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I, Valda Bronston,  
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SEX IN THE CITY: A Cost-Benefit Analysis for the  
Implementation of the Postponing Sexual Involvement (PSI)  
Sex Education Curriculum in Hamilton County, Ohio

**This work and its defense approved by:**

Chair:

  
Sam Sherrill  
Rachel Haskin



**SEX IN THE CITY: A Cost-Benefit Analysis for the Implementation of the  
Postponing Sexual Involvement (PSI) Sex Education Curriculum in  
Hamilton County, Ohio**

A thesis submitted to the

Division of Research and Advanced Studies  
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by

Valda Bronston

B.A., Speech Communication, Ithaca College, 1990

Thesis Committee

David Edelman, Ph. D., Chairperson

Samuel Sherrill, Ph. D.

Rachel Hastings, MCP

UMI Number: EP26306

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## **ABSTRACT**

The costs of adolescent childbearing are borne by the teens themselves, by society as a whole, and particularly by the children of teen mothers. The costs of adolescent childbearing are borne by the teens themselves, by society as a whole, and particularly by the children of teen mothers. The cost of illegitimacy is economic as well as human.

Preventing teen pregnancy is not only an important goal in its own right, it is also a powerful way to make progress on other key societal issues, welfare dependency, overall child well-being, out-of-wedlock childbearing, responsible fatherhood, workforce development, and crime. Simply put, if more children in this country were born to parents who are ready and able to care for them, we should see measurable progress in all these areas. Preventing teen pregnancy also makes financial sense.

The strain on local, state and national budgets due to teen parenting is constant and rising. Currently, billions of dollars each year are spent nationally on teen parenting issues. Furthermore, the amount of money that is being used in Hamilton County, Ohio towards male juvenile incarcerations, subsidized childcare, and welfare reform resulting from teen births could best be used for sex education and prevention programs.

The costs of early childbearing are high and there are clear benefits to investing in prevention. A cost-benefit analysis of the Postponing Sexual Involvement Program (PSI), an effective abstinence based sex education curriculum, requires estimates of the tangible benefits of the program and

estimates of the costs of undertaking the program, both direct and indirect. Once specified, the benefits and costs are translated into a common monetary measure.

The implementation of the teen pregnancy prevention program PSI is a cost-effective and results oriented curriculum that would be less of an expense to the Hamilton County community than the funding used for the aforementioned teen parenting issues.

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## DEDICATION

This body of work is dedicated to my family, my friends, my “research fairy” and everyone else who told me... **I could**. All of you were extremely supportive and encouraging throughout my graduate career. Without your love, support and inspiration, I would still be working on obtaining my degree. I bestow this thesis to all of you.

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## GLOSSARY OF TERMS

<b>Cost-Benefit Analysis</b>	A systematic quantitative method of assessing the desirability of government projects or policies when it is important to take a long view of future effects and a broad view of possible side effects.
<b>Cost-Effectiveness</b>	A systematic quantitative method for comparing the costs of alternative means of achieving the same stream of benefits or a given objective.
<b>Consumer Surplus</b>	The maximum sum of money a consumer would be willing to pay to consume a given amount of a good, less the amount actually paid. It is represented graphically by the area between the demand curve and the price line in a diagram representing the consumer's demand for the good as a function of its price.
<b>Discount Rate</b>	The interest rate used in calculating the present value of expected yearly benefits and costs.
<b>Discount Factor</b>	The factor that translates expected benefits or costs in any given future year into present value terms. The discount factor is equal to $1/(1 + i)^t$ where $i$ is the interest rate and $t$ is the number of years from the date of initiation for the program or policy until the given future year.
<b>Inflation</b>	The proportionate rate of change in the general price level, as opposed to the proportionate increase in a specific price. Inflation is usually measured by a broad-based price index, such as the implicit deflator for Gross Domestic Product or the Consumer Price Index.

