

# Education and the Common Good

## Social Benefits of Higher Education in Kentucky

*Kentucky Association of Institutional Research, 2005 Conference*

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**KENTUCKY**  
LONG-TERM POLICY RESEARCH CENTER

# Mission Statement

*The Long-Term Policy Research Center will serve as a catalyst to change the way decisions are made in government by providing decisionmakers a broader context in which to make decisions, taking into consideration the long-term implications of policy and critical trends and emerging issues which are likely to have a significant impact on the state.*

# KLTPRC History

- Created in 1992 by the Kentucky General Assembly
- Intellectual architects
  - decades of experience in executive and legislative branches of state government
- Principal motivation
  - enrich policy process with forecasts and trend analysis
  - avoid problems and capture opportunities

# KLTPRC Organization

- Attached to the legislative branch
- A 21-member board
  - 4 members from the executive branch
  - 6 from the legislative branch
  - 11 at-large members who represent citizen groups, universities, local governments, and the private sector

# KLTPRC Purpose

- Help the state cope with *change*
  - anticipate change
  - manage change
- Focus on the future
  - identify critical trends and emerging issues
  - understand long-term implications of policies
- Advise, inform, and educate
  - policymakers and citizens

# KLTPRC Responsibilities

- Biennial trends report
  - tied to the state budget
- Identify and study long-term issues
  - scanning, surveys
- Consider alternative futures
  - scenario development
- Coordinate and encourage others to focus on long-term planning
  - strategic visioning
- Engage the public
  - annual conference, publications

# KLTPRC Scope

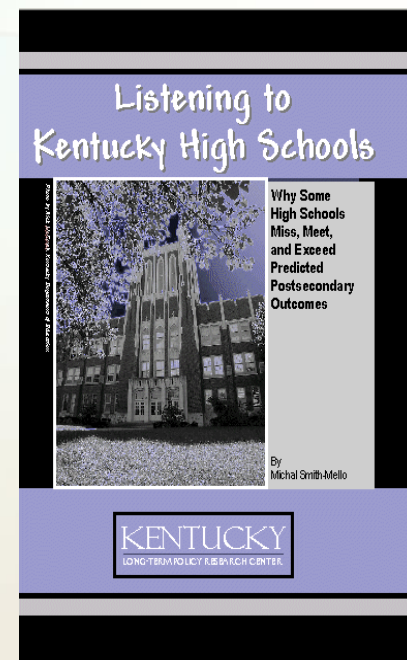
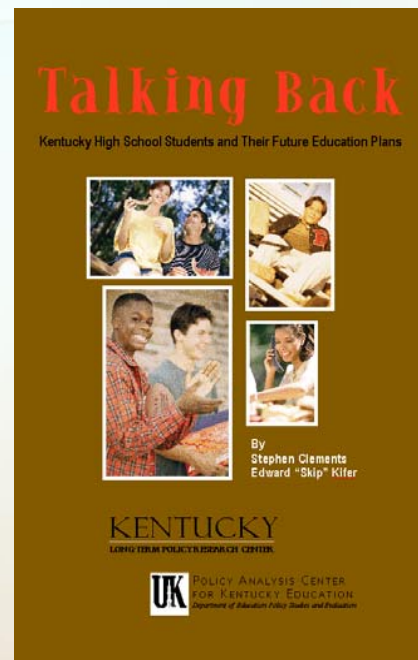
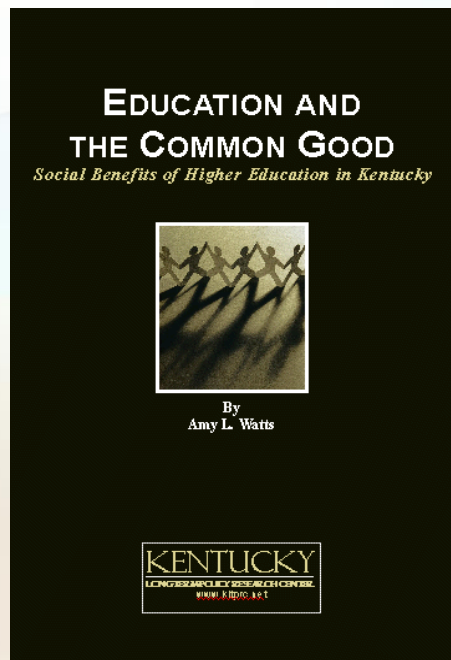
- Economic - technology, income, infrastructure
- Education - early childhood to adult
- Community - health care, social capital
- Environment - air, water, land
- Government - planning to fiscal issues

# Studying Higher Education in Kentucky

- 1997 Kentucky Postsecondary Education Reform Act
- Questions asked:
  - Why should we, as a society, invest public dollars in higher education?
  - What are some of the barriers that keep our high schoolers from attending college?
  - What makes a high school a high-producer of “college-going” graduates?

