

Quantum Opportunities Program

Program description:

The Quantum Opportunities Program provides disadvantaged high school students education, service, and development activities, as well as financial incentives (stipends) for youths' continuing participation. Mentoring is one component of the services provided. The program begins in ninth grade and continues through students' high school graduation.

Typical age of primary program participant: 14

Typical age of secondary program participant: -2

Meta-Analysis of Program Effects

| Outcomes Measured | Primary or Secondary Participant | No. of Effect Sizes | Unadjusted Effect Sizes (Random Effects Model) | | | Adjusted Effect Sizes and Standard Errors Used in the Benefit-Cost Analysis | | | | | |
|---------------------------------|----------------------------------|---------------------|--|------|---------|---|------|-----|-----------------------------|------|-----|
| | | | ES | SE | p-value | First time ES is estimated | | | Second time ES is estimated | | |
| | | | | | | ES | SE | Age | ES | SE | Age |
| Crime | P | 2 | -0.34 | 0.43 | 0.43 | -0.26 | 0.43 | 20 | 0.38 | 0.06 | 24 |
| High school graduation | P | 3 | 0.32 | 0.14 | 0.02 | 0.30 | 0.14 | 18 | 0.30 | 0.14 | 18 |
| Public assistance | P | 3 | 0.03 | 0.37 | 0.93 | 0.07 | 0.37 | 24 | 0.07 | 0.37 | 34 |
| Teen births under age 18 | P | 2 | -0.12 | 0.24 | 0.62 | -0.12 | 0.24 | 18 | -0.12 | 0.24 | 18 |
| Teen births (second generation) | S | 2 | -0.12 | 0.24 | 0.62 | -0.12 | 0.24 | 18 | -0.12 | 0.24 | 18 |

Benefit-Cost Summary

| The estimates shown are present value, life cycle benefits and costs. All dollars are expressed in the base year chosen for this analysis (2011). The economic discount rates and other relevant parameters are described in Technical Appendix 2. | Program Benefits | | | | | Costs | Summary Statistics | | | |
|--|------------------|------------|---------|----------------|----------------|----------|-----------------------|----------------------|----------------------|---|
| | Partici-pants | Tax-payers | Other | Other Indirect | Total Benefits | | Benefit to Cost Ratio | Return on Investment | Benefits Minus Costs | Probability of a positive net present value |
| | | \$19,888 | \$8,737 | -\$2,578 | \$4,265 | \$30,311 | -\$25,743 | \$1.18 | n/e | \$4,568 |

