
4-H Center for Youth Development



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The Developmental Benefits of Nonformal Education and Youth Development

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This monograph examines the developmental benefits of youth development, with specific attention to the 4-H youth development program. Nationally 4-H touches the lives of more than 6.8 million youth ages 5 to 19 and their families and communities each year, and includes the efforts of over 600,000 adult volunteers. 4-H reaches these young people through a variety of outreach methods in diverse settings, including 4-H clubs, school enrichment programs, and after school activities and special projects. The young people come from every kind of community, and from diverse cultural and economic backgrounds. Given the scope and diversity of 4-H outreach, this monograph is concerned with two primary questions. First, what are the foundational elements that characterize these diverse youth developmental activities? Second, in light of these elements or characteristics, how do we know that youth development makes a difference in the lives of youth, families, and communities?



The second question is particularly important for 4-H. Understanding the factors that make a difference in the lives of youth, families, and communities is essential to the historic mission of 4-H and its basis in the land-grant universities. Nearly forty years ago the basic purpose of 4-H was defined as “the development of

boys and girls so that they may become responsible and capable citizens” (Kelsey and Hearne, 1963, p.40). From this perspective, our most general purpose is not unlike most other youth development organizations – but it is the methods that distinguish 4-H youth development activities from other youth developmental efforts. While recreation is important for youth and their development, 4-H youth developmental practices employ recreation not as an end goal, but as one method for engaging youth in science-based education. The history of 4-H has been defined by science-based, nonformal educational activities that are family- and community-based (Wessel and Wessel, 1982).

Our base in the land-grant universities provides an historic emphasis on science as the basis for the youth developmental activities that define the program (Horn, Flanagan, and Thomson, 1998). 4-H is science-based not only with regard to the substantive content of the educational activity (in diverse areas such as science literacy, aerospace technology, or animal science). It is also developmental science-based in its teaching methodologies that acknowledge the developing cognitive, behavioral, and social needs of children and adolescents. Curricula are designed to be age appropriate, and to build and enhance skills over multiple years of involvement

Like formal education, nonformal education is based on a commitment to learning and knowledge acquisition, and scientifically sound curriculum and resources.

(Enfield, 2001; Van Horn, Flanagan, and Thomson, 1998).

In the section that follows, I draw from research on nonformal education to provide a framework for understanding common elements of 4-H activities that transcend differences in methods, settings, and the backgrounds and experiences of youth. Once these elements are defined I turn to the question: How do we know that youth development makes a difference? I draw from several subfields within developmental science in an examination of past research that supports the key elements of nonformal education and youth development. Research on extracurricular activities, parental involvement, and school enrichment are reviewed from a youth developmental perspective. (I do not suggest that these are the only relevant areas of developmental science, but rather offer them as examples of emerging research literatures that may inform work in the field of youth development research and programs.) Finally, the limited published research on the efficacy of 4-H programs for promoting youth development are discussed.

What are the fundamental elements that characterize youth development?

Understanding nonformal education

The 4-H program was one of the first youth-focused organizations to employ nonformal education as a means of reaching youth – and educating adults (Van Horn, Flanagan, and Thomson, 1998). Nonformal education shares several of the important characteristics of

formal education (learning that takes places in primary and secondary public and private school settings). Like formal education, nonformal education is based on a commitment to learning and knowledge acquisition, and therefore relies on carefully designed and scientifically sound curriculum and resources (see Table 1). In other ways, however, nonformal and formal education are quite distinct. First, while formal education is based in a school building, nonformal education can take place anywhere in a community. Nonformal education may use clubs, camps, group meetings, sporting or arts activities, or youth-led events to carry out educational work. It takes place in diverse locations and in varied forms because it is based on the needs or interests of youth and their communities. Thus, activities are community- and youth- driven, rather than based in standardized guidelines for necessary skills and knowledge. Certified teachers conduct formal education, while trained professionals, volunteers, and other youth are engaged with young people in nonformal educational activities. Finally, while students are typically tested and graded in formal educational settings, nonformal education recognizes and awards youth for their achievements and accomplishments (Walker, 1998; Walker and Dunham, 1996).