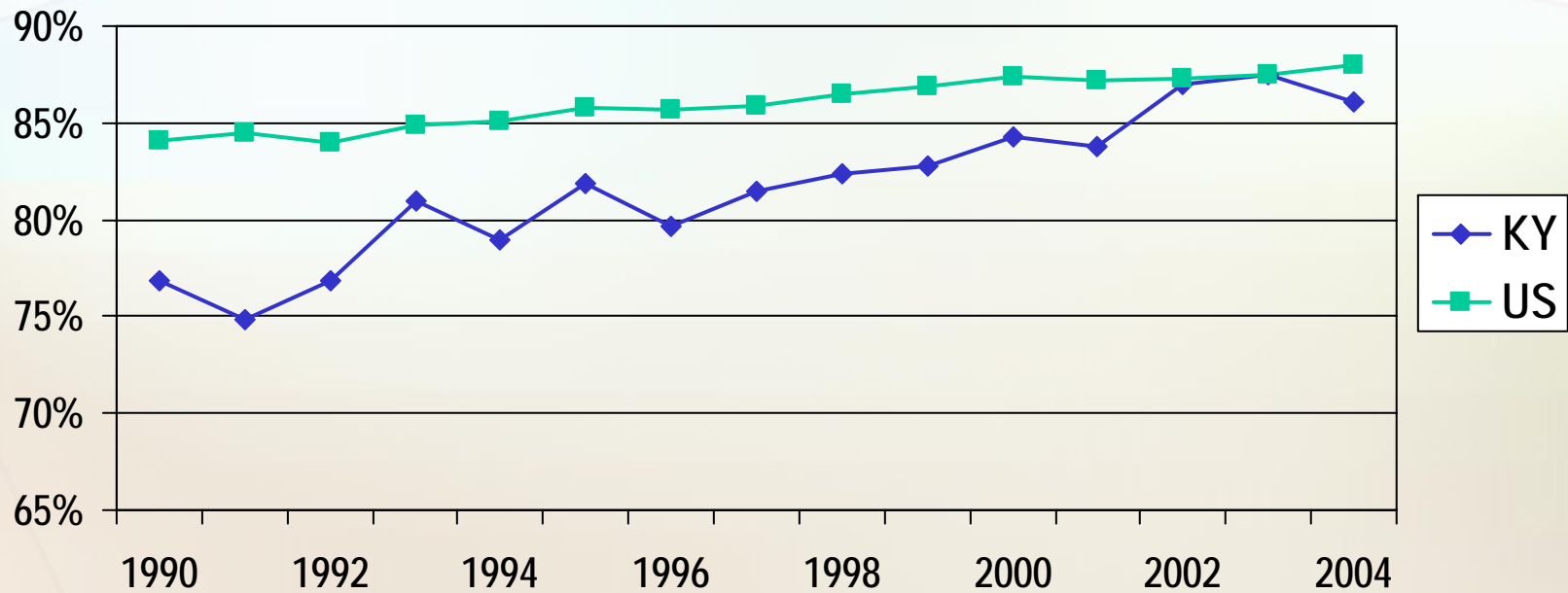


# Study Framework



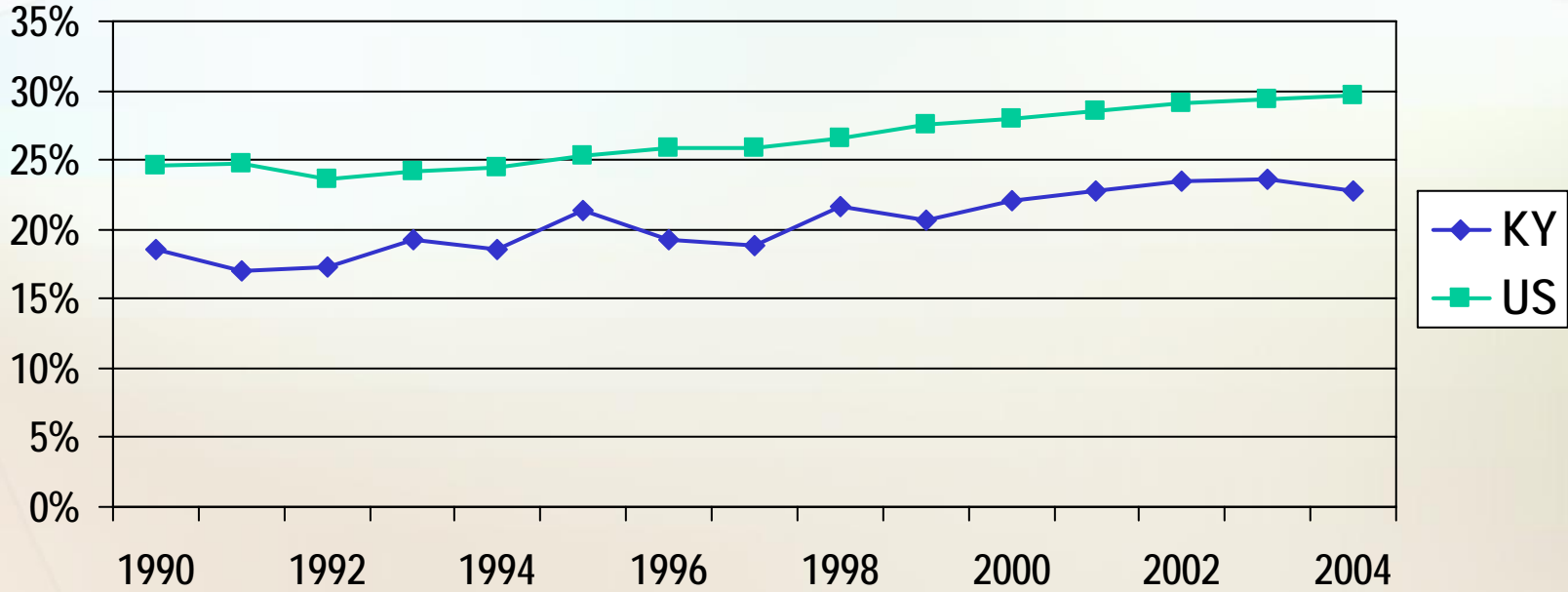
# High School Attainment Rates

Percent of Adults 25 to 64 years old with at least a high school diploma, Kentucky and the US



# Bachelor's Degree Attainment Rates

Percent of adults 25 to 64 years old with at least a Bachelor's Degree, Kentucky and the US



# Education and Society

*“Education should not compete with national defense, the trade deficit, drugs or AIDS. Think of it as a solution to those problems.”*

*-David Kearns, Chairman of Xerox Corporation*

# Education and Democracy

*“Jefferson argued . . . that generally available education would have an equalizing role on American society . . . [influencing] the nation’s democratic values, while simultaneously preserving individual liberties.”*

-The Institute for Higher Education Policy

# Higher Education and Kentucky

*"If at the end of Kentucky's 20-year commitment to reforming postsecondary education, what we've done is build institutions of higher learning, but 25 percent of Kentucky's children still live in poverty and a million people still are challenged as to reading and writing, if at the end of 20 years we haven't changed the condition within which women, men and children in this state live, we shall have failed."*

*- Gordon Davies, Former President of the Kentucky Council on Postsecondary Education*

## Economic Benefits of “Going to College”

### •Private Economic

- Higher Salaries and Benefits
- Employment
- Higher Savings Levels
- Improved Working Conditions
- Personal/Professional Mobility

### •Public Economic

- Increased Tax Revenues
- Greater Productivity
- Increased Consumption
- Increased Workforce Flexibility
- Decreased Reliance on Government Financial Support

## Social Benefits of “Going to College”

### •Private Social

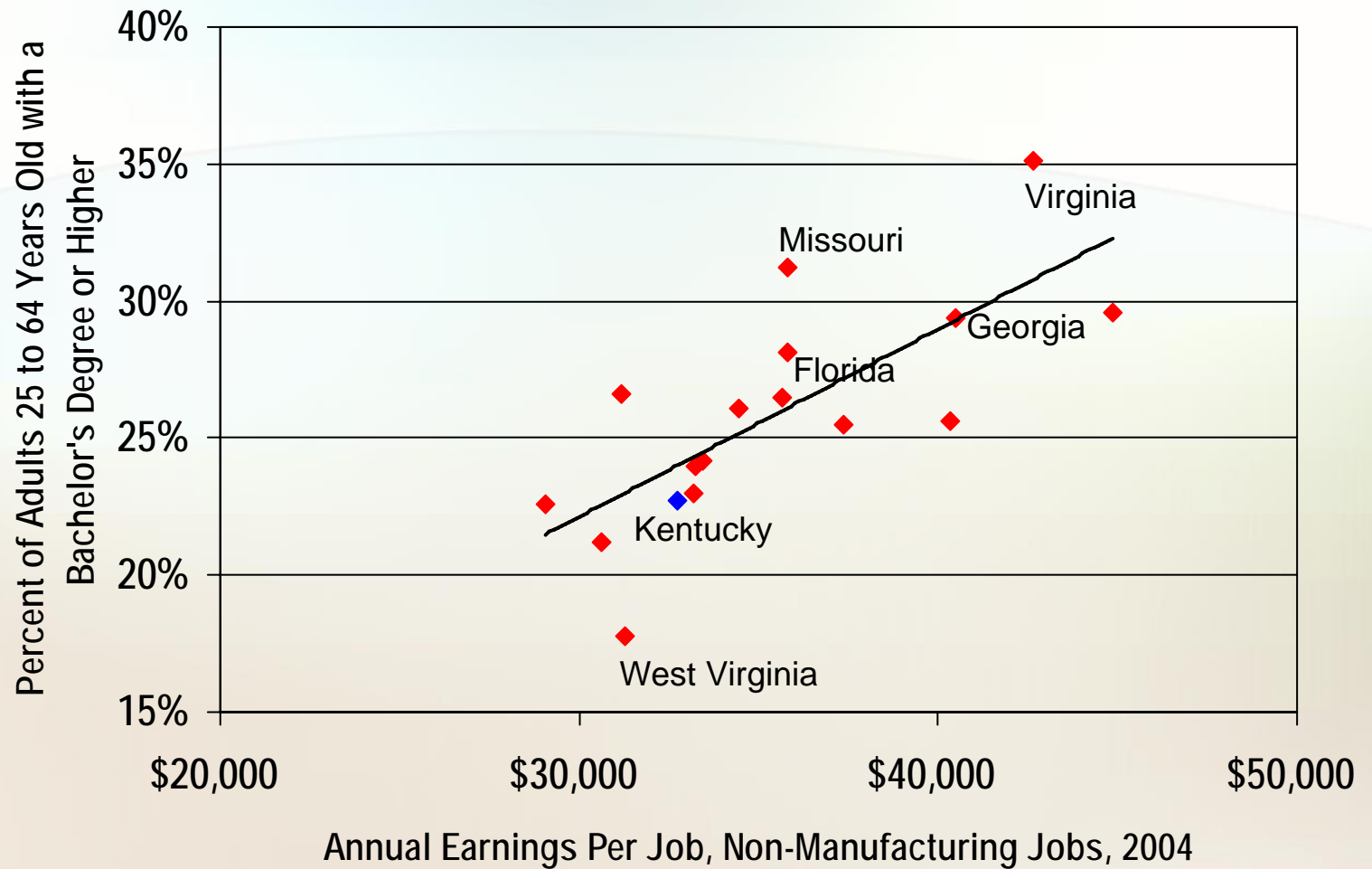
- Improved Health/  
Life Expectancy
- Improved Quality of Life  
for Offspring
- Better Consumer Decision  
Making
- Increased Personal Status
- More Hobbies, Leisure  
Activities

