

Training Today's Youth for Tomorrow's Jobs



Wisconsin Family Impact Seminars

*An initiative of the University of Wisconsin-Madison
Chancellor's Office and School of Human Ecology,
with financial contributions from Phyllis M. Northway.*



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Training Today's Youth for Tomorrow's Jobs

Briefing Report for the 34th Wisconsin Family Impact Seminar

First Edition

Edited by

Karen Bogenschneider

*Director, Wisconsin Family Impact Seminars
Rothermel-Bascom Professor of Human Ecology
University of Wisconsin-Madison*

Heidi Normandin

*Associate Director, Wisconsin Family Impact Seminars
School of Human Ecology
University of Wisconsin-Madison*

Hilary Shager

*Associate Director
La Follette School of Public Affairs
University of Wisconsin-Madison*

Mark Japinga

*Project Assistant
La Follette School of Public Affairs
University of Wisconsin-Madison*

*Layout & Production by
Deborah Hewko*

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Purpose of the Wisconsin Family Impact Seminars

Since 1993, the Wisconsin Family Impact Seminars have provided objective, high-quality research on timely topics identified by state legislators. The seminars promote greater use of research evidence in policy decisions and encourage policymakers to view issues through the lens of family impact. The family impact lens highlights the consequences that an issue, policy, or program may have for families, so policymakers can make decisions that strengthen the contributions families make for the benefit of their members and the good of society.

The award-winning Family Impact Seminar model is a series of presentations, discussion sessions, and briefing reports for state policymakers, including state legislators and their aides, the Governor and gubernatorial staff, legislative service agency analysts, and state agency officials. The seminars also provide neutral, nonpartisan opportunities for legislators to engage in open dialogue for fostering relationships and finding common ground.

“Training Today’s Youth for Tomorrow’s Jobs” is the topic of the 34th Wisconsin Family Impact Seminar. For the briefing report for this seminar and other resources, visit our website at <http://wisfamilyimpact.org>. Watch and listen to audio and video of almost 100 renowned seminar speakers who discuss research on topics affecting Wisconsin families. Check out 33 Family Impact Seminar briefing reports that overview the latest research on the topic, and draw implications for families and for policy decisions. Several checklists and tools are available for viewing issues through the lens of family impact.

For information on the Wisconsin Family Impact Seminar series, contact:

Karen Bogenschneider

Director, Wisconsin Family Impact Seminars
Rothermel-Bascom Professor of Human Ecology
University of Wisconsin-Madison
4109 Nancy Nicholas Hall
1300 Linden Drive
Madison, WI 53706
(608) 262-4070
karen.bogen@wisc.edu
<http://wisfamilyimpact.org>

Heidi Normandin

Associate Director
Wisconsin Family Impact Seminars
School of Human Ecology
4128 Nancy Nicholas Hall
1300 Linden Drive
Madison, WI 53706
(608) 263-2353
hjnorman@wisc.edu
<http://wisfamilyimpact.org>

Presenters at the 34th Wisconsin Family Impact Seminar

The 34th Wisconsin Family Impact Seminar featured the following national experts:

Daniel G. Sullivan

Executive Vice President and Director of Research
Federal Reserve Bank of Chicago
230 S. LaSalle Street
Chicago, IL 60604
(312) 322-5790
www.chicagofed.org

Burt S. Barnow

Amsterdam Professor of Public Service and Economics
Trachtenberg School of Public Policy and Public Administration
The George Washington University
805 21st Street, NW
Washington, DC 20052
(202) 994-6379
barnow@gwu.edu
www.tspppa.gwu.edu/burt-barnow

Robert I. Lerman

Institute Fellow, Urban Institute
Emeritus Professor of Economics, American University
2100 M Street, NW
Washington, DC 20037
(202) 261-5676
blerman@urban.org
www.urban.org

Briefing Reports

Each Family Impact Seminar is accompanied by an in-depth briefing report that summarizes the latest research on the topic and draws implications for families and for policy decisions. Since 1993, 34 seminars have been conducted on topics such as corrections, early brain development, evidence-based budgeting, foster care, growing the state economy, jobs, long-term care, Medicaid, prisoner reentry, school funding, and workforce development. For a list of the seminar topics and dates, visit the Wisconsin Family Impact Seminar website at <http://wisfamilyimpact.org>. For each seminar, you can view the list of speakers, download a briefing report, and access the audio and/or video of the seminar presentations. Legislators can request a complimentary bound copy of any report directly from the Wisconsin Family Impact Seminars at (608) 263-2353.

FIS 34	Training Today's Youth for Tomorrow's Jobs.....	November 2015
FIS 33	Helping Foster Kids Succeed: State Strategies for Saving Lives, Saving Money.....	February 2015
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FIS 31	Preparing Wisconsin's Youth for Success in the Workforce	February 2013
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FIS 29	Evidence-Based Budgeting: Making Decisions to Move Wisconsin Forward	January 2011
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FIS 3	Can Government Promote Competent Parenting?.....	January 1994
FIS 2	Single Parenthood and Children's Well-Being	October 1993
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Former Representative Penny Bernard Schaber	

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Executive Summary

Will Wisconsin have the workers it needs for tomorrow's jobs? Older workers are retiring, and one of six young people today lack strong connections to school or work. By 2020, nearly two-thirds of jobs are expected to require some postsecondary education. This briefing report focuses on the question policymakers face: How can Wisconsin prepare today's youth who are unlikely to get a four-year degree for the jobs needed in tomorrow's economy?

The Family Impact Seminars view policy issues through the lens of research and family impact. Cutting-edge research demonstrates that effective workforce training can help youth transition into a successful work and family life, while producing the skills employers need. This report reviews what makes youth workforce training effective, which research-based programs teach occupational and employability skills, and how cost-effective apprenticeships are for training workers in the nation's fastest-growing occupations.

The first chapter of the briefing report, *Improving the Odds of Success: What Research Says About Youth Workforce Training*, was written by Professor Burt S. Barnow, an endowed chair in public service and economics at the George Washington University. Barnow provides guidance for policymakers on how workforce training can improve the job prospects of youth and help ensure the success of Wisconsin's economy. Based on 40 years of evaluation experience, he offers several strategies for increasing the odds that youth training programs will be effective and an efficient investment of taxpayer dollars. To train youth for jobs, employers need to be part of the woodwork. Employers can provide youth with on-the-job training and ensure that training meets the demand for jobs, now and in the future. Training is more effective when youth learn both hard and soft skills, and when remedial and occupational skills are taught together in the same classroom. Completing training can be challenging, especially for low-skill and low-income youth. Youth who face financial challenges can benefit from a stipend that is tied to high performance expectations. Holding youth to high expectations works well when matched with high support from program and professional staff.