This comparison highlights the differing goals, methods, and outcomes of formal and nonformal education. However, while these are important distinctions, it is also true that formal and nonformal education are not mutually exclusive. In recent years, many formal educators have taken on the principles of nonformal education to motivate

Table 1: Formal and Nonformal Education Compared

FORMAL EDUCATION	NONFORMAL EDUCATION
<i>Committed to learning</i>	<i>Committed to learning</i>
<i>Carefully planned curriculum</i>	<i>Carefully planned curriculum</i>
Takes place in a physical building	Occurs anywhere in a community
Based on standards for knowledge	Based on community/youth interests and needs
Certified teachers	Training professionals and volunteers
Youth are tested and graded	Youth accomplishments are recognized and celebrated

(derived from Walker, 1998)

and engage young people in educational activities inside the school classroom. At the same time, through school enrichment, 4-H efforts have had a strong tradition of taking nonformal educational curriculum or resources into formal educational settings (Rasmussen, 1989). A leading example is in the field of science education; research on nonformal science programs in school classrooms or after school programs indicates that they have positive effects both inside and outside the classroom (Ponzio and Fisher, 1998).

The benefits of nonformal education

Nonformal education as expressed through youth development and 4-H is developmentally beneficial in a number of important ways. It involves:

- Personal choice,
- Experiential learning, and
- The development of personal relationships.

Activities that encourage young people to choose their programs and projects are important because they offer youth the flexibility and freedom to explore their emerging interests (Van Horn, Flanagan, and Thomson, 1998). Central to Dewey's understanding of democratic education was the importance of numerous and varied interests (Dewey, 1916). When youth can choose the activities in which they participate, they have opportunities to practice and develop decision-making skills. These activities also encourage young people to clarify their interests and values. Choice in program activities and goals also enables non-formal education to respond to community concerns and needs (Walker and Dunham, 1996), and encourages young people to become involved in activities that are meaningful to them and their communities (Carver, 1996; 1998).

Hands-on or experiential learning has long been a key characteristic of 4-H programs. Nonformal education uses experiential learning activities to foster the development of knowledge and skills (Enfield, 2001). 4-H youth development activities are designed to be engaging and interactive as they sequentially build skill sets. This active learning helps youth build confidence in themselves and their abilities.

Finally, nonformal educational activities foster the development of personal relationships, not

only among youth, but also between youth and caring adults. As a result, young people develop interpersonal skills in nonformal settings; they learn how to interact with peers outside the classroom, and they learn how to interact with adults in the community. Through interaction with multiple caring adults outside the family, young people receive guidance, direction, and feedback that reinforces or builds on the efforts of parents and extended family. Finally, access to multiple adult role models in addition to parents benefits youth emotionally, scholastically, and interpersonally (Walker, 1998).

These dimensions of nonformal education – personal choice, experiential learning, and the development of personal relationships – foster positive youth development, regardless of the method, setting, or backgrounds of the youth involved. The remainder of the monograph considers evidence from the developmental science research literature on the efficacy of nonformal education.

How do we know that youth development makes a difference?

Extracurricular Activities

In recent years there has been renewed interest among developmental scientists in activities outside the traditional school curriculum – extracurricular activities. Organized sports, subject area clubs (music, fine arts, language, political, religious, or identity-based), and student government activities play important roles in the lives of many contemporary youth. A generation ago these activities were described as fostering the development of interpersonal skills and personal relationships (Otto, 1975), both of which are primary components of nonformal education and youth development philosophies. Further, involvement in extracurricular activities is defined by youths' interests and choice, and is usually characterized by active engagement in school- or community-based activities.