### •Public Social

- Reduced Incarceration and  
Crime Rates
- Increased Volunteerism  
and Charitable Giving
- Increased Quality of Civic  
Life
- Social Cohesion/  
Appreciation of Diversity
- Improved Ability to Adapt  
to and Use Technology



# College Attainment and Earnings Per Job, Kentucky and 16 Comparison States, 2004



# Education Pays

2001 Average Annual Kentucky Wage Estimates by Training Category		
Training Category	Total Employment	Avg. Annual Wage
Postgraduate	60,490	\$61,391
Bachelor's Degree & Bachelor's Degree with Work Experience	281,892	\$48,600
Associate's Degree or Postsecondary Vocational Training	140,629	\$33,309
Work Experience in a Related Occupation or Long-Term OJT	296,684	\$34,118
Moderate-Term OJT	393,998	\$27,760
Short-Term OJT	710,069	\$19,244

*Source: Kentucky Occupational Outlook to 2010*

# The Hypotheses: Relationship Between College Attainment and Social Benefits

- Federal Tax Payments +
- State Tax Payments +
- Welfare (TANF) –
- Food Stamps –
- Criminal Justice –
- Physical Functioning +
- General Health +
- Mental Health +
- Smoking –
- Community Group Participation +
- Leader of that Group +
- Leadership Program +
- Volunteering +
- Hours Volunteered +
- Registering to Vote +
- Reading Daily to Children +
- Entrepreneurism +
- Participation in Cultural Activities +
- Access and Use of Computer and Internet Technology +

# The Independent Variables

Series of dichotomous variables:

- Education (baseline= high school diploma)

- Less than High School
- Some College or a 2 yr degree
- Bachelor's degree or Higher

- Household Income (baseline= less than \$20K)

- \$20K to \$40K
- \$40K to \$70K
- \$70K or higher

- Age (continuous variable)

- Gender

- Race and Ethnicity (white, non-Hispanic and otherwise)

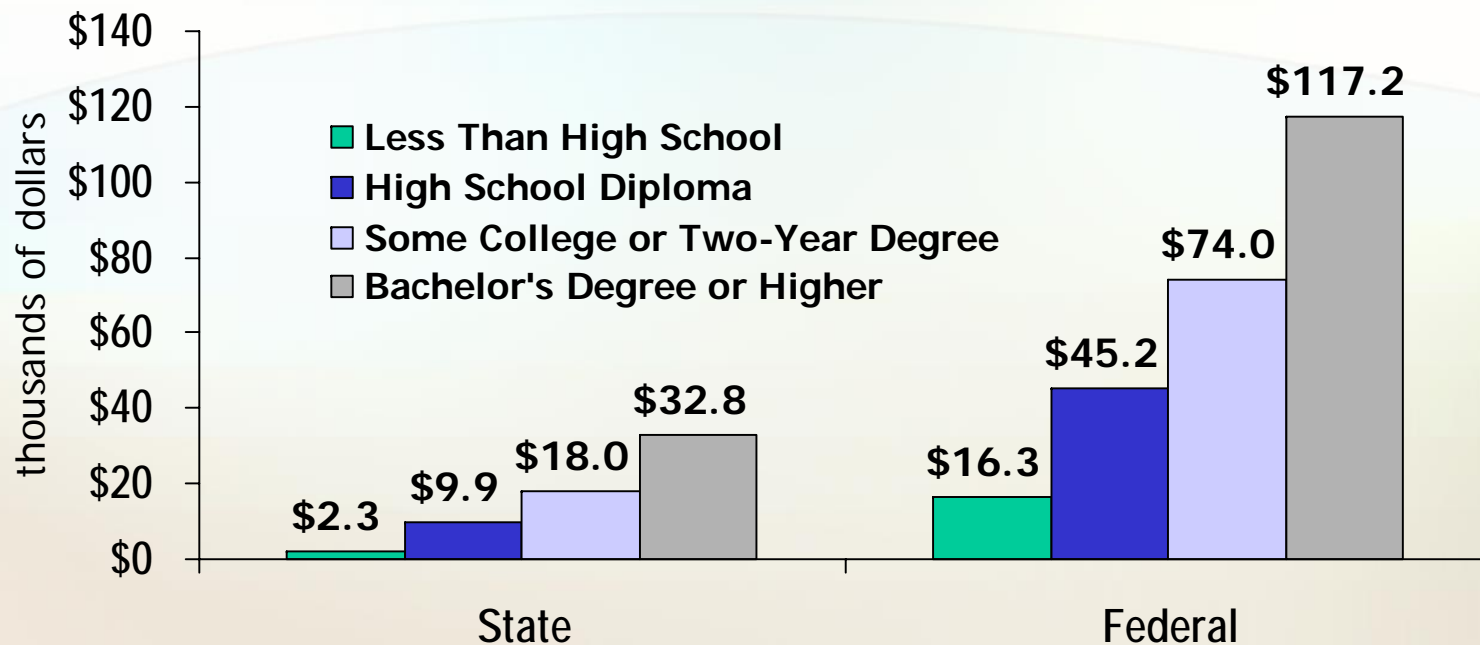
- Urban (location of residence in an urban or rural area)

# The Models and data

- Individual level data from 6 datasets were used, including Kentucky specific surveys and data from the Current Population Survey.
- 19 social benefits of higher education were modeled using multivariate regression analysis: OLS, probit, and a Heckman model.
- Benefit-cost analysis compares public investment with social returns.