Robert I. Lerman, Emeritus Professor of Economics at American University and Institute Fellow at the Urban Institute, wrote the second chapter, *Apprenticeships: Helping Youth Develop the Skills Needed by Today's Employers*. Apprenticeships are a cost-effective training program that combine serious work-based learning and classroom instruction at very modest cost to government. Apprentices are employees, so they earn while they learn with close guidance by mentors. For youth who have trouble entering and staying in the labor force, apprenticeships provide an incentive to work hard learning skills that lead to careers that pay well. In surveys, nearly all employers believed that apprenticeships helped them meet their skill demands, and 3 in 4 reported improved productivity. For taxpayers, by the time former apprentices reach age 65, each dollar invested yields a remarkable return of \$23 in benefits. South Carolina expanded its Registered Apprenticeship Program at modest cost, and Wisconsin is one of only a few states that operate a youth apprenticeship program. In 2014-15, the Wisconsin Youth Apprenticeship

Program reached 2,500 high school juniors and seniors in one of its 10 career clusters. The lowest student enrollments that have room for growth were in STEM (science, technology, engineering, and math); architecture and construction; information technology (IT); and arts, A/V technology, and communications.

It is hard to think of youth without thinking about their families. Wisconsin youth are growing up in a new world. The population is aging and jobs are changing. The future of the Badger State will depend now more than ever on how well prepared the next generation is to become productive workers and committed family members. If society is able to provide youth with occupational and employability skills, they will be prepared to step into the jobs a sound economy demands. If those jobs provide a steady income, young people will be willing to commit to marriage and the family life that a strong society requires.

In sum, as older workers retire, the state is faced with the challenge of providing opportunities for all its youth to achieve workforce success. Some young people will face more barriers than others—those who are battling mental health and addiction issues, those who already are parents, and those with criminal convictions. Policies that support youth in surmounting barriers to workforce success are likely to pay a solid return on investment. Youth who achieve economic success will contribute to a sound economy. Youth who achieve success in family life will raise responsible children who become productive workers and committed family members. The success of one generation leads to the success of the next.

Improving the Odds of Success: What Research Says About Youth Workforce Training

by Burt S. Barnow

Amsterdam Professor of Public Service and Economics
Trachtenberg School of Public Policy and Public Administration
The George Washington University

Policymakers can use research findings to guide decisions about how workforce training can improve the job prospects of youth and help ensure the success of Wisconsin's economy. Based on 40 years of evaluation experience, Barnow offers several strategies for increasing the odds that youth training programs will be effective and an efficient investment of taxpayer dollars. To train youth for jobs, employers need to be part of the woodwork. Employers can provide youth with on-the-job training and ensure that training meets the demand for jobs, now and in the future. Training is more effective when youth learn both hard and soft skills, and when remedial and occupational skills are taught together in the same classroom. Completing training can be challenging especially for low-skill and low-income youth. Youth who face financial challenges can benefit from a stipend that is tied to high performance expectations. Holding youth to high expectations works well when matched with high support from program and professional staff.

Youth with limited education and experience in the labor force face difficult odds for success in work and family life. An aging society presents increased employment opportunities as older workers retire. Yet youth need the education, vocational skills, and soft skills to earn decent wages in the jobs that a sound economy demands. Without a steady income, young people are less willing to commit to marriage and the family life that a strong society requires.¹ Because tomorrow's jobs increasingly call for postsecondary education, policymakers are focusing on youth between the ages of 17 and 24 who are the prime age for entering the workforce. Decades of research on the effectiveness of workforce training can provide guidance for policymakers interested in improving the job prospects of youth and ensuring the success of Wisconsin's economy.

This chapter is based on my experience evaluating and managing workforce training programs for more than 40 years. I begin by identifying barriers that successful workforce training programs need to overcome. Then, drawing from program successes and failures across many studies, I offer five strategies for improving the odds that workforce training for youth will be effective and an efficient investment of taxpayer dollars.

What are the Barriers to Successful Workforce Training?

Publicly funded workforce training programs in the United States began on the heels of the Great Depression. The success of youth employment and training programs depends upon knowing what barriers need to be overcome in youth, training institutions, and firms.²

Burt S. Barnow

Without a steady income, young people are less willing to commit to marriage and the family life that a strong society requires.

Youth entering the workforce may lack basic academic skills in reading, math, and writing.³ Others may lack communication skills such as how to speak to their boss, ways to interact with co-workers, and what it takes to manage conflict. Some have not learned professional behaviors such as showing up, being on time, dressing appropriately, and completing assignments.⁴ Some youth face financial challenges in paying for training, and others experience time challenges in balancing the demands of school with the responsibilities of parenting.⁵

Training institutions face challenges in working with both employers and students. Training providers may find it challenging to reconcile their views of workers with those held by employers. Training providers feel rewarded if they are able to qualify workers for rewarding positions, whereas employers feel rewarded if they have qualified workers to make their firms run smoothly. Effective trainers are open to learning what the needs of industry are, how to speak the language of employers, and what hard and soft skills workers need to succeed on the job.⁶ In addition to connecting with employers, training providers face increasing pressure to quickly move students through training, while still equipping them with essential occupational and employability skills. Resource constraints squeeze the time available for advising students, providing support services, and responding to special needs such as financial aid and remedial education.⁷

Firms are often wary of working with government and with other firms. However, providing training to industry sectors, which include several firms, requires collaboration. Firms that compete with each other may believe that having their own training program helps them beat the competition, making them reluctant to share curriculum decisions with their rivals.⁸ Firms also are reluctant to provide on-the-job training or apprenticeships for fear of “poaching”—paying wages to train an employee who is hired away by another firm.⁹

What Does it Take for Youth Workforce Training to Succeed?