More recent research attention has been given to the positive benefits adolescents gain through participation in extracurricular activities, including bolstered self-esteem,

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improved academic attainment and aspirations, lower rates of delinquency (Holland and Andre, 1987), higher levels of political and civic engagement (Glanville, 1999), and the development of leadership skills and peer popularity (Mahoney and Cairns, 1997). In a study of over 400 families in rural Iowa, a strong link was found between extracurricular activities during junior high and high school and competence along multiple dimensions during the last year of high school. Youth who are consistently more involved showed significant gains in school grades, perceived achievement in school, and peer competence (popularity and friendships) across the high school years. School and community activities were found to promote an increase in self-confidence between the 8th and 12th grades (Russell, Elder, and Conger, 2000). A teenager who grew up on a family farm observed:

...when I got into 4-H I started doing presentations and stuff, and became confident with myself. My self-esteem has gone up. I think I've gained a lot of leadership abilities from it.

Several recent studies have begun to address previously unresolved questions related to extracurricular activities. First, who most benefits from these activities and organizations? Most research attention has been given to the effects of extracurricular activities on privileged students – those most likely to be involved in extracurricular activities (Otto, 1976). However, recent work indicates that such activities have been found to be particularly important for the long-term academic success and motivation of “at risk” or marginalized youth (Mahoney and Cairns, 1997). For these youth, extracurricular activities provide needed adult-organized social and educational opportunities. The degree to which extracurricular activities play a role in the resilience process is an area that deserves further research attention.

The second set of questions is more complicated: How much is too much? Are more activities better than fewer? And, are some activities “better” than others? Some have worried that involvement in extracurricular activities may be similar to youthful employment; research has documented negative effects on academic performance and aspira-

tions when youth work more than 20 hours per week (Mortimer and Finch, 1996). It is argued that this is not true of extracurricular activities because the activities are more relevant to future work roles and identity than most youth jobs, which are typically based in the service sector and require little skill or training. Further, youth have teachers, coaches, music directors, and peers that are active with youth and monitor their extracurricular activities. By being active with youth they are able to see when youth are doing too much, and encourage them to stop, unlike the work environment (Blyth, 1998). However, the same researchers warn of the misconception that the more involved a child is, the more he or she will benefit (Blyth, 1998). Recent studies show that more activities are better only if the activities are diverse. For example, participation in multiple sports activities is no better for school performance than participating in one sport (Eccles and Barber, 1999). Further, this work indicates that while involvement in extracurricular activities is associated with positive educational trajectories and lower rates of involvement in risk behavior overall, involvement in sports is the exception. Sports participation is associated with positive academic trajectories, but with higher rates of alcohol use (Eccles and Barber, 1999). The authors suggest that some activities both grow out of and reinforce emerging adolescent identities; a youth sports culture that supports drinking alcohol alters the risk prevention benefits of extracurricular activities.

Involvement in multiple and diverse activities fosters academic achievement and motivation, and a healthy sense of self. A long-time characteristic of 4-H has been that it offers many different kinds of activities in which youth can become involved; research on extracurricular activities affirms the importance of this broad range of activities for youth development. The emerging research on extracurricular involvement indicates that these activities play a beneficial role in adolescent development. Therefore, rather than being viewed as “extra,” these should be viewed as **essential-curricular activities** (Blyth, 1998).

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Family and Community Involvement

One of the founding characteristics of the 4-H club program was its emphasis on involving young people and their parents in community- or family-based activities. Historically this involved agricultural education for children that acted as the link between university-generated research and family farming practices (Rasmussen, 1989; Van Horn, Flanagan, and Thomson, 1998). As the focus of 4-H shifted from the explicit desire to educate about agriculture to the development of “responsible and capable citizens” (Kelsey and Hearne, 1963; Wessel and Wessel, 1982), 4-H programs retained their basis in family and community involvement. During the past decades, developmental science has demonstrated that like extracurricular activities, family and community involvement are beneficial for youth and their healthy development. Family and community involvement represent the literal human resources that families pass on to children. These human resources – involvement with caring adults in addition to parents and kin – are strong protective factors for multiple adolescent risks, including teen pregnancy, childbearing, and substance abuse (Resnick et al, 1997; Russell, 1994; 1998). Further, family and community involvement are among the factors most strongly associated with resilience for youth growing up in contexts characterized by adversity (Werner and Smith, 1992).