# Higher Education and Taxation

Present Value of Lifetime State and Federal Income Taxes,  
by Education Level, 2000

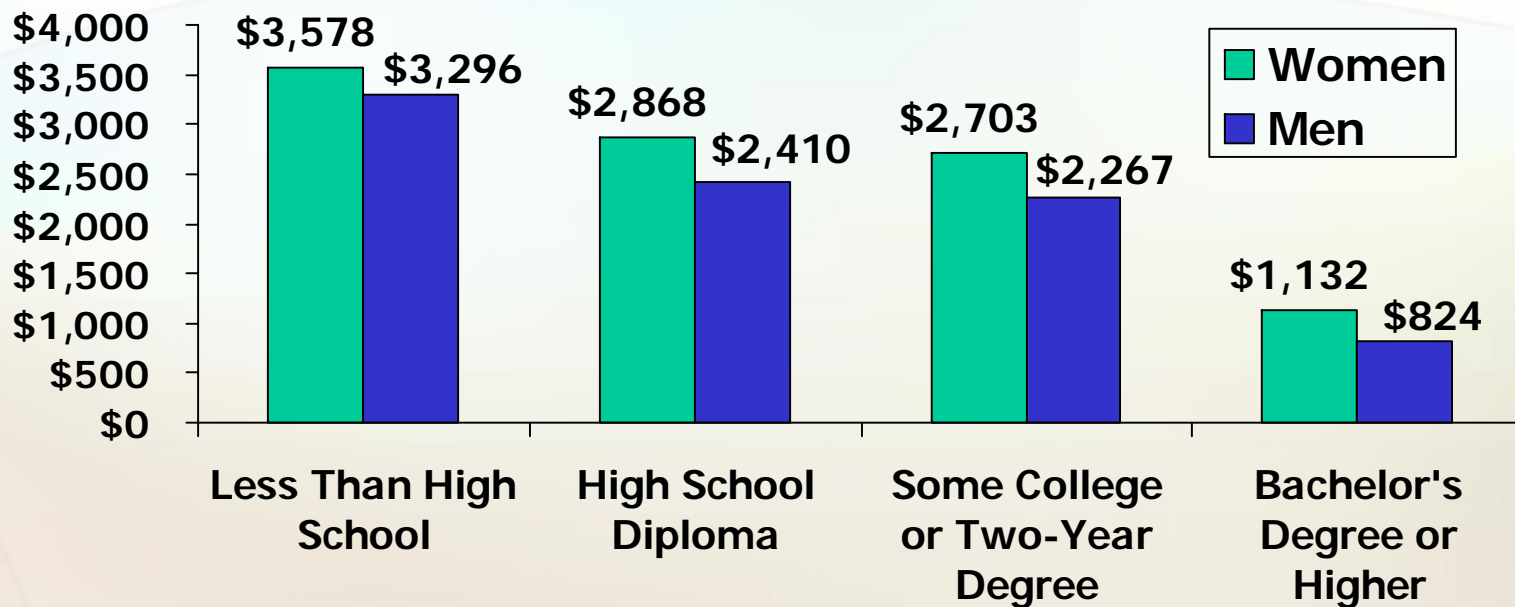


Source: Kentucky Long-Term Policy Research Center analysis of Current Population Survey Data and Internal Revenue Service Information Services

Note: All values adjusted to 2000 dollars using the CPI-U

# Public Program Participation

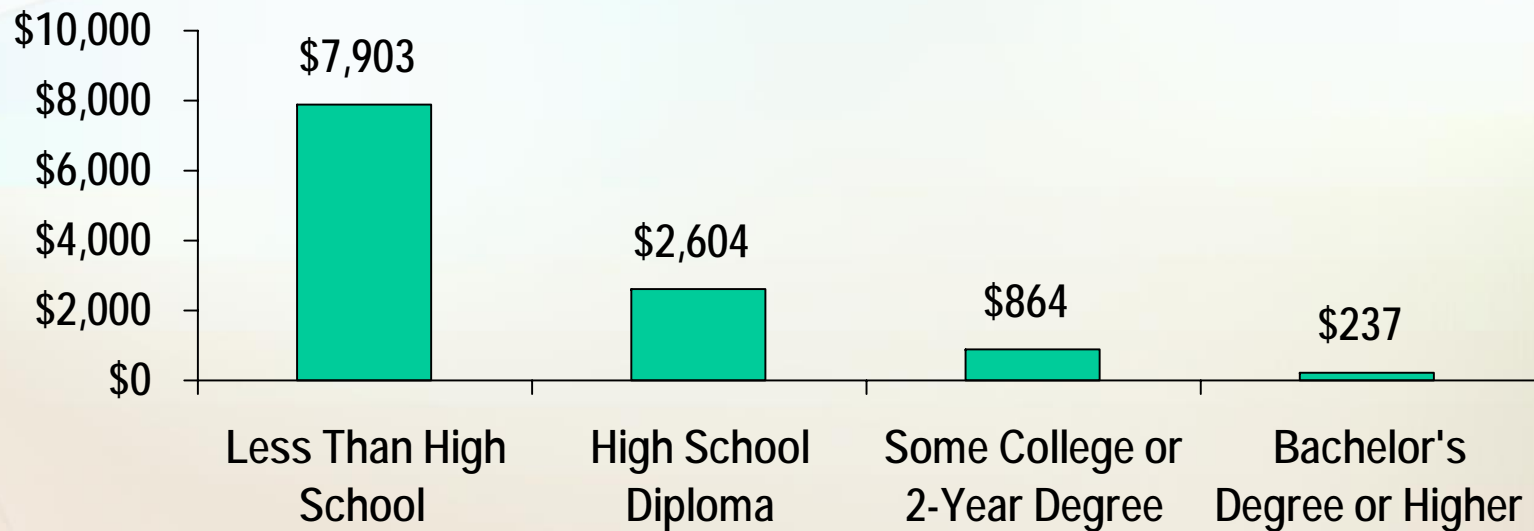
Expected Annual Welfare and Food Stamp Benefits for Kentucky Women and Men, Age 30, by Education, 2000



Source: University of Kentucky Survey Research Center and Kentucky Cabinet for Families and Children