<b>Internal Rate of Return</b>	The discount rate that sets the net present value of the stream of net benefits equal to zero. The internal rate of return may have multiple values when the stream of net benefits alternates from negative to positive more than once.
<b>Life Cycle Cost</b>	The overall estimated cost for a particular program alternative over the time period corresponding to the life of the program, including direct and indirect initial costs plus any periodic or continuing costs of operation and maintenance.
<b>Net Present Value</b>	The difference between the discounted present value of benefits and the discounted present value of costs.
<b>Nominal Values</b>	Economic units measured in terms of purchasing power of the date in question. A nominal value reflects the effects of general price inflation.
<b>Nominal Interest Rate</b>	An interest rate that is not adjusted to remove the effects of actual or expected inflation. Market interest rates are generally nominal interest rates.
<b>Opportunity Cost</b>	The maximum worth of a good or input among possible alternative uses.
<b>Real or Constant Dollar Values</b>	Economic units measured in terms of constant purchasing power. A real value is not affected by general price inflation. Real values can be estimated by deflating nominal values with a general price index, such as the implicit deflator for Gross Domestic Product or the Consumer Price Index.
<b>Real Interest Rate</b>	An interest rate that has been adjusted to remove the effect of expected or actual inflation. Subtracting the expected or actual inflation rate can approximate real interest rates from a nominal interest rate.

<b>Willingness to Pay</b>	The maximum amount an individual would be willing to give up in order securing a change in the provision of a good or service.
<b>Postponing</b>	Putting off until later; defer; delay
<b>Consequences</b>	A result of an action; outcome
<b>Myths</b>	An idea believed by people to be true when either it has been proven false or there is no evidence to support it is true
<b>Sex</b>	Multiple meanings 1) intercourse 2) gender
<b>Sexual Intercourse</b>	A sexual union between human beings involving vaginal penetration by the penis; or penile envelopment by the vagina. It depends on your perspective.
<b>Sexuality</b>	The state or quality of being sexual; interest in or concern with sex; sexual drive or activity
<b>Gender</b>	Sexual identity; male or female
<b>Abstinence</b>	The act of voluntary doing without
<b>Birth Control</b>	Limitation or control of the number of children born; as by the use of contraception and other devices
<b>Society</b>	A group of persons regarded as forming a single community
<b>Media</b>	A means of communicating information or idea, as publishing or television (mass communication)
<b>Advertisements</b>	A notice, such as a poster, newspaper display, or paid announcement in the electronic media, attract public attention or patronage
<b>“Mixed Message”</b>	Communicating two opposite ideas at the same time. For example, a father may tell his child to be responsible, yet his behavior seems irresponsible.

<b>Influence</b>	The power to produce effects, especially indirectly or through an intermediary
<b>Peer Pressure</b>	Pressure from someone of equal status
<b>“Double Standard”</b>	A set of principles permitting greater opportunity or liberty to one than the other, especially the granting of greater sexual freedom to men than to women
<b>Relationship</b>	A connection between two or more people or things; there are many kinds of relationships that are not romantic or sexual
<b>Acquaintances</b>	Associates; people you know a little bit. You may say “hi to them, but not much else besides small talk.
<b>Friends</b>	Someone whom one knows, likes and trusts
<b>Intimate relationships</b>	A relationship that is characterized by very close association or familiarity
<b>Assertive</b>	Firm, self-assured
<b>“Take the offensive”</b>	Taking a position of control and reversing the pressure; “flipping the script”, stating how you feel; asking why the person keeps pressuring you
<b>Nonverbal message</b>	A message that involves use of body language
<b>Ambivalent</b>	Uncertainty or indecisiveness as to which course to follow; having two opposite feelings at the same time
<b>Guilt feelings</b>	Remorseful awareness of having done something wrong
<b>Technique</b>	The systematic procedure by which a complex task is accomplished
<b>Practice</b>	To do or perform something repeatedly in order to acquire or polish a skill

<b>Delinquency</b>	An act that if committed by an adult would be called a crime.
<b>Delinquent</b>	A child who is found to have committed an act that would be considered a crime if committed by an adult.
<b>Detention</b>	The temporary care of a child alleged to be delinquent who requires secure custody in a physically restricting facility pending Court disposition or execution of a Court order.
<b>Disposition</b>	The sentence (court order) to be followed after a child has been adjudicated of an offense.
<b>Felony</b>	A crime more serious than a misdemeanor. The level of the felony offense determines the minimum length of stay for youth committed to Department of Youth Services (DYS).
<b>Misdemeanor</b>	An adult criminal court term for criminal offenses less serious than felony offenses. Youth cannot be committed to DHS for misdemeanor offenses.
<b>Residential Facility</b>	A place where people live for the purposes of detention, shelter or treatment. May be secure or non-secure, large or small, operated by a unit of government or a private agency.
<b>Unruly</b>	Offense that only a juvenile can commit.
<b>Bed Days</b>	A "bed-day is one juvenile serving one day in a facility. One juvenile serving a year would be 365 bed-days.