Community involvement has been shown to have an important intergenerational component as well. Children benefit not only from their own community involvement, but also from the involvement of their parents. Children whose parents are actively involved in the community report higher grades (Russell and Elder, 1997), perceive themselves to be better students, and report more successful relationships with peers (Mekos, Elder, and Conger, 2000). Strong community ties of parents are also associated with less time spent by children in unsupervised activities with peers. Thus, healthy youth development is maximized when youth have access through parents to human and material resources in their community (Mekos, Elder, and Conger, 2000). These parents involve their children in the life of the community, linking them to networks of caring adults who become invested in their development.

It goes without saying that parent involvement in the lives of youth is crucial for healthy development. Recent research dispels the myth that contemporary parents spend less time with their children than in the recent past (Sandberg and Hofferth, 2001). But what characteristics of parental involvement are associated with positive development? Research on rural families suggests that time spent together in joint activities between parents and children builds strong relationships. Among families in the Iowa Youth and Families Project, joint activities were common between mothers and children; the beneficial effects of joint activities for youth were particularly relevant when children were actively engaged in activities with their fathers (Russell, Elder, and Conger, 2000). A recent study of a family-based, hands-on science program demonstrated the efficacy of family involvement in youth developmental efforts. Among members of Families Having Fun with Science clubs, half of the youth and adults reported an increase in talking about things other than science following the program. In addition, more than one-quarter of youth and adults reported more frequent family meetings (Enfield, 2000). Research indicates that programs that actively encourage parent involvement provide parents with additional opportunities to learn about their children’s interests and reinforce skills and values (Smith, Hill, Matranga, and Good, 1995). In sum, joint activities within the family, or that are fostered by youth developmental programs, strengthen family relationships and thereby promote healthy development.

School Enrichment

Finally I give brief attention to one of the oldest methods of reaching youth through 4-H: school enrichment. Early in the history of 4-H, Cooperative Extension professionals began to reach out to youth through public schools. Advantages of school programs are that they provide easier access to a greater diversity of youth, many of whom for various reasons would not belong to a 4-H club or project group (Van Horn, Flanagan, and Thomson, 1998). In what ways does science-based school enrichment promote healthy development?

Students exposed to extracurricular science activities have more positive attitudes toward school science (Ponzio and Fisher, 1998).

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After involvement in school enrichment activities youth become more interested in science activities. They find learning science more enjoyable, more interesting, and more attractive, and they find science less difficult. They also feel more comfortable being involved in scientific activities (Hofstein, Maoz, and Rishpon, 1990)

A study of over 500 10th grade students in Israel examined nonformal science activities, including discussing what you learned in school, watching TV programs about what you learned in school, listening to radio programs about what you learned in school, and reading about science. Youth who were engaged in these activities were more likely to say that the science that they learned in school is a part of everyday life. Further, their attitudes towards science and science learning, intentions for further study, and career aspirations were higher than comparison youth (Tamir, 1990). The author concludes:

The strongest associations found in this study were between involvement in informal/nonformal science on the one hand and intentions for further study and career aspirations on the other hand (p.42).

Research on 4-H

What does research tell us about the benefits for youth, families, and communities of 4-H? Given our history in the land-grant universities, there is a frustratingly small body of research literature that examines the strengths and benefits of 4-H programs in the lives of youth, families, and communities. Some of this research is based on studies of youth involved in 4-H; other research focuses on 4-H adult volunteer leaders and their perspectives on the developmental benefits of 4-H and youth development.