Training programs for youth need to be carefully planned and implemented. The most recent evaluation of one of the early U.S. workforce training laws, the Job Partnership Act that targeted disadvantaged youth and adults, was conducted in 1996. Programs for disadvantaged adults had positive impacts on earnings, with benefits to the nation that exceeded the cost. Surprisingly, the programs for disadvantaged youth were ineffective.¹⁰ Since the time of this evaluation, some promising youth programs and practices have emerged. Based on my experience evaluating workforce training programs, I provide five take-away messages about what it takes to effectively train youth for workforce success.

(1) Publicly Funded Workforce Training Programs Need Solid Engagement from Employers

When the ultimate goal is to place people in jobs, employers need to be “part of the woodwork” of workforce training.¹¹ Without employer engagement, programs will not be successful.¹² Despite many ways that employers can be involved, too often engagement is simply recruiting them to serve on advisory committee. As training

Without employer engagement, workforce training programs will not be successful.

programs are being developed, employers can serve valuable roles in identifying emerging occupations and local employment opportunities. They can help design curriculum, serve as instructors or guest presenters, and/or donate equipment and materials to use in training. To help ensure the success of workforce training, employers can provide paid on-site internships and apprenticeships, and commit up-front to hire program graduates.¹³

Training providers often involve employers as advisers, but they could involve employers as clients through customized and sector-based training. Customized training is designed for a single employer, whereas sector-based training meets the needs of a group of employers that hire people in the same occupation or industry.

Customized Training. Training providers can work with individual firms to provide training for their existing workers or to fill new positions. What sets customized training apart from other workforce training is the close consultation with employers to ensure trainees emerge with the skills and competencies needed for a specific job.¹⁴ In return for this individualized training, the federal Workforce Innovation and Opportunity Act (WIOA) requires employers to commit to hire program graduates and to pay “a significant portion” of the training costs.¹⁵

States often offer customized trainings to new or expanding businesses to influence location decisions. Though states may be reluctant to offer customized training, studies show the investment pays off. For creating jobs, customized training incentives have proven to be 10 to 16 times more effective per dollar of investment than tax incentives (see Bartik chapter in the 2009 Family Impact Seminar briefing report, *Growing the State Economy*, at <http://wisfamilyimpact.org>).

For the investment that trainers make in customized training to pay off, firms must make an upfront commitment to hire the trainees. Even though firms are initially reluctant to commit to hire graduates, firms who have done so find that the benefits far outweigh the costs. Training costs are subsidized by government, and customized training provides a high-performance workforce that is productive from day one and long into the future.¹⁶

Sector-Based Training. Working across multiple firms in an industry sector or a cluster of occupations offers the advantage of creating more job opportunities. Three mature sectoral programs were evaluated using a rigorous treatment/control design. **Jewish Vocational Service-Boston** is a nonprofit organization that provides 20 to 22 weeks of training for disadvantaged participants including refugees, immigrants, and welfare recipients. **Per Scholas** is a New York City organization that provides 15 weeks of training for low-income people on the repair and maintenance of computers, printers, and copiers. A third nationally acclaimed model is the **Wisconsin Regional Training Partnership** (WRTP) located in Milwaukee. WRTP is an association of employers and unions that provide two to eight weeks of training in construction, manufacturing, lead abatement/hazardous materials, and commercial driver’s licenses.¹⁷ WRTP is a membership organization with funding from public, philanthropic, and private investors. For example, the construction industry contributes two cents per hour worked to a workforce development and diversity fund (see the 2011 Wisconsin

For creating jobs, customized training for a single employer is 10 to 16 times more effective than tax incentives.

Family Impact Seminar Briefing Report, *Positioning Wisconsin for the Jobs of the Future*, at <http://wisfamilyimpact.org>).

The majority of participants in these sector-based programs had a minimum of a high school education or GED, and most had limited labor market success. Roughly, 30% were under age 24, and about one in five had been convicted of a felony. All three programs taught vocational skills, offered employability training, and provided support services. Two provided internship programs for participants to gain on-the-job experience.

Participants in sector-based training targeted to specific occupations or industries resulted in large employment and earnings gains.

In a rigorous evaluation conducted two years later, sector-based workforce training targeted to specific occupations or industries resulted in large employment and earnings gains. For the 12-month period beginning one year after random assignment, those assigned to the sector-based training earned \$4,000 more than those assigned to the control group. Young and old, men and women, African Americans and Latinos, welfare recipients, and ex-prisoners all saw large impacts on earnings.¹⁸

(2) Publicly Funded Workforce Training Programs Need to Connect Trainees with Employers and Employment

Employment is not only the outcome of workforce training, but a means to providing employees with on-the-job experience that is likely to yield future benefits. Several approaches exist for integrating work experiences into the training such as apprenticeships, class projects conducted for employers, internships, job shadowing, visits to local employers, and so forth. (For a summary of the evidence on apprenticeships, see the companion article by Robert Lerman in this briefing report.)

One basic premise of workforce training is that it should be accompanied by strong student support and connections to employment. Career Pathways is an emerging workforce development model that integrates some of the innovative instructional approaches and support services of the last few decades.¹⁹ Career Pathways lay out a series of clearly stated and sequenced steps for building one's credentials. The Pathways are designed to be manageable for low-skill, low-income individuals who may have family and work commitments. The first step, which typically takes one year, often consists of 12 credits—the number of credits that some research suggests is an important “tipping point” for earning at least one marketable credential and for persisting in postsecondary education.²⁰ Each step on the career ladder prepares students to sequentially move toward earning additional credits and degrees that lead to middle-skill and high-skill jobs that pay higher wages.²¹ Career ladders vary in who they target, for what credentials, and which occupations. Their effectiveness has not yet been scientifically tested.²²

(3) Publicly Funded Workforce Training Programs Need to Pay Serious Attention to Soft Skills Training

Employers say training in occupational skills is not enough. To be effective on the job, workers also need employability skills, sometimes referred to as soft

skills.²³ Soft skills include critical thinking, individual responsibility, integrity, professionalism, self-management, sociability, teamwork, and so forth.^{24,25} Employers report that it takes longer to fill their job openings because many applicants lack these vital soft skills.²⁶