## LIST OF ACRONYMS

**PSI** - Postponing Sexual Involvement

**MCTP** - Metro Council for Teen Potential

**DYS** - Department of Youth Services

**PHI** – Public Health Institute

**ERIC** – Educational Resource Information Center

**HICGC** – Health Improvement Collaborative of Greater Cincinnati

**STI** – Sexually Transmitted Infections

**ADHD** – Attention Deficit/Hyperactivity Disorder

**NCCHC** – National Commission on Correctional Health Care

**TPD** – Teenage Parentage Demonstration

**AFDC** – Aid to Families with Dependent Children

**TANF** – Temporary Assistance for Needy Families

**HCGHD** – Hamilton County General Health District

**SES** – Socioeconomic Status

**SIECUS** – Sexuality Information and Education Council of the United States

**PTA** – Parent Teacher Association

**PTO** – Parent Teacher Organization

**CPS**- Cincinnati Public Schools

# CHAPTER 1

## RESEARCH PROPOSAL

### 1.1 Introduction

“Of all the problems facing our community, teen pregnancy is one of the most serious. It prevents young people from realizing their dreams, it deprives our next generation of a fair chance, and it cripples our City as we compete with other communities for jobs and economic development.” ([www.metrocouncil.us](http://www.metrocouncil.us)).

Trends and issues affecting health and human service needs are changing more rapidly than ever and critical new ones emerge constantly. These changes usually are anticipated to have major impacts on both the entire community and the people and groups most directly affected ([www.csctulsa.org](http://www.csctulsa.org)). Teen pregnancy is one primary issue that is affecting communities across the United States, and affecting the nature of planning for the future of many cities.

City planning is a process for solving a community's problems. Community-level plans are developed to review local planning issues and implement policies that support the future sustainability of a community.

Planners direct the planning process. Citizens, everyone from kids to grand parents, play an important part in the planning process. Together, planners and community members decide how to improve their community today and explore how the community should be 20 years from now.

Planning works well when planners and community members recognize how the parts of the community fit together. For example, when a community has an increase of teen births, various factors need to be considered from a

planning perspective. In Rochester, NY, there were 680 births to teen mothers in 1999. By September 2004, these children will fill 27 kindergarten classrooms in the City school district ([www.metrocouncil.us](http://www.metrocouncil.us)). According to the Oregon Health Division, during 1997, in Multnomah County 654 girls between the ages of 10 and 17 experienced a pregnancy and kept the baby (Clark, 2000). These unwanted pregnancies cost the U.S. taxpayers almost 7 billion dollars each year. (Clark, 2000).

When planners make decisions regarding community development, they need to consider the high incidences of teen parenting, and how it influences the community. Planners need to ask pertinent questions that will provide them with the necessary information to design child friendly communities for teen mothers. For example: Are there enough schools in the community to accommodate the increased number of kindergarteners? If not, can more schools be built? If so, where do they build them and will they be equipped with the necessary facilities to handle children with possible special educational needs? Also, considerations need to be made regarding where to build playgrounds and grocery stores, parks and recreation facilities, because many teen mothers lack transportation. Lastly, how will any, or all of the projects be funded? Obviously, one teen birth may not change a community plan, but hundreds being born in almost every community across the country makes a significant difference in the “big planning picture”.

Often times, when addressing the possibility of community development, many communities need help with examining the overall “big picture”. As a result, planning ideas need to be designed around the needs of the community.

Guidance on such issues as zoning for schools, childcare facilities, special housing for teen mothers, and other planning issues are addressed by both planners and community leaders.

Once planners have helped a community create its plan, they work with many people and groups to carry out the plan. They work with neighborhood groups, elected officials, the police, engineers, and business people, as well as many others to make the community the best place to live.

A local community's capacity to effectively respond to changes greatly depends on its ability to conduct timely assessments of changes and their possible impacts, and recommend a course of action. These recommendations usually address all aspects of community capacity including service programs, organizational roles and relationships, public policy, laws and regulations, resources for support, community awareness and involvement, professional and volunteer mobilization and training, and changes in individual behavior and attitudes. Desired outcomes most frequently require long-term community commitment and engagement to guarantee this commitment is secured and maintained.

In 1997 in Rochester, NY, the Metro Council for Teen Potential (MCTP) conducted surveys of residents in the high-poverty sectors of the City. MCTP surveyed over 1,400 youth and adults in this process. The information retrieved about needs, assets, perceptions, and communication patterns, was instrumental in the development of the MCTP community action plan ([www.metrocouncil.us](http://www.metrocouncil.us)).