# The Criminal Justice System

**Present Value of Expected Lifetime Criminal Justice Costs for Kentucky Men by Education Level, 2000**

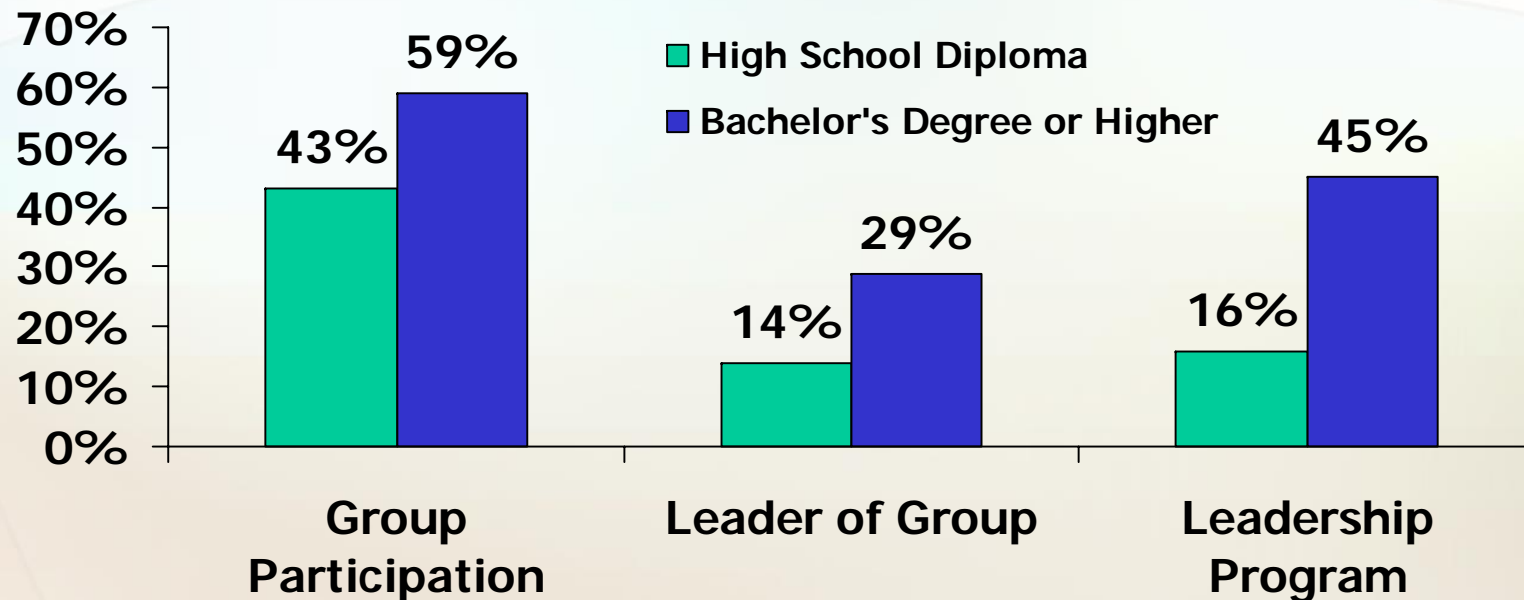


*Source: Kentucky Long-Term Policy Research Center analysis of Current Population Survey Data, U.S. Department of Justice, and Kentucky Department of Corrections*



# Higher Education and Civil Society

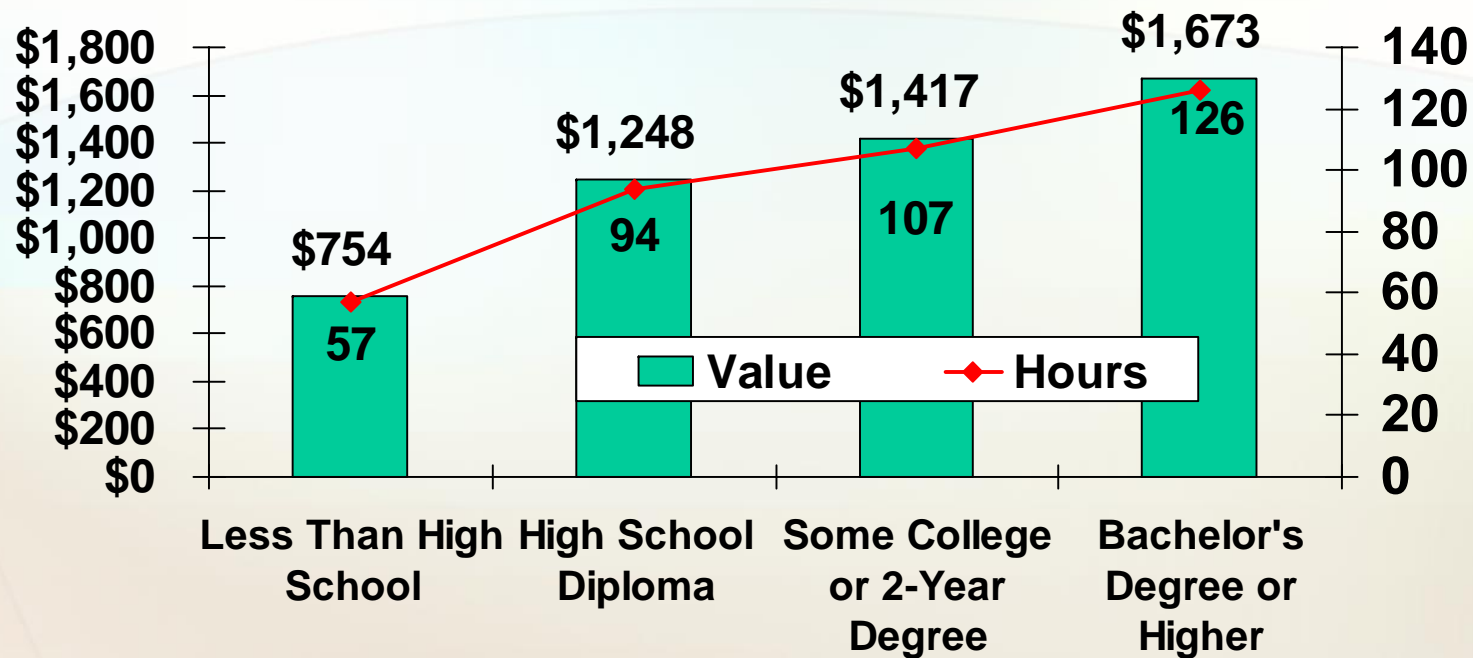
**Predicted Probabilities of Civil Society Participation  
by Education, Kentucky, 2000**



*Source: Kentucky Long-Term Policy Research Center and University of Kentucky Survey Research Center*

# Higher Education and Volunteerism

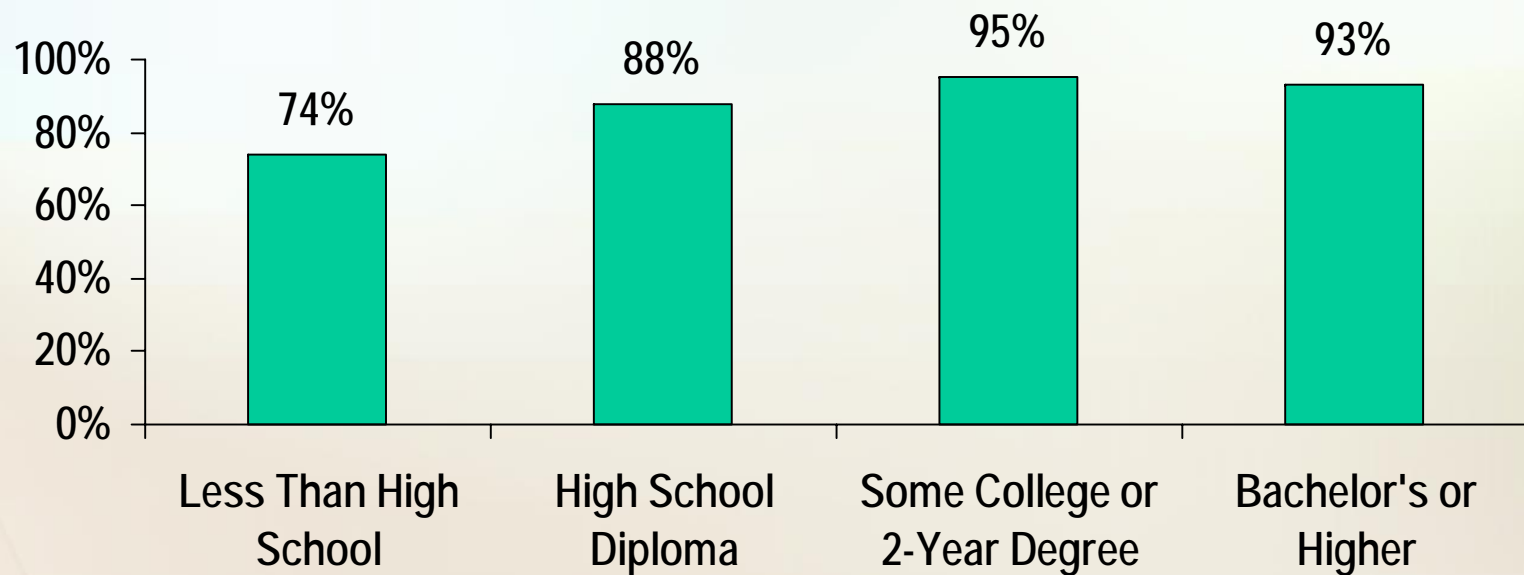
Expected Annual Value of and Number of Volunteer Hours by Education, Kentucky, 2000