Several workforce training programs have been successful in teaching soft skills, exemplified here by promising evidence from a rigorous evaluation of Year Up. Year Up is a nonprofit organization that makes a serious commitment to teaching hard and “harder” (soft) skills combined with work experience, college credit, and support services. Year Up was founded in 2000 by Gerald Chertavian, a successful Wall Street entrepreneur dedicated to providing training and work experience for low-income 18-to 24-year olds (<http://www.yearup.org>).²⁷ Participants receive an initial six months of training for jobs in information technology, investment operations, and quality assurance along with important soft skills such as attendance, workplace behavior, and punctuality. These fields pay well and offer opportunities for career advancement. Students spend the next six months in internships in top companies located in 14 cities across the country. The program is funded, in large part, by corporate partners along with private foundations, individual contributions, and public funds.²⁸

The Year Up screening process is highly selective, requiring a minimum of a high school diploma or GED and the desire to succeed. Students learn technical skills specific to their career track. In addition, all receive basic training on operating systems and computer software for word processing, spreadsheets, and presentations. Students take classes in verbal communication and business writing, including composing and proofreading emails, memos, and reports.²⁹ Students are also taught business etiquette such as table manners, thank-you note composition, and appropriate dress and body language.³⁰ All students have access to program and professional staff to discuss training or personal issues.³¹

Year Up uses behavioral incentives to teach professional skills. Students receive a weekly stipend during the training and internship that is tied to a performance contract with rigorous requirements for every aspect of the job—showing up, being on time, dressing professionally, completing assignments, etc. If students occasionally fail to meet the requirements, they lose part of their stipend. If students repeatedly fail to fulfill requirements, they are expected to “fire themselves” and leave the program. Students who do not meet the program’s expectations are not allowed to graduate, and the employers are not required to pay.³²

In a rigorous evaluation after one year in the program, Year Up participants reported remarkable earnings gains compared to a control group. Their salaries were higher and their annual earnings were 30% more than equally qualified peers who did not participate in the program.³³

The program has brought undeniable success to its participants and overwhelming approval from employers. On the employers’ side, virtually all (95%) internship managers reported that the Year Up interns met or exceeded their expectations, which is a resounding endorsement of their grasp of hard and soft skills. Also,

The Year Up program ties performance requirements to training stipends, which are reduced if requirements are not met.

within four months of graduation, 85% of participants were either employed or attending college full time.³⁴

(4) Publicly Funded Workforce Training Programs That Integrate Remedial and Occupational Skills Motivate Trainees with Basic Skills Deficits

Research shows limited returns to workforce training that focuses on remedial education alone. Conventional wisdom says that students need to learn basic skills in math, reading, and writing before they learn occupational skills. However, this approach results in high dropout rates.³⁵ In fact, for adults in federally funded basic skills programs, only one-third of those who had planned to pursue postsecondary education actually ended up doing so. A more effective approach is focusing on “learning by doing” that teaches basic classroom and occupational skills at the same time.³⁶

One successful model is Washington State’s I-BEST (Integrated Basic Education and Skills Training), which is currently being taught in 35 of the state’s community and technical colleges. I-BEST aims to accelerate the progress of low-skilled adults through a series of certificates and credentials.³⁷ Its signature innovation is putting two instructors in each classroom (at least half of the time), with one focusing on basic remedial skills and the other on occupational skills; this approach provides motivation for students to increase their academic skills because they are taught in a meaningful context. The program offers courses in a wide variety of fields including nursing and allied health, computer technology, and skilled trades such as automotive repair. Students receive a number of supports including proactive advising, assistance with financial aid, and the “bundling” of the curriculum into short, manageable modules.³⁸

The signature innovation of I-BEST is two classroom instructors—one focused on basic remedial skills and one on occupational skills.

I-Best was evaluated using three research designs, all showing similar results. Students who participated in I-BEST earned substantially more college credits, were much more likely to earn an award (usually a certificate), and were moderately more likely to gain basic skills. No impacts were found for wages or hours worked, perhaps because students left the program just when the Great Recession began. Given the historic labor-market advantage of credentials, time will tell whether I-Best students earn more during better economic conditions.³⁹

The Accelerating Opportunity (AO) initiative, launched in 2011, is working to bring the I-BEST model of combined teaching of basic and occupational skills to scale. AO is now being implemented and evaluated in 40 colleges in Illinois, Kansas, Kentucky, and North Carolina.⁴⁰ In addition, the Health and Human Services (HHS)-sponsored Pathways for Advancing Careers and Education (PACE) demonstration is rigorously testing I-BEST and other career pathways approaches with nine providers, including Madison Area Technical College.

(5) Publicly Funded Workforce Training Needs to Provide Support Services as Part of the Program Mix

Not all trainees require support services but for those who do, they may mean the difference between success and failure. Even the best training program can fail if trainees do not have support in surmounting barriers to success, whether social or emotional, family or financial.⁴¹ Training providers can offer several types of assistance: personal (specialized advising, coaching, case management), instructional (tutoring, study groups, time management), social (learning communities, peer and alumni mentors), supportive (child care, transportation, substance abuse, domestic violence, mental health), and financial (assistance completing financial aid forms, grants, scholarships).⁴²

No research study has explicitly examined the importance of support services. Yet their value is indicated in the successful Year Up model, which is guided by high expectations and high support. Students are told that “the most respect we can pay you is to expect a lot from you.”⁴³ The low-income young people in Year Up often face significant barriers such as criminal convictions, children to care for, or trouble learning English. These young people may lack a support network for dealing with issues such as depression, post-traumatic stress disorder, self-medication, and sexual abuse. Year Up program staff consistently emphasize the high expectations of the private sector while, at the same time, providing high support from social workers and clinical psychologists. According to CEO Gerald Chertavian, “Without this support in place when a crisis inevitably occurs, few students would be able to complete the program.”⁴⁴

Findings from an implementation study of the Accelerating Opportunities Program revealed that a dedicated support person, sometimes called a navigator, was instrumental in linking students to on-campus and off-campus support services. Concerns were expressed that the quality of services declined when coordinators and instructors took on this responsibility, rather than hiring a navigator.⁴⁵

Conclusion

Workforce training may improve the odds that youth will transition into a successful family life. Workforce training that takes current research into account provides youth with the opportunity to learn marketable skills that can lead to careers that pay well. When young people secure careers that allow them to become self-sufficient, the benefits spill over to their personal and family life.⁴⁶ Psychological well-being increases, relationships become stronger, and parenting improves. Investments in workforce training for youth cost money, but it is difficult to put a price tag on strong families that raise the next generation of workers and citizens.