Studies of 4-H youth

The development of life skills is the core of 4-H program efforts. Traditional program efforts in agriculture and animal science have demonstrated the effectiveness of 4-H curriculum and club involvement in developing knowledge and skills in agriculture (Gamon and Dehegedus-Hetzel, 1994). A retrospective study of over 50 animal science project alumni

in New Jersey reported that their experiences influenced their life skills; accepting responsibility and relating to others were the life skills rated highest by these alumni (Ward, 1996).

The development of leadership skills has been an historic focus of 4-H. With methods, settings, and youth populations that have been diverse, 4-H youth leadership programs have shown positive outcomes for youth and their leadership skills (Boyd, 2001; Kleon and Rinehart, 1998). In a study comparing 4-H club youth who had taken on county leadership roles with 4-H youth in non-leadership positions, those with county leadership rated high on a broad range of life skills. Scores were even higher for those who had leadership experiences beyond the county level (Cantrell, Heinsohn, and Doebler, 1989). A recent evaluation of a 4-H leadership program for inner city disadvantaged youth found that participants demonstrated significant increases in knowledge and skills related to decision-making and working with groups (Boyd, 2001).

A small number of studies have compared 4-H youth with their peers that are not active in 4-H. Among 666 Ohio public school children, participation in 4-H had a positive influence on children's perceptions of their competence, coping, and life skills (Miller and Bowen, 1993). In a study of over 300 4-H club members and over 500 non-4-H school children in Texas, 4-H members rated themselves higher than non-4-H youth on working with groups, understanding themselves, communicating with others, making decisions, and leadership skills (Boyd, Herring, and Briers, 1992). Among the 4-H youth in that study, greater involvement in the 4-H program was associated with higher scores on communication, working with groups, and leadership (Boyd, Herring, and Briers, 1992).

Finally, a growing body of work considers 4-H in non-traditional settings (that is, 4-H activities that take place apart from 4-H clubs, school enrichment activities, or school-age child care and after school activities. See Junge, Johns, George, Conklin-Ginop, and Valdez, 2000; Locklear

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and Mustian, 1998). Research on “teens as teachers,” or cross-age teaching, is one example. Based in the 4-H principles of nonformal education, many communities are engaging teenagers as teachers of younger youth (Murdock, Lee, and Paterson, 2000). Social learning theories recognize the developmental reality that younger children view teenagers as role models to be emulated; building from that model, many communities have used cross-age teaching as a strategy to engage younger children in education. Several recent studies have demonstrated the efficacy of cross-age teaching for promoting positive development for both young children and the teens acting as teachers. In these programs, young children have shown increased academic achievement, conflict resolution skills, and the development of collaboration skills. For the teens who take on the role of teacher, these activities contribute to a healthy sense of self (increased confidence and self-esteem), and a view of oneself as a valued member of the community (Jorgensen, 2000; Ponzio and Fisher, 1998; Ponzio, Junge, Smith, Manglallan, and Peterson, 2000).

Studies of 4-H volunteer leader

Two recent studies have investigated the benefits for youth of 4-H participation, but have shifted the attention to adult club and project leaders as study informants. A Wisconsin study of 566 4-H leaders focused on the benefits of 4-H to youth and communities (Taylor-Powell, Hutchins, and Reed, 1997). According to the adult leaders, benefits to youth included psychological, intellectual, and social development. Psychologically youth were said to gain empathy, self-esteem, sense of self, self-worth, pride, confidence, and creativity. Socially 4-H helped youth learn the value of community service and citizenship, including how communities function and how things get done at the community level. Intellectually youth learned and practiced leadership, teamwork, cooperation, problem-solving, organizational skills, public speaking, oral and written communication, and environmental awareness. As one 4-H Club leader said:

Learning about caring, sharing, responsibility for our land, community and the people we live with helps youth become responsible adults.

