," and the research shows that social control (the capacity to enforce good behavior) is even more important than social cohesion (how much neighbors like each other) for the overall quality of a neighborhood (Sampson 2004).

Social control emerges spontaneously when neighbors know each other and interact positively with each other on a daily basis (Jacobs 1961). When older residents of Binghamton recall their childhoods, they frequently comment that their neighbors could ground them for their misbehavior by calling their parents. They regarded this kind of social control as liberating, not confining, because it gave them the freedom to go more places and do more of what they wanted to do as long as it was within certain bounds.

Some neighborhoods in Binghamton still have this liberating form of social control, but others have lost it. DYOP is designed to encourage neighbors to meet on a daily basis and to interact in the creation, use, and maintenance of their park. The liberating form of social control emerges spontaneously from such interactions and benefits the neighbors in ways that extend far beyond a park's boundaries.

The importance of scientific assessment
The benefits of a neighborhood park might seem obvious, but they are seldom measured. University involvement in the DYOP Competition provides both the expertise and the work force (in the form of students working for course credit) to assess what happens when a group organizes to create a neighborhood park.

The Binghamton Neighborhood Project has developed an innovative way to assess neighborhoods through a survey called the Developmental Assets Profile (DAP), created by Search Institute, an organization that has been using

science to study communities for over fifty years. DAP measures the personal assets of students and their social assets, such as family, neighborhood, church, school, and extracurricular activities. Working with the Binghamton City School District, the Binghamton Neighborhood Project administers the DAP to all public-school students in Grades 9–12 on an annual basis and links the survey information to the residential locations of the students, measuring how the neighborhoods vary in addition to how the individual students vary. When this information is plotted on Geographical Information System (GIS) maps, the city of Binghamton appears as a rugged topography of hills and valleys representing neighborhoods that respectively scored high and low in developmental assets (Wilson et al. 2009). This innovation allows the project, by administering the DAP survey at regular intervals, to measure how the assets of neighborhoods, as viewed by the children living in the neighborhoods, change over time. If a neighborhood improves on the basis of a park project or any other intervention, the change appears on the project's GIS maps as an increase in elevation, like a valley rising up into a hill (Wilson 2011).

In addition, the neighborhood project conducts a door-to-door survey of adults and an evaluation of the built environment in every neighborhood that enters the DYOP competition. The project also attempts to assess a second neighborhood matched for socioeconomic variables that has yet to enter the competition as a control to the study. This provides baseline information so that if a neighborhood does improve by entering the DYOP Competition, the project can measure the improvement with a high degree of confidence. A second door-to-door survey and evaluation of the built environment should show improvement in the DYOP neighborhood. No improvement is expected in the control neighborhood, of course. In addition, children from the DYOP neighborhood should report higher developmental assets on the DAP, but not those from the control neighborhood, and so on.

These seven scientific principles result in features of the DYOP Competition that seem obvious enough, but the importance of what I call the "science behind the scenes" should not be underestimated. Just because something seems intuitive—or even obvious in retrospect—does not mean that people automatically converge upon it. Even when people do the right thing, knowing why it is the right thing can provide a strong argument on its behalf—making, for example, a park that seems an unaffordable luxury during hard times into a cost-effective necessity that improves physical, mental, and social health. Finally, many people who want to do good are plagued by the notion that their contribution will not

make a difference, resulting in a cost to them and offering no gain for anyone else. Having confidence that a group effort will work—and can be proven to work by rigorous assessment—can have a positive effect on the willingness to join such an effort.

That's All Very Good in Theory, but How Does It Work in Practice?

As planning began for DYOP in 2010, the mayor's office informed the author about a group that was already trying to improve its existing neighborhood park with little progress despite good intentions by all involved. Knowing that funds were limited, the group requested only modest improvements, but even these seemed to have gotten lost in a sea of red tape. This group became a prototype for the DYOP concept and has made excellent progress since, despite the vicissitudes of any real-world group activity. The prospect of genuine development after years of inaction—and of being able to design their own park at a much more ambitious scale than they previously imagined—proved highly motivating for the group. A brainstorming party at the park garnered wide attendance and produced ideas by a landscape architect that transformed the design.

Because DYOP requires that a park must reflect the interests of all residents, from the youngest to the oldest, the design included features for older children and adults in addition to young children. The group held a competition to rename the park, now called Sunflower Park based on an entry submitted by a child. The initial group, which consisted of a small number of highly committed volunteers, grew larger and became more structured, along the lines of the design principles described earlier in this article. There were problems—the first events provoked complaints by some neighbors about the music, for example—but the steering committee developed a structure to assess the opinions of the neighborhood residents and to manage such conflicts fairly and efficiently. Periodic events such as a Halloween party and small steps toward the creation of the park have provided a basis for ongoing interactions. The city installed the below-ground water and electricity for the park that enabled its above-ground installation to begin in the spring of 2011, a year after the beginning of the project.

Most people who became involved in the Sunflower Park project attest to its empowering effect on the neighborhood. As expected, when neighbors meet to discuss the park, they also discuss their other concerns. They have formulated

additional plans, such as one for an after-school homework club or for making healthy food available, which involve the park but also go beyond it. The existence of the group and its relationship with the city and the Binghamton Neighborhood Project facilitate matching the needs of the neighborhood to the city's available services and identifying and remedying gaps in its services.

The competition itself was launched in June with a press conference and signs on vacant lots eligible for the competition. Very few neighborhood groups rushed to join the competition. Not many neighborhoods were sufficiently organized to act in such a coordinated fashion. Instead, numerous individuals throughout the city expressed interest, and they discovered that the task of forming a neighborhood group was the first step they needed to take. Thus, the idea of a synchronized competition failed to materialize, and the project started working with groups to develop their plans at their own pace.

The groups also started to diversify beyond the project's original conception of neighborhood parks. The idea of a dog park appealed to dog owners throughout the city, and a high-school student initiated the idea of a BMX (bike motorcross) park. The project decided that theme-based parks were as worthy of development as neighborhood parks and expanded the scope of DYOP to include them. The project also discovered that existing city parks could serve as locations for projects in addition to vacant lots and other neglected spaces.

In September 2010, the Evolution Institute organized in Binghamton a symposium that served as a national referendum for the competition as it unfolded. The symposium brought together experts in the sciences, leaders of major organizations that facilitate the construction of playgrounds and community spaces around the country, and authors such as Lenore Skenazy (2009) and Hara Estroff Marano (2008), who champion the importance of play and public spaces. The symposium stimulated interest in the DYOP Competition and enabled the groups already involved to learn directly from the experts. Symposium participant Hindi Iserhoff represented City Repair, an organization that promotes turning intersections into vibrant community spaces (Wilson, Marshall, and Iserhoff 2011). Her talk inspired the resident of one of the toughest sections of the Binghamton to propose an intersection project rather than a park project, which expanded the scope of DYOP still further.

Five projects were initiated in the first year of DYOP Competition. The prospect of empowering one's own neighborhood or interest group through the creation of a public space has proved more motivating than the competition itself. The field of possibilities has expanded beyond parks to include

intersections, parking lots, and buildings. In short, DYOP evolved during its first year—fitting for a program designed with evolution in mind. As the idea catches on, and if the first efforts succeed, we might see additional ones over the next few years, each empowering a neighborhood or interest group to take charge of its own affairs. Even though this experiment is in progress, it is well worth the attention of other cities.

<div align="center">REFERENCES</div>

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