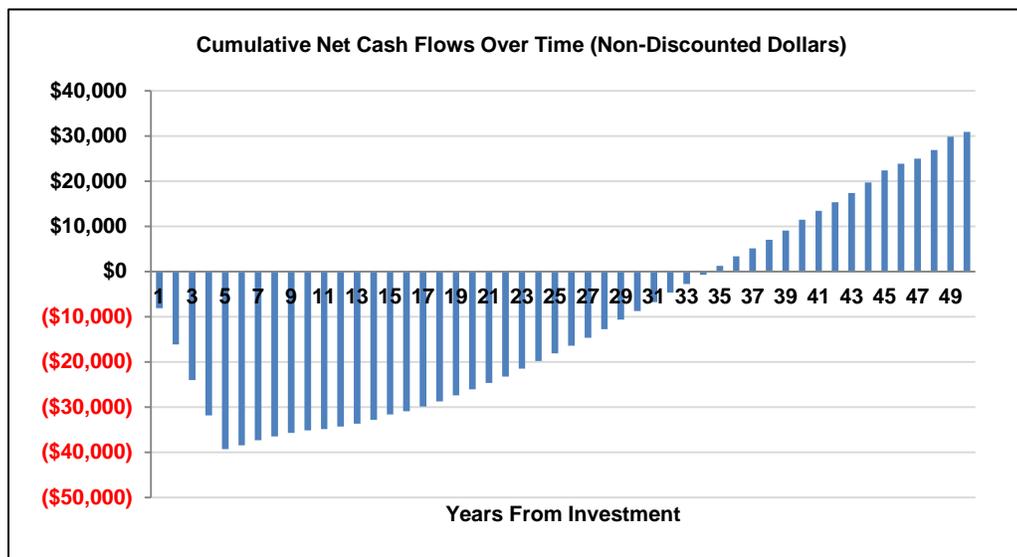
Detailed Monetary Benefit Estimates

| Source of Benefits | Benefits to: | | | | |
|-------------------------------------|---------------|------------|----------|-----------------|----------------|
| | Partici-pants | Tax-payers | Other | Other In-direct | Total Benefits |
| From Primary Participant | | | | | |
| Crime | \$0 | -\$374 | -\$656 | -\$181 | -\$1,211 |
| Earnings via high school graduation | \$19,456 | \$7,160 | \$0 | \$3,541 | \$30,157 |
| Public assistance | \$675 | -\$742 | \$0 | -\$399 | -\$466 |
| Health care costs via education | -\$338 | \$2,625 | -\$1,967 | \$1,271 | \$1,591 |
| From Secondary Participant | | | | | |
| Crime | \$0 | \$19 | \$54 | \$9 | \$83 |
| Earnings via high school graduation | \$90 | \$33 | \$0 | \$15 | \$138 |
| Child abuse and neglect | \$6 | \$1 | \$0 | \$0 | \$7 |
| Out-of-home placement | \$0 | \$1 | \$0 | \$0 | \$1 |
| K-12 grade repetition | \$0 | \$2 | \$0 | \$1 | \$3 |
| Health care costs via education | -\$2 | \$12 | -\$9 | \$7 | \$8 |

Detailed Cost Estimates

| The figures shown are estimates of the costs to implement programs in Washington. The comparison group costs reflect either no treatment or treatment as usual, depending on how effect sizes were calculated in the meta-analysis. The uncertainty range is used in Monte Carlo risk analysis, described in Technical Appendix 2. | Program Costs | | | Comparison Costs | | | Summary Statistics | |
|--|---------------|------------------|--------------|------------------|------------------|--------------|--|------------------------|
| | Annual Cost | Program Duration | Year Dollars | Annual Cost | Program Duration | Year Dollars | Present Value of Net Program Costs (in 2011 dollars) | Uncertainty (+ or - %) |
| | \$5,000 | 5 | 2006 | \$0 | 1 | 2006 | \$25,845 | 30% |

Source: Average cost per youth is \$25,000 for five years. We put a 30% uncertainty estimate around this figure because the average costs vary widely by site. Maxfield, M., Schirm, A., & Rodriguez-Planas, N. (2003). *The Quantum Opportunity Program demonstration: Implementation and short-term impacts* (Document No. PR03-18). Princeton, NJ: Mathematica Policy Research, p. 12.



Multiplicative Adjustments Applied to the Meta-Analysis

| Type of Adjustment | Multiplier |
|---|------------|
| 1- Less well-implemented comparison group or observational study, with some covariates. | 0.5 |
| 2- Well-implemented comparison group design, often with many statistical controls. | 0.5 |
| 3- Well-done observational study with many statistical controls (e.g., instrumental variables). | 0.75 |
| 4- Random assignment, with some implementation issues. | 0.75 |
| 5- Well-done random assignment study. | 1.00 |
| Program developer = researcher | 0.5 |
| Unusual (not "real-world") setting | 0.5 |
| Weak measurement used | 0.5 |

Studies Used in the Meta-Analysis

Hahn, A., Leavitt, T., & Aaron, P. (1994). *Evaluation of the Quantum Opportunities Program (QOP): Did the program work? A report on the post secondary outcomes and cost effectiveness of the QOP program (1989-1993)*. Waltham, MA: Brandeis University, Center for Human Resources.

Lattimore, C. B., Mihalic, S. F., Grotmeter, J. K., & Taggart, R. (1998). *Blueprints for violence prevention, book four: The Quantum Opportunities Program* (Document No. NCJ 174197). Boulder: University of Colorado, Boulder; Center for the Study and Prevention of Violence.

Maxfield, M., Schirm, A., & Rodriguez-Planas, N. (2003, August). *The Quantum Opportunity Program demonstration: Implementation and short-term impacts* (Document No. PR03-18). Princeton, NJ: Mathematica Policy Research.

Schirm, A., Stuart, E., & McKie, A. (2006, July). *The Quantum Opportunity Program Demonstration: Final impacts* (Document No. PR06-70). Princeton, NJ: Mathematica Policy Research.