4-H leaders also described economic, environmental, social, and civic benefits to communities where 4-H youth are actively involved. 4-H service projects represent monetary savings for local communities. Communities were literally cleaner due to the emphasis in 4-H on environmental education and awareness. Social benefits included the development of a sense of connection and cohesion, both among youth and between youth and adults in the community. Finally, the development of responsible citizens and a shift among residents to viewing youth as assets were important civic benefits (Taylor-Powell, Hutchins, and Reed, 1997).

The North Region of the University of California Cooperative Extension conducted a large-scale study of 4-H adult leaders in 1995. Over 800 club and project leaders participated in a survey of attitudes about the effectiveness of their 4-H clubs in developing youth (Junge, George, Humphrey, McAllister, DeLasaux, and Conklin-Ginop, 1999). Results indicate that leaders with higher education and who had been club or project leaders for longer periods of time felt less positive about the effectiveness of their clubs. It may be that leaders with high levels of education may have higher expectations for the club program, and that older leaders may base their expectations about the club program on their experiences at a time when program and funding resources were more plentiful. On the other hand, past 4-H leader training and reliance on club management and policy information from 4-H professional sources were associated with higher ratings of club effectiveness. These findings affirm the importance of training to support youth development volunteers, and the benefits of close collaboration between program staff, volunteer leaders, and participating youth for successful youth programs (Junge, Russell, and Polen, 2001).

In sum, past research has affirmed the role of 4-H in promoting positive youth development. Given the wide range of program settings, methods, and target populations, much more work must be done to examine the short- and long-term influence of 4-H and other youth developmental programs in the lives of young people.

Social learning theories recognize the developmental reality that younger children view teenagers as role models to be emulated; building from that model, many communities have used cross-age teaching as a strategy to engage younger children in education.

Conclusions

This monograph has considered research that affirms the important developmental role played by 4-H and other nonformal education, youth development programs in the lives of children and adolescents. Because of 4-H's 100-year history in youth development, the danger exists that 4-H activities are undertaken solely because they are a tradition, or because they are meaningful in the lives of youth and adults. These reasons are not unimportant; they have personal and institutional value. However, more than ever, public youth programs like 4-H are being asked to be accountable for public financial support. I have pointed to research that can be useful for articulating the importance of investing in youth development based on its developmental benefits for children, families, and communities. Youth development professionals and volunteers can draw from emerging research literatures in developmental science to focus, plan, and evaluate on-going community-based work with youth.

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Research and evaluation have been an important foundation of the 4-H program, and play a crucial role in public accountability. Perhaps because there has been so little empirical research in the field of youth development, this review illustrates that we have relied on varied methods and sources of data in past studies. This presents a challenge as we try to synthesize our knowledge in the field; however, it also provides a basis for strength. We have a starting point in studies not only of youth, but of volunteer leaders as well. Other work not reviewed here has examined the benefits of 4-H programmatic efforts on parents (Junge, Johns, George, Conklin-Ginop, and Valdez, 2000), and on the dynamic between youth and adults when they enter into partnerships (Camino, 2000). Attention to multiple information sources and youth development settings will help the field build multidimensional understandings of the role of youth development in the life of a child, family, or community.

Finally, further attention to basic and applied developmental science can help us interpret or provide critical analysis for emerging models for youth development. As youth development

has grown as a professional field, so have models for describing the role of youth and youth activities in the community context. In recent years, youth development efforts and its goals have been framed as America's Promise (America's Promise, 2001), ABCs (Carver, 1998), Five Cs (Competence, Confidence, Character, Connections, and Contributions; Pittman, Irby, and Ferber, 2000), developmental assets (Leffert, Benson, Scales, Sharma, Drake, and Blyth, 1998), or even as Heads, Hands, Health, and Heart (to name but a few). Our basis in the land-grant university system provides us with resources and responsibility to work with communities as they learn about and apply these models in efforts to facilitate youth development. ☞

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