Burt S. Barnow is the Amsterdam Professor of Public Service and Economics at The George Washington University. Previously, he was Associate Director for Research at Johns Hopkins University’s Institute for Policy Studies. Prior to that, he worked at the Lewin Group and the U.S. Department of Labor, including four years as Director of the Office of Research and Evaluation in the Employment and

Training programs can fail if trainees do not have support in surmounting barriers—whether social or emotional, family or financial.

Burt S. Barnow

Training Administration. He has co-edited 2 books and published 84 scientific papers and reports on workforce development programs, innovative strategies to promote self-sufficiency for low-income families, helping foster youth transition into the labor market, performance management, program evaluation, labor economics, etc. He has conducted many evaluation studies of Department of Labor programs. He chaired the Performance Committee of the Maryland Governor's Investment Board, and has served on 10 National Academy of Sciences (NAS) committees, one of the highest awards bestowed on researchers. Dr. Barnow received his Ph.D. in economics from the University of Wisconsin-Madison.

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Apprenticeships: Helping Youth Develop the Skills Needed by Today's Employers

by Robert I. Lerman
Emeritus Professor of Economics, American University
Institute Fellow, Urban Institute

Apprenticeships are a cost-effective training program that combines serious work-based learning and classroom instruction at very modest cost to government. Apprentices are employees, so they earn while they learn with close guidance by mentors. For youth who have trouble entering and staying in the labor force, apprenticeships provide an incentive to work hard learning skills that lead to careers that pay well. When young people can secure good-paying jobs, they are more apt to marry and live with their children. In surveys, nearly all employers believed that apprenticeships help them meet their skill demands and 3 in 4 reported improved productivity. For taxpayers, by the time former apprentices reach age 65, each dollar invested yields a remarkable return of \$23 in benefits. South Carolina expanded its Registered Apprenticeship Program at modest cost, and Wisconsin is one of only a few states that operate a youth apprenticeship program. In 2014-15, the Wisconsin Youth Apprenticeship Program reached 2,500 high school juniors and seniors in one of its 10 career clusters. The lowest student enrollments that have room for growth were in STEM (science, technology, engineering, and math); architecture and construction; information technology (IT); and arts, A/V technology, and communications.

Policymakers are searching for ways to deal with the highest rates of youth joblessness since the 1950s.

Policymakers are searching for ways to deal with the erosion of middle-class jobs and the highest rates of youth joblessness since the 1950s.¹ Today's young people face high underemployment and unemployment that jeopardizes their long-term success in work and family life.² Declining job prospects go hand-in-hand with the rise in unmarried parenthood among high school graduates with little or no college education.³

For decades, the transition from school to career has been challenging for youth. However, today's youth are exposed to less vocational education⁴, and employers increasingly are complaining about the mismatch between the skills they need and those youth possess.⁵

What can motivate young people to work and to develop skills that are valued in the job market?⁶ Policymakers are finding common ground on one strategy for achieving these goals—expanding youth apprenticeships.⁷ Apprenticeships are distinctive in meeting both the supply side and the demand side of the labor market. When robust apprenticeship systems are in place, youth learn employability skills for rewarding careers, youth unemployment is kept low, the state's productivity is kept high, and employers are ensured a workforce with strong technical and employability skills. What's more, these benefits accrue at very little cost to the public purse.⁸

This chapter begins by explaining what youth apprenticeships are and how they work. Next the chapter turns to the research evidence on youth apprenticeships—their costs and benefits for youth, employers, and taxpayers. The apprenticeship programs in Wisconsin are overviewed followed by the lessons learned from one of the country’s most innovative programs in South Carolina. The chapter closes with implications for state policymakers.

What Youth Apprenticeships Are and How They Work

Apprenticeships are a time-honored, cost-effective training program that increases productivity by combining serious work-based learning and classroom instruction at very modest cost to government.⁹ Apprentices are employees who participate at the workplace and earn a wage with close mentoring by professionals. Unlike part-time jobs, apprentices learn skills in formal classes and apply their learning at the workplace in a highly structured setting. Unlike on-the-job-training, apprentices take formal classes so they develop a mastery of the occupation, rather than simply the ability to do the job.¹⁰ Unlike internships, which are typically short-term, registered apprentices remain with the firm for four to six years and youth apprentices for one to two years.¹¹

Apprenticeships can begin as early as age 16 but typically take place after high school; the average age in the United States of a starting apprentice is his or her mid-20s. Community colleges frequently provide the academic instruction required for apprenticeships. The course work is generally equivalent to at least one year of community college.¹² In some cases, however, apprentices take enough course work to earn an associate’s degree.¹³

Sponsors of apprenticeship programs in the United States generally register their programs with the U.S. Department of Labor’s Office of Apprenticeship or with state apprenticeship agencies. Registered apprenticeships in the building trades have existed for over 100 years in the United States. Despite expansion to other trades, apprentices currently make up only 0.2% of the U.S. labor force.¹⁴ Apprenticeships primarily focus on construction and manufacturing occupations, with large-scale programs in carpentry, electrical, machining, maintenance, pipe-fitting, shipbuilding, and welding. Apprenticeships also are available in other occupations such as auto and truck repair, child care, long-term care, police and fire, trucking, and utilities. To respond to today’s high-growth occupations, apprenticeships are being developed in advanced manufacturing, healthcare, and information technology.

Registered Apprenticeships and some Youth Apprenticeships are subject to government- or industry-recognized training standards, particularly for their workplace component.¹⁵ Apprenticeships typically lead to an industry-recognized credential that certifies the capacity to perform the required tasks of a fully qualified worker in the occupation. Apprentices also learn employability skills required on the job such as communication, dealing with supervisors and coworkers, problem solving, responsibility, and teamwork.^{16,17}

Despite expansion to other trades, apprenticeships currently make up only 0.2% of the U.S. labor force.

Benefits to Young People

Young people find apprenticeships attractive because they are motivating, practical, and affordable. For many young people, it is motivating to learn by doing, particularly for those who perform better in work-based settings than in purely school-based ones.¹⁸ In stark contrast to the typical part-time job, some young people like the direct, practical connection between what they are learning in the classroom and what they are doing on the job. Finally, apprenticeships are affordable because young people earn while they learn and avoid amassing student debt.¹⁹

Constructive advice from adults while learning difficult tasks helps apprentices gradually develop independence and self-confidence.