All stakeholders (business, resident, non-profit, and public sector) are invited to work together to find common ground and build consensus on the future development of a community. The use of visual and written surveys, small group discussions and mapping exercises can increase understanding and the development of partnerships that enhance a plan's credibility and implementation. A consensus plan may provide the foundation for legislative changes and position the community for an array of federal and state programs targeted toward economic development, neighborhood revitalization, greenways/trail development and rural land preservation. With these plans in place, the community will provide an environment that undergirds the efforts of parents to care for their children and will act as a safety net for children as necessary.

Recently, there has been an enormous amount of effort put forth across the nation to revive many lower-income neighborhoods with initiatives such as education reform, welfare reform, and economic development. However, for several decades, concerns have also been mounting throughout communities in the United States about adolescent sexual behavior, pregnancy, and parenthood. These concerns have intensified for various reasons, particularly the amount of government funds that are allotted toward supporting children from indigent teen births.

For example, as legislators struggled with a record state budget deficit, a study released on March 13, 2003 by the Public Health Institute (PHI) put California's annual societal costs related to teen births at \$3.3 billion (Public

Health Reports, 1994). On a national level, costs per senate district in the United States were calculated based on a comprehensive and rigorous series of cost analyses for teen pregnancy and parenting. Estimates of taxpayer costs (including lost tax revenue and public assistance costs) and total societal costs (also including lost income, productivity and medical costs) were determined based on the total teen birth rate in each district. The resulting numbers depict a substantial challenge for districts already struggling with major revenue losses and cutbacks, and have forced senators to look at losses in their district which range from \$27 million to \$192 million a year (The Urban Institute Press, 1997).

## **1.2 Problem Statement**

A young woman who has a child before graduating from high school is less likely to complete school than a young woman who does not have a child. Only 64 percent of teen mothers graduated from high school or earned a GED within 2 years after they would have graduated compared with approximately 94 percent of teenage women who did not give birth ([www.aecf.org](http://www.aecf.org)). The failure to go further in school can limit the mother's employment options and increase the likelihood that she and her family will be financially deprived. In addition, the roughly one-fifth of adolescent moms who have more than one child are even more economically vulnerable. They might further delay finishing high school, putting them at greater risk of being slotted into low-wage jobs or of facing prolonged unemployment, poverty, and welfare (The Urban Institute Press, 1997).

In 1999, Hamilton County's teen birth rate for 15-17 year olds was above both the state and national averages. Hamilton County's teen birth rate has consistently been higher than the state average. While births to teens aged 15-17 in the County make up five to six percent of live births each year and births to all teens (10-19) make up about 14 percent of all births, there are several Hamilton County neighborhoods with considerably higher proportions of teen births.

**Table (1)** displays the variation in neighborhood teen births for both teens 15-17 and teens 18-19. Teen births for teens 15-17 range from 0 to 26 percent of all births. There are 11 neighborhoods in the county where births to teens aged 15-17 made up 13 percent or more of all births (from 1990-1995). Similarly, the percentage of births to teens age 18-19 varies greatly across neighborhoods, with a range of 0 to 20 percent. There are 22 Hamilton County neighborhoods where 13 percent or more of the births are to teens aged 18-19. **(See Table 1)**

The Health Improvement Collaborative of Greater Cincinnati (HICGC) is a coalition of community leaders from the physician, insurer, employer, hospital, government, education and consumer sectors. These diverse stakeholders are committed to the Collaborative mission of stimulating continuous, significant measurable improvement in the health of the people of Greater Cincinnati through collaborative leadership. One of the Collaborative interests is monitoring adolescent pregnancies. In doing so, they discerned that adolescent pregnancy trends make it possible for communities at high risk to develop intervention strategies to reduce unintentional pregnancies among teens. Teen parenting

places women at increased risk for not completing high school. This leads to decreased earning potential and increases the likelihood of living in poverty.

As a result of social and economic changes throughout the developing world, the economic consequences of early parenthood often are more extreme and longer lasting today than in the past. Increasingly, young women and men find that they need living-wage paying jobs, and education to get those jobs. Where young women's opportunities for economic advancement are scarce in rural areas of many developing countries, early childbearing may not worsen a young woman's already poor economic prospects. However, most urban areas offer a young woman some opportunity for a well paying job if she has the skills. Thus, in cities, a woman who has a child before age 20 may suffer the same economic setbacks as her counterpart in developing countries, largely because her education has been cut short ([www.infoforhealth.org](http://www.infoforhealth.org)). In the relationship between poverty and early parenthood, causality appears to run in both directions. The poorest women are those most likely to have children while young, and those having children while young also are likely to remain in poverty. In the extreme, many young unmarried mothers are forced to sell sex to support themselves and their infants ([www.infoforhealth.org](http://www.infoforhealth.org)).