Source: Kentucky Long-Term Policy Research Center and University of Kentucky Survey Research Center

# Political Participation

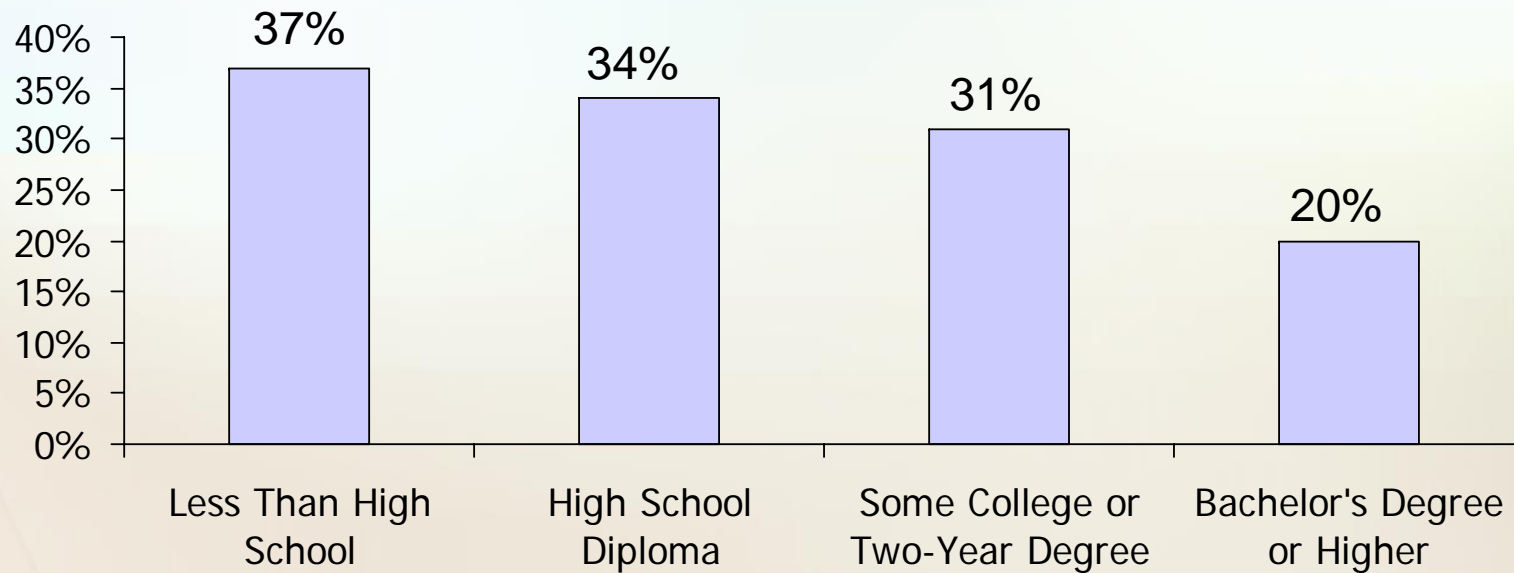
## Probability of Being Registered to Vote by Education, Kentucky, 2000



*Source: University of Kentucky Survey Research Center*

# Higher Education and Smoking

## Model Estimates of the Probability of Smoking by Education, Kentucky, 2000



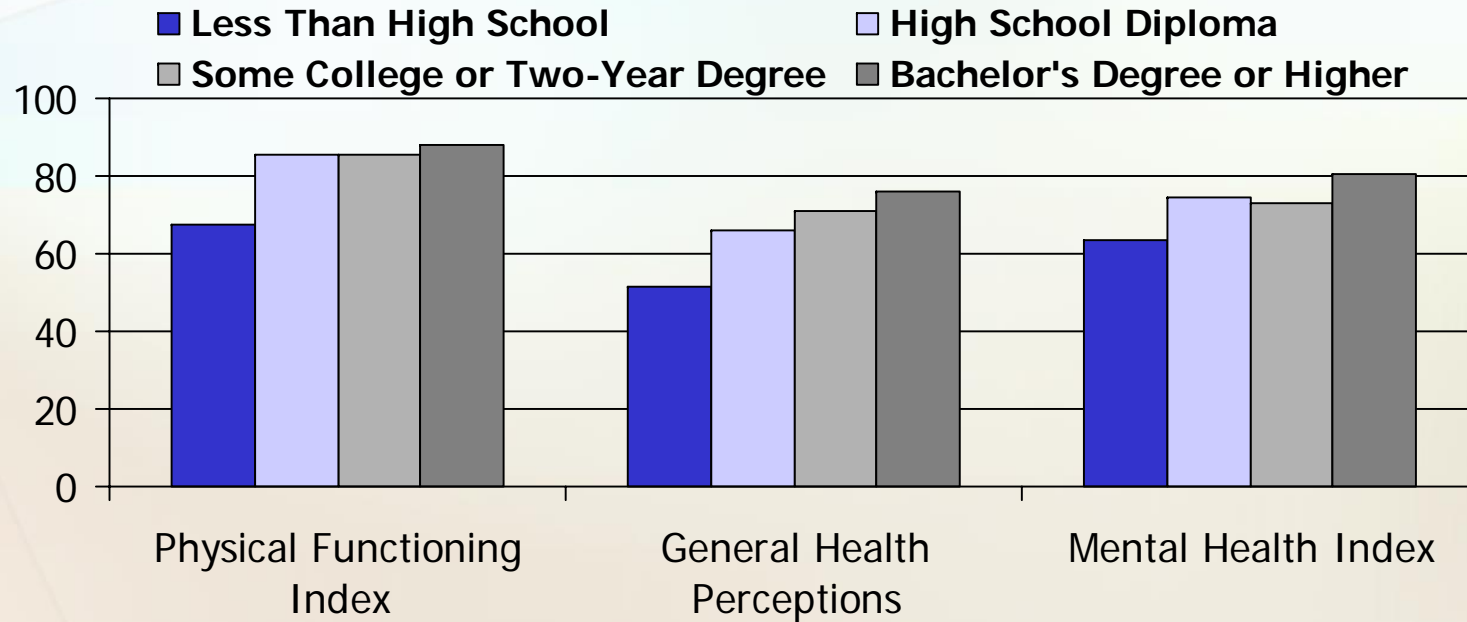
Source: Kentucky Long-Term Policy Research Center and University of Kentucky Survey Research Center