Apprenticeships teach career skills, but at the same time play a positive role in young people's development. The adults involved in apprenticeships serve as mentors, on-the-job supervisors, and teachers. These adults provide guidance and demand professionalism, but still allow young people to learn from making mistakes. Constructive advice from adults while learning difficult tasks helps apprentices gradually develop independence and self-confidence.^{20,21} Apprenticeships, because of their course component, also can narrow the gap in postsecondary attainment for men and minorities. In addition, apprenticeships can build connections to the workforce for students who are less likely to attend a four-year college.²²

Benefits to Employers

Most firms benefit from investing in apprenticeships. Financially, the first year of apprenticeships involves significant costs in wages and supervision, but most firms recoup their costs during the training period itself. In a survey of 900 U.S. employers, the overwhelming majority believed apprenticeships are valuable and involve net gains. Nearly all believe the apprenticeship program helped them meet their skill demands, and 87% would strongly recommend registered apprenticeships. Surprisingly, only 1 in 4 employers regard "poaching" as a serious problem, where a firm trains an apprentice who is hired away by another firm. Even among employers concerned about poaching, 85% still highly recommend apprenticeships.²³

Employers report wide-ranging benefits of apprenticeships. In a study of 4,000 employers, nearly 3 in 4 mentioned improved productivity as a primary benefit and 4 in 10 said it helped them secure new business. For existing employees, apprenticeships raise worker productivity, increase worker morale, and reduce safety problems.²⁴ For new employees, apprenticeships save money in recruitment and training, and reduce the excessive costs when skilled workers cannot quickly be hired.²⁵ Because apprenticeships are employer-driven, it is much more likely that the skills taught are the very ones demanded in the workplace.²⁶

One important benefit of apprenticeships that is seldom captured in studies is its positive impact on innovation. When workers are well-trained on the firm's production processes, they are better positioned to make incremental innovations to both products and processes.²⁷

Costs and Benefits to Taxpayers

A primary advantage of apprenticeships is their low cost. Government costs for apprenticeships are modest in comparison to full-time schooling.²⁸

Studies show U.S. registered apprenticeships are extraordinarily cost-effective.²⁹ In a study of 10 states, participants in registered apprenticeship programs showed a \$6,000 to \$6,500 boost in earnings each year.³⁰ A cost-benefit analysis of registered apprenticeships was conducted in Washington state. By 2½ years after the program, registered apprentices earned an average of nearly \$78,000 more than a comparison group. The benefits to taxpayers were three times the cost. Considering gains to both taxpayers and participants, the benefits exceeded five times the cost. By the time former apprentices reach age 65, taxpayers received a remarkable \$23 in benefits for each dollar invested.^{31,32}

By 2½ years after the program, apprentices earned nearly \$78,000 more than a comparison group.

Wisconsin's Registered Apprenticeship Program

Each year in Wisconsin, employers train about 10,000 registered apprentices in about 200 different occupations. Registered Apprenticeships last between two and six years, but typically take four years. In 2014, 2,454 Wisconsin employers helped train apprentices in construction, industrial/manufacturing, and service trades. The Wisconsin Department of Workforce Development recently received a \$5 million grant to register new apprenticeships in 12 high-growth occupations such as advanced manufacturing, healthcare, and information technology (IT). In partnership with the Wisconsin Technical College System, they will expand existing programs and provide entry points for specific underrepresented populations. (For further information, contact Karen Morgan, Director of the Bureau of Apprenticeship Standards at the Wisconsin Department of Workforce Development.)

Wisconsin's Youth Apprenticeship Program

In the United States, the apprenticeship program is almost entirely separate from high schools and serves very few workers under the age of 25. Wisconsin is one of only a few states in the country that operates a youth apprenticeship program.³³ In the 2014-15 school year, Wisconsin's Youth Apprenticeship Program offered 1- to 2-year apprenticeship options to more than 2,500 high school juniors and seniors. The Wisconsin Youth Apprenticeship Program requires 450 to 900 hours in work-based learning and two to four related occupational courses. The program draws on industry skill standards, so those who complete the program receive a Certificate of Occupational Proficiency in the relevant field. Some students also receive technical college credits.

Given its track record since 2009, at least 75% of youth apprentices are expected to successfully complete their program and receive a state skill certificate. At least 60% of those who complete two years as apprentices are expected to be offered employment by the employer that provided the on-the-job training.

Recently, Wisconsin's Bureau of Apprenticeship Standards has been tasked with bridging youth apprenticeships to the state's registered apprenticeship program. Youth Apprentices can prepare students to enter the Registered Apprenticeship Program, but it is not a strict prerequisite.

Figure 1. Wisconsin's Youth Apprenticeship programs fall under 10 career clusters with enrollments varying by wage, gender, and minority status.

Enrolled Student Breakdown by Program Area (2014-15 Fiscal Year)

Program Area Name	Student Count	Average Wage	Female	Minority
Agriculture, Food, & Natural Resources	442	9.74	30% Female	2% Minority
Architecture & Construction	84	9.98	8% Female	21% Minority
Arts, A/V Technology, & Communications	5	9.26	60% Female	40% Minority
Finance	183	9.44	64% Female	12% Minority
Health Services	395	10.34	90% Female	12% Minority
Hospitality, Lodging, & Tourism	397	8.18	62% Female	9% Minority
Information Technology	74	9.06	12% Female	4% Minority
Manufacturing	617	10.01	8% Female	8% Minority
Science, Technology, Engineering, & Math (STEM)	95	9.23	25% Female	7% Minority
Transportation, Distribution, & Logistics	257	11.44	6% Female	4% Minority

**Data provided on September 24, 2015 by the Wisconsin Youth Apprenticeship Program, Department of Workforce Development.*

In Wisconsin, youth apprenticeships fall under 10 career clusters with the largest student enrollments in agriculture, food, and natural resources; health services; and hospitality, lodging, and tourism. The lowest enrollments in Wisconsin Youth Apprenticeships that have room for growth are in science, technology, engineering, and math (STEM); architecture and construction; information technology (IT); and arts, A/V technology, and communications.

Each broad field includes subfields with their own detailed skill standards. In health services, for example, the broad pathways are therapeutic services, health informatics, and ambulatory support services. All pathways require knowledge of the health industry, core employability skills, and safety in the job. Skill standards for the therapeutic pathway include dental assistant, medical assistant, nursing assistant, and pharmacy assistant. Health informatics involves operating all the software and managing the records for a medical office. Ambulatory support service modules cover imaging, other laboratory work, client services, dietary assistance, optometry, and physical therapy.