Infants and young children are totally dependent on nurturance from their parents and/or other caregivers. Parenting is demanding because meeting the needs of children, as well as maximizing their potential, requires personal, social, and economic resources. Thus, becoming a parent too soon, before adult abilities are attained and before the necessary resources are acquired, usually

poses problems for children and their young parents. Because of the need for assistance from others, early parenthood represents a drain on the resources of extended families and the larger society.

Children born to teen mothers often do not have an even start in life. They are more likely to grow up in a poor and mother-only family, to live in a poor or underclass neighborhood, and to experience high risks to both their health status and potential school achievement.

Teen parents and their children are less likely to graduate from high school than those who delay childbearing. For instance, less than 40 percent of teen mothers who have a child before 18 ever complete high school and teen dads complete less than young men who wait to become fathers until they are at least 21 years old ([www.teenpregnancy.org](http://www.teenpregnancy.org)).

Along with the general concerns for new mothers, teen parents must worry that premature parenting will foreshorten their schooling, narrow their personal development, and greatly increase the likelihood that they will be poor and dependent as young adults. Equally predictable is that the hardship of too-early parenting will be visited upon the next generation. The children of teenagers are far more likely than other babies to be below average in weight at birth, deprived of adequate learning opportunities, and poor. As they grow up, these youth are more likely to drop out, get into trouble, and end up as teen parents themselves (The Urban Institute Press, 1997).

Many teen mothers have babies that experience low birth weights. Very low birth weight individuals (those weighing less than 1,500 g at birth) experience

educational and intelligence deficits that last into adulthood, according to data from a longitudinal study in Ohio (Hack M et al, 2002). For example, these infants have significantly decreased odds of graduating from high school by age 20 and increased odds of having an IQ in the subnormal or borderline range (Hack M et al, 2002). With this being the case, once in school these individuals are more likely to have behavioral problems due to their decreased intellectual ability. As a result, they may become truant. Also, while attending school these students are often expelled because of their behavior problems and risk extreme juvenile behavior.

Ohio's Department of Education has not funded a system of education that meets the needs of all learners. Current law permits children to be expelled without referral to another school. Alternative education in alternative settings is not widely available for youth who are disruptive and unsuccessful learners in the traditional setting. Data shows that these youth, without an opportunity to experience a different learning approach based on their individual needs and in which they can progress at their own pace, often find their way to the juvenile or adult correctional system ([www.lwv.cincinnati.org](http://www.lwv.cincinnati.org)).

The juvenile justice system was founded on the concept that youth are different from adults. Juvenile courts were established to provide youth a chance to make a better choice than delinquency. More than simply providing another chance, juvenile justice professionals work to enable youth to make the kinds of decisions that will ensure a better future for themselves and their communities.

However, if the community could work together to prevent teen pregnancies and subsequent births, then juvenile incarcerations can also be reduced.

### **1.3 Objective**

The primary objective of this study is to determine if instituting a countywide sex education prevention program in Hamilton County, Ohio would be more cost effective to the community than funding childcare, welfare subsidies, male juvenile incarcerations, and other expenses that can be related to indigent teen births.

### **1.4 Hypothesis**

By investing funds in an effective sex education prevention program that decreases the number of births to indigent teens each year, Hamilton County, Ohio can reduce some of the societal and economic problems that coincide with teen parenting such as an increase in teens on welfare, male juvenile incarcerations and a greater demand for childcare subsidies.

The Postponing Sexual Involvement (Atlanta) curriculum seems to have successfully addressed the benefits of abstinence in that city. By deciding to abstain from sex as a teen, the societal ills mentioned above appear to be decreased greatly. Thus, the next step is to decide if PSI Cincinnati, based on this proven model, would be an effective sex education program to implement countywide, to produce the desired affect? If this were so, the benefits of the PSI program would justify the costs of implementing it.