## Smoking Costs in Kentucky, 2000

- Annual health care expenditures in Kentucky directly related to tobacco use: **\$ 1.0 billion**
- Residents' state and federal tax burden caused by tobacco-related health costs: **\$520 million**
- Kentucky government Medicaid payments directly related to tobacco use: **\$200 million**

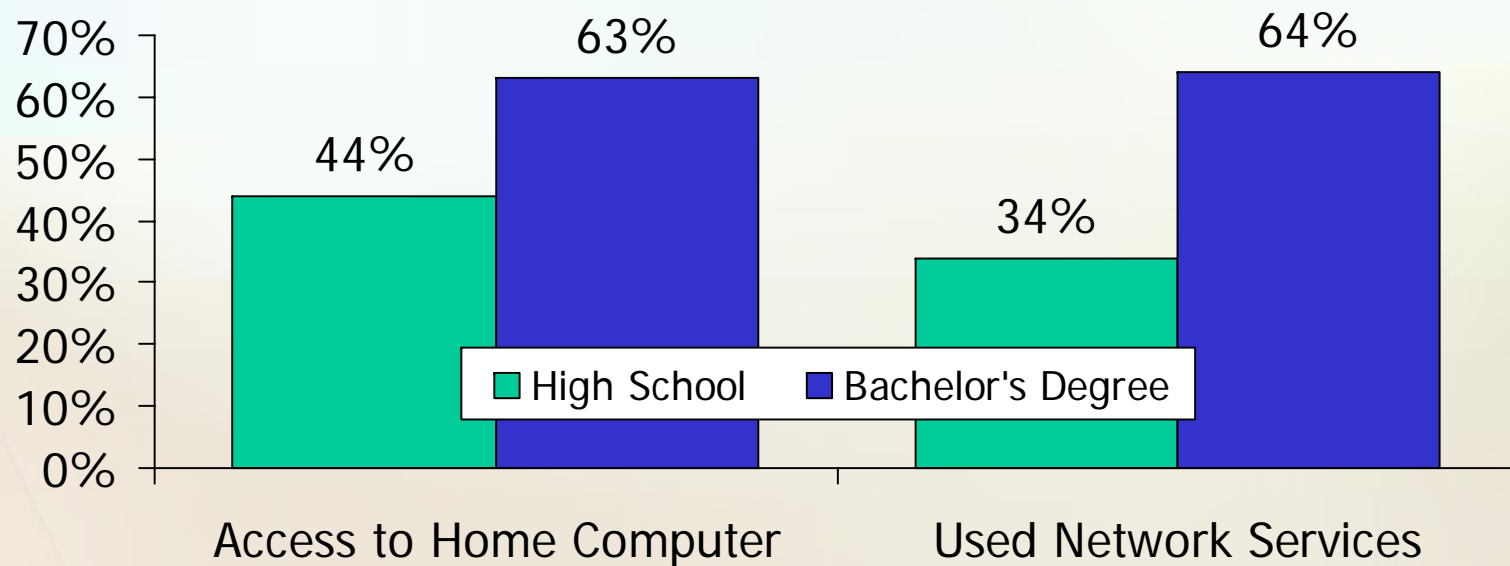
# Higher Education and Health

Predicted Average Health Related Quality of Life Scores by Education, 1997



## Higher Education and Technology Use

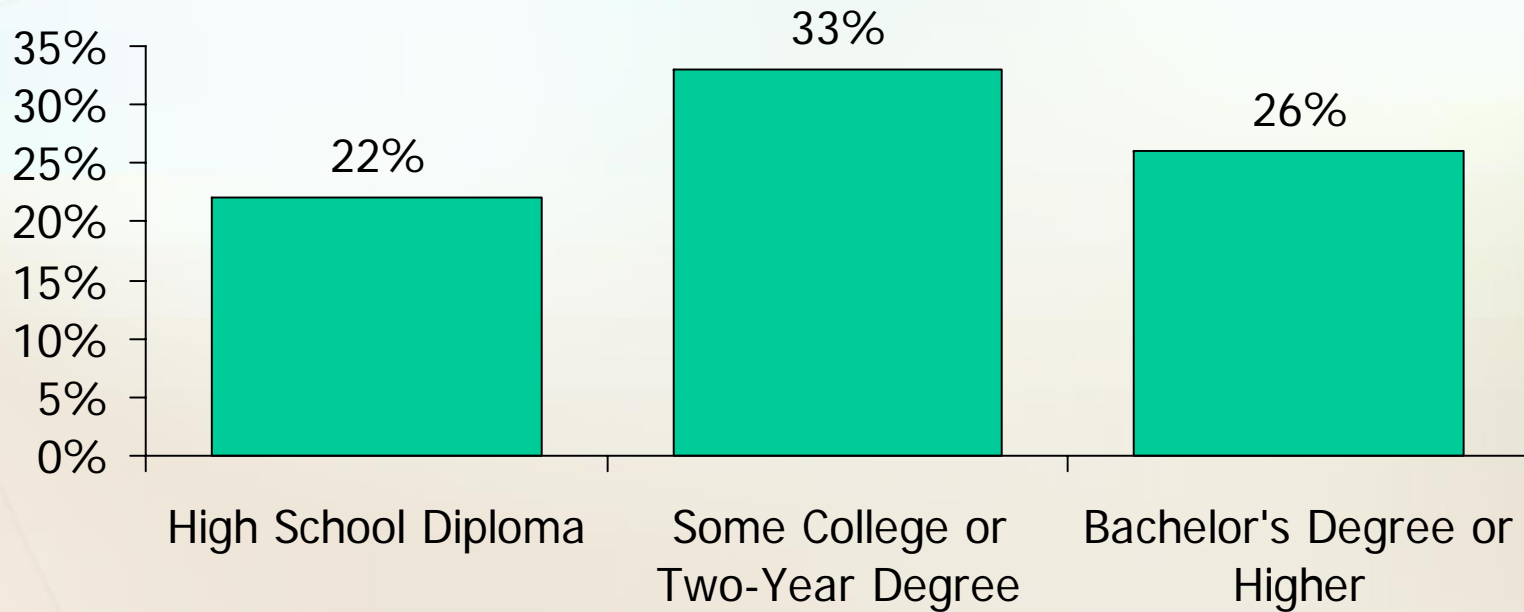
### Predicted Probability of Access to Home Computer and Network Use by Education, 1998



Source: Kentucky Long-Term Policy Research Center and University of Kentucky Survey Research Center