In Wisconsin, the Youth Apprenticeship Program is operated by 32 local partnerships, which include one or more school districts and at least one other partner such as Chambers of Commerce, Cooperative Educational Service Agencies, economic development corporations, nonprofits, technical colleges, workforce development boards, etc. The cost for the program is about \$2 million

The lowest enrollments in Wisconsin Youth Apprenticeships are in STEM; architecture and construction; IT; and arts, A/V technology, and communications.

annually, all of which goes to these local partnerships through grants that offer instructional programs, marketing costs, student services, and so forth. The annual cost per student is about \$850. (For further information, contact Cathy Crary, Section Chief for the Youth and At-Risk Populations Section at the Wisconsin Department of Workforce Development.)

South Carolina's Innovative Expansion

South Carolina substantially expanded its Registered Apprenticeship Program at modest cost. Apprenticeship Carolina™ funded a \$1 million a year expansion of its program housed at the state's technical college system. In addition, the state provided annual employer tax credits of \$1,000 per apprentice per year. The result? An average of one new employer-sponsored apprenticeship was registered each week, doubling the number of apprentices in the state over a 5- to 6-year period. The expansion created opportunities across broad industry sectors including advanced manufacturing, healthcare, and IT. In sum, 4,000 new apprenticeships were offered for a total of about \$1,250 each, including the cost of the tax credit.³⁴

What's more, the modest \$1,000 subsidy opened the door for conversations among educators and employers about establishing an apprenticeship program. The direct links created between the technical college and the business community have raised collaboration in South Carolina to an unusually high level.³⁵

Implications for State Policymakers

One fundamental question is, "If we build it, will they come?" Attracting workers to take advantage of apprenticeship programs is rarely a problem. So the relevant policy question is how to encourage employers to increase the overall number of apprenticeships.³⁶ In the spirit of stimulating discussion, several policy options for state policymakers are mentioned.

- **Develop effective and sector-based marketing to employers to build apprenticeship programs.** Two significant barriers to building apprenticeship programs are too many misperceptions and too little information. First, misperceptions abound such as that expanding apprenticeships will bring in unions. There is no evidence that adopting an apprenticeship program will expand unions, but the myth still persists. Second, employers are unlikely to hear about apprenticeships from other employers or from workers in other firms. To publicize apprenticeship programs, state government could provide leadership, incentives, or funding for marketing in state agencies, the two-year colleges, technical colleges, high schools, and so forth.³⁷ The state could build a top-notch marketing team that can effectively reach individual employers. The teams can listen to the firms and, where appropriate, tailor apprenticeship solutions to their human resource problems. The marketing teams could be state employees, private training firms, technical colleges, or community colleges.

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There is no evidence that adopting an apprenticeship program will bring in unions.

- **Incentivize effective expansion of apprenticeships.** Financial incentives such as pay for performance could ratchet up the engagement of training providers (usually two-year or technical colleges). The revenue that training providers receive for marketing or expansion could be earned only when additional apprenticeship slots are established with employers. Training providers could be incentivized by the way they are reimbursed. Conceivably, each additional apprenticeship slot would increase the work-based component of the student's education and reduce the classroom component. For example, assume that the work-based component accounts for 75% of the cost and the school-based component for 25%. Allowing training providers to keep more than 25% would be a strong incentive to actively work with employers to develop new apprenticeship entry points.³⁸ Employers could be incentivized with tax credits for setting up an apprenticeship program at their work site. States also could help employers fund their apprenticeships using existing state and federal dollars, including Pell Grants. Special incentives could be given for populations that face employment challenges such as ex-offenders, veterans, dislocated workers, or minorities.
- **Expand existing school programs that already work with employers.** A good place to start is with Career Academies, schools within high schools, and with quality career and technical education (CTE) programs that have an industry or occupational focus. Career Academies and CTE programs include classroom-related instruction and sometimes internships with employers in fields ranging from health and finance, to travel and construction. Expanding the work component into an apprenticeship would enhance the training students receive and provide workplace experience that could lead to a certificate of occupational proficiency. In a rigorous evaluation, Career Academies improved labor market and family outcomes, especially for young men. Eight years after high school graduation, young men in Career Academies had earned an average of nearly \$30,000 more than their peers. In addition, young men in Career Academies were more likely to be married, to be custodial parents, and to be living independently with their children (see Kemple chapter in the 2013 Family Impact Seminar briefing report, *Preparing Wisconsin's Youth for Success in the Workforce*, at <http://wisfamilyimpact.org>).
- **Tap into existing discretionary employment and training funds.** Under the Workforce Investment Act, governors have discretionary funding that could be used to stimulate apprenticeships and improve linkages with community colleges.³⁹
- **Incorporate apprenticeships into projects the state is already funding.** States could use construction projects and other projects that fund large numbers of workers to promote apprenticeships or other types of career-based training.⁴⁰

- **Capitalize on funding for vulnerable groups that experience employment challenges.** Funding already may be available for target populations that could benefit from apprenticeships, such as dislocated workers, ex-offenders, and veterans. Apprenticeships are consistent with the high premium these groups often place on earning money while undergoing training.⁴¹

Funding already may be available for populations that could benefit from apprenticeships, such as dislocated workers, ex-offenders, and veterans.

Conclusion

Expanding apprenticeships is a potential gamechanger for improving the lives of Wisconsin young people who have trouble entering and staying in the workforce. Apprenticeships are a cost-effective approach to building a workforce that helps produce the supply of workers Wisconsin needs and meet the demand for workers that employers require. Although apprenticeships should include high-end options in fields such as engineering and finance, they have special appeal to students who do not have the aptitude for or interest in a four-year degree. For these students, apprenticeships can provide the incentive to work hard and learn skills that lead to careers that pay well. When young people can secure good-paying jobs, they are more apt to marry and live with their children. Strong families raise responsible children who become productive workers and committed family members. The success of one generation leads to the success of the next.