# Higher Education and Entrepreneurism

Predicted Probability of Starting a Business by Education, 2000

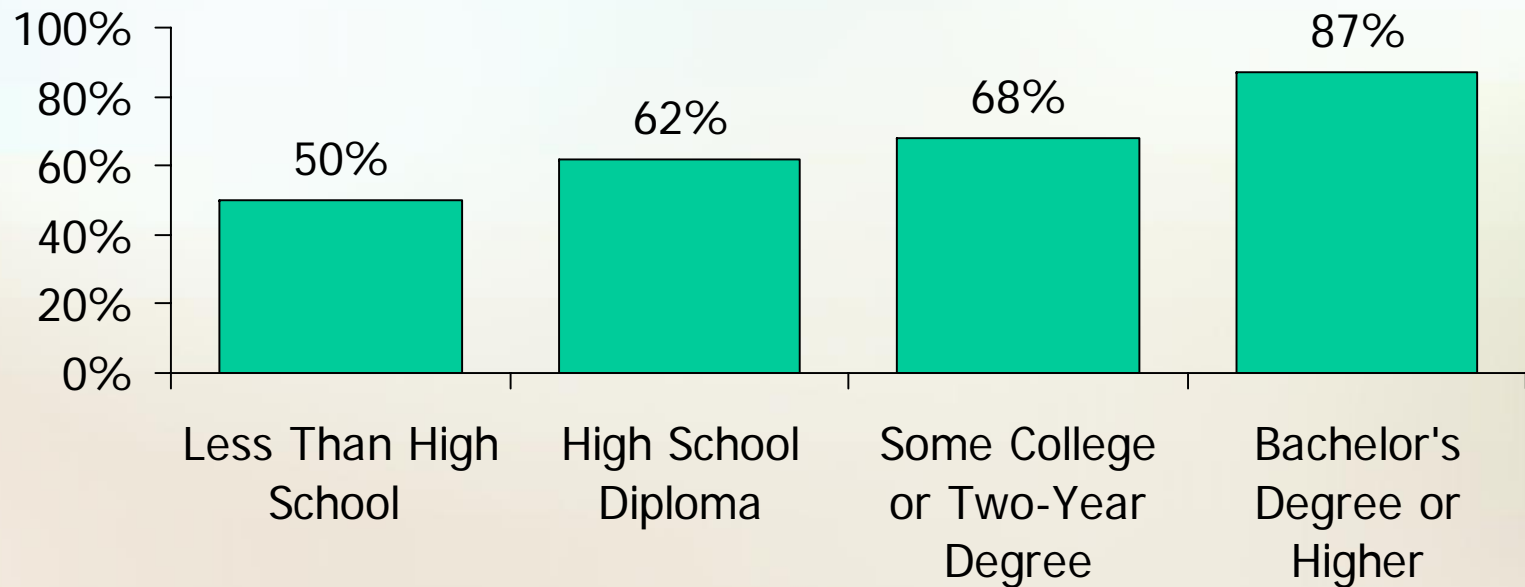


Source: Kentucky Long-Term Policy Research Center and University of Kentucky Survey Research Center



# Higher Education and Parenting

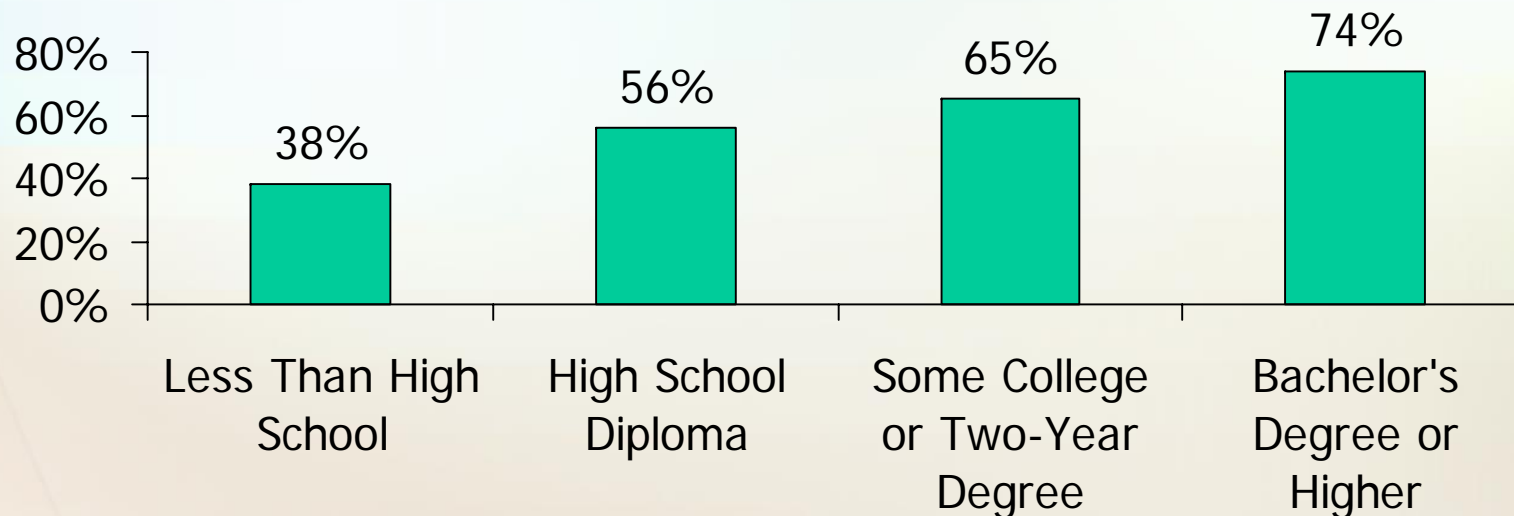
Predicted Probability of Reading *Every Day* to Children Under 8 by Parents' Education, 1998 and 2000



Source: Kentucky Long-Term Policy Research Center and University of Kentucky Survey Research Center

# Higher Education and Cultural Activity

**Predicted Probability of Visiting a Museum, Festival, Arts Performance or Historical Site in County of Residence in the Previous Year by Education, Kentucky, 2000**



*Source: Kentucky Long-Term Policy Research Center and University of Kentucky Survey Research Center*

## General Fund Support Per Full-Time Equivalent Student at Kentucky's 4-Year Institutions, 1998

- One Year: \$6,663
- NPV of Four Years: \$24,626

Note: Does not include medical, agriculture, research, public service, or debt service support, support of CPE and KHEAA or 2-year institutions.

*Source: Council on Postsecondary Education*

## Present Value of Expected Lifetime Social Benefits of a 4-Year Degree, Compared to a High School Diploma

Social Benefit	Men	Women
Additional Federal Income Tax	\$83,097	\$63,061
Additional State Income Tax	\$28,242	\$19,031
Welfare (5 years) Savings	\$190	\$263
Food Stamps Savings	\$1,773	\$5,397
Criminal Justice System Savings	\$2,367	\$123
Additional Volunteerism	\$10,457	\$8,949
<b>Total Social Benefits</b>	<b>\$126,126</b>	<b>\$96,823</b>

# Caveats and Conclusions

- *Not all benefits occur for all levels of education, however.*
- *Benefits in the area of civil society are more closely linked to higher education, while health benefits are strongly linked to achievements at the secondary level.*
- *Not all benefits quantified or even identified.*
- *Also, we only analyzed the benefits associated with a more educated populace. Research and public service benefits of a postsecondary institution were not analyzed.*

# Conclusions: How does Education Pay in Kentucky?

- *Evidence that achievements at the postsecondary education level are related to many social benefits that can enhance the lives of all Kentuckians.*
- *Those benefits include:*
  - *increases in tax revenue*
  - *lower program participation*
  - *lower incarceration and smoking rates*
  - *better health*
  - *increased civil society participation*
  - *higher frequency of reading to children*
  - *higher likelihood of starting a business and of having access to and using information technology*

# Want More Information?

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