Robert I. Lerman is an Institute Fellow in the Center on Labor, Human Services, and Population at the Urban Institute, and an Emeritus Professor of Economics at American University. Also, he is a Research Fellow at the IZA Institute for the Study of Labor in Bonn, Germany. He recently established the American Institute for Innovative Apprenticeship. Earlier in his career, he worked as a staff economist for both the Congressional Joint Economic Committee and the U.S. Department of Labor. Professor Lerman has testified before Congressional committees on youth apprenticeship, child support policies, and the information technology labor market. He has served on a prestigious National Academy of Sciences Panel on the U.S. postsecondary education and training system. Professor Lerman's research interests include apprenticeships, employment training, family structure, housing policy, and youth development. He was one of the first scholars to examine the patterns and economic influences on unwed fatherhood. Some of his early writing on unwed fatherhood was published with Theodora Ooms, the second director of the national Family Impact Seminar. Early in his career, he spent a year at the University of Wisconsin-Madison as a lecturer in the Department of Economics and as a Research Associate at the Institute for Research in Poverty.

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THE FAMILY IMPACT GUIDE FOR POLICYMAKERS

Viewing Policies Through a Family Lens

- ▶ Most policymakers would not think of passing a bill without asking, “**What’s the economic impact?**”
- ▶ This guide encourages policymakers to ask, “**What is the impact of this policy on families?**” “**Would involving families result in more effective and efficient policies?**”

When economic questions arise, economists are routinely consulted for economic data and forecasts. When family questions arise, policymakers can turn to family scientists for data and forecasts to make evidence-informed decisions. The Family Impact Seminars developed this guide to highlight the importance of family impact and to bring the family impact lens to policy decisions.

WHY FAMILY IMPACT IS IMPORTANT TO POLICYMAKERS

Families are the most humane and economical way known for raising the next generation. Families financially support their members, and care for those who cannot always care for themselves—the elderly, frail, ill, and those with disabilities. Yet families can be harmed by stressful conditions—the inability to find a job, afford health insurance, secure quality child care, and send their kids to good schools. Innovative policymakers use research evidence to invest in family policies and programs that work, and to cut those that don’t. Keeping the family foundation strong today pays off tomorrow. Families are a cornerstone for raising responsible children who become caring, committed contributors in a strong democracy, and competent workers in a sound economy.¹

In polls, state legislative leaders endorsed families as a sure-fire vote winner.² Except for two weeks, family-oriented words appeared every week Congress was in session for over a decade; these mentions of *family* cut across gender and political party.³ The symbol of *family* appeals to common values that rise above politics and hold the potential to provide common ground. However, family considerations are not systematically addressed in the normal routines of policymaking.

HOW THE FAMILY IMPACT LENS HAS BENEFITED POLICY DECISIONS

- ▶ In one Midwestern state, using the family impact lens revealed differences in program eligibility depending upon marital status. For example, seniors were less apt to be eligible for the state’s prescription drug program if they were married than if they were unmarried but living together.
- ▶ In a rigorous cost-benefit analysis of 571 criminal justice programs, those most cost-beneficial in reducing future crime were targeted at juveniles. Of these, the five most cost-beneficial rehabilitation programs and the single most cost-beneficial prevention program were family-focused approaches.⁴
- ▶ For preventing youth substance use, programs that changed family dynamics were found to be, on average, over nine times more effective than programs that focused only on youth.⁵

QUESTIONS POLICYMAKERS CAN ASK TO BRING THE FAMILY IMPACT LENS TO POLICY DECISIONS:

- ▶ **How are families affected by the issue?**
- ▶ **In what ways, if any, do families contribute to the issue?**
- ▶ **Would involving families result in more effective and efficient policies?**

HOW POLICYMAKERS CAN EXAMINE FAMILY IMPACTS OF POLICY DECISIONS

Nearly all policy decisions have some effect on family life. Some decisions affect families directly (e.g., child support or long-term care), and some indirectly (e.g., corrections or jobs). The family impact discussion starters below can help policymakers figure out what those family impacts are and how family considerations can be taken into account, particularly as policies are being developed.

FAMILY IMPACT DISCUSSION STARTERS

How will the policy, program, or practice:

- ▶ support rather than substitute for family members' responsibilities to one another?
- ▶ reinforce family members' commitment to each other and to the stability of the family unit?
- ▶ recognize the power and persistence of family ties, and promote healthy couple, marital, and parental relationships?
- ▶ acknowledge and respect the diversity of family life (e.g., different cultural, ethnic, racial, and religious backgrounds; various geographic locations and socioeconomic statuses; families with members who have special needs; and families at different stages of the life cycle)?
- ▶ engage and work in partnership with families?

Ask for a full Family Impact Analysis

Some issues warrant a full family impact analysis to more deeply examine the intended and unintended consequences of policies on family well-being. To conduct an analysis, use the expertise of (1) family scientists who understand families and (2) policy analysts who understand the specifics of the issue.

- ▶ Family scientists in your state can be found at <http://www.familyimpactseminars.org>
- ▶ Policy analysts can be found on your staff, in the legislature's nonpartisan service agencies, at university policy schools, etc.

Apply the Results

Viewing issues through the family impact lens rarely results in overwhelming support for or opposition to a policy or program. Instead, it can identify how specific family types and particular family functions are affected. These results raise considerations that policymakers can use to make policy decisions that strengthen the many contributions families make for the benefit of their members and the good of society.

ADDITIONAL RESOURCES

Several family impact tools and procedures are available on the website of the Wisconsin Family Impact Seminars at <http://wisfamilyimpact.org>.

¹ Bogenschneider, K., & Corbett, T. J. (2010). Family policy: Becoming a field of inquiry and subfield of social policy [Family policy decade review]. *Journal of Marriage and Family*, 72, 783-803.

² State Legislative Leaders Foundation. (1995). *State legislative leaders: Keys to effective legislation for children and families*. Centerville, MA: Author.

³ Strach, P. (2007). *All in the family: The private roots of American public policy*. Stanford, CA: Stanford University Press.

⁴ Aos, S., Miller, M., & Drake, E. (2006). *Evidenced-based public policy options to reduce future prison construction, criminal justice costs, and crime rates*. Olympia: WA State Inst. for Public Policy.

⁵ Kumpfer, K. L. (1993, September). *Strengthening America's families: Promising parenting strategies for delinquency prevention—User's guide* (U.S. Department of Justice Publication No. NCJ140781). Washington, DC: Office of Juvenile Justice and Delinquency Prevention.

Using Research to Build Better Public Policy for Families

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