**Table 1: 1999 Teen Birth Rates by Hamilton County Political Jurisdiction**

<b>Political Jurisdiction</b>	<b>Total Births</b>	<b>Teen Births</b>	<b>Teen Birth Rate</b>
Addyston	19	5	60.2
Amberley Village	30	1	6.4
Anderson Twp.	537	8	2.5
Arlington Heights	6	1	17.9
Blue Ash	107	8	10.3
Cheviot	131	9	15.9
Cleves	85	15	98.7
Colerain Twp.	679	74	17.3
Columbia Twp.	46	6	14.1
Crosby Twp.	14	4	17.4
Deer Park	78	7	22.3
Delhi Twp.	305	27	11.0
Elmwood Place	35	18	96.8
Evendale	22	1	3.4
Fairfax	19	2	13.9
Forest Park	207	16	10.6
Glendale	19	0	.0
Golf Manor	25	4	17.5
Green Twp.	526	32	8.8
Greenhills	31	3	10.6
Harrison	134	24	28.9
Lincoln Heights	52	19	60.1
Lockland	49	13	53.3
Loveland	194	11	13.8
Madeira	91	4	7.5
Mariemont	44	1	6.2
Miami Twp.	58	4	4.5
Montgomery	101	2	3.4
Mount Healthy	87	10	21.5
Newtown	17	0	.0
North Bend	12	2	52.6
North College Hill	120	17	24.7
Silverton	59	5	18.0
Springfield Twp.	334	49	17.7
Sycamore Twp.	190	9	7.4
Symmes Twp.	113	4	4.1
Terrace Park	23	0	.0
Whitewater Twp.	57	7	18.1
Woodlawn	30	8	41.9
Wyoming	66	5	10.8
<b>TOTAL</b>	<b>4,752</b>	<b>435</b>	-----

Source: 1999 Hamilton County Birth Public Health Report

## CHAPTER 2

### BACKGROUND

#### 2.1 Teen Parenting Consequences and Postponing Sexual Involvement

Rates of adolescent births in the United States are much higher, from two to ten times higher, than in other industrialized societies ([www.caps.ucsf.edu](http://www.caps.ucsf.edu)), and although teen birth rates are lower now than they were after World War II, there have been increases in rates of adolescent childbearing in the U.S. since the mid 1980's. Currently, birth rates among teens are nearly one-quarter higher than they were in 1986 ([www.caps.ucsf.edu](http://www.caps.ucsf.edu)). Adolescent childbearing outside of marriage has been increasing for several decades and at a very rapid pace ([www.caps.ucsf.edu](http://www.caps.ucsf.edu)). Of all births to young women under age 20, only 15 percent were not married in 1960, compared to 30 percent in 1970, 48 percent in 1980, and 71 percent in 1992 ([www.caps.ucsf.edu](http://www.caps.ucsf.edu)).

Many concerned parties, including policy makers, tax payers, parents, scholars and program providers, want to identify programs that would bring about large reductions in unintended adolescent pregnancy and parenthood. For at least two decades now, varied approaches to prevention and intervention have been tried in the United States. Interventions to delay the initiation of teen sexual activity, improve contraceptive use among sexually active adolescents, (in some cases) influence pregnancy resolution decisions among those who become pregnant, and reduce or delay subsequent births have been attempted. Some

programs are less direct, focusing on issues such as life options, in the belief that adolescents who perceive better educational, occupational, and economic opportunities for themselves will seek to postpone parenthood. Prevention programs are often school-based because students are an accessible and somewhat captive audience.

### ***2.1.1 Description of Postponing Sexual Involvement (PSI) Program***

Postponing Sexual Involvement (PSI) is a skill-building educational program that teaches "how and why to say no" to adolescent sexual involvement. The series is designed to provide young people with tools to help them bridge the gap between their physical development and their cognitive ability to handle the implications of such development. The PSI series helps both preteens and young teens think about, discuss, and practice using information that will help them manage their emerging sexual feelings and resist social and peer pressure to become sexually involved as they mature. The PSI curriculum works to build the motivation and skills needed for embracing an abstinence lifestyle.

PSI has a curriculum that is positive in tone, age appropriate, culturally sensitive, medically accurate, and addresses the roots of the problem. PSI focuses on building skills, self-efficacy, self-esteem, and internal locus of control as well as other needed foundations from which healthy choices like abstinence can spring ([www.sexcanwait.com](http://www.sexcanwait.com)).

PSI already exists in the Cincinnati Public School District. PSI is an abstinence-based community planning initiative that has had a positive influence on decreasing the number of teen births in the Cincinnati Public School District.

Operated through a partnership between Children's Hospital Medical Center of Cincinnati and Cincinnati Public Schools, the PSI Program was created in 1983 by Dr. Marion Howard at Emory University/Grady Memorial Hospital ([www.cincinnatichildrens.org](http://www.cincinnatichildrens.org)).

### ***2.1.2 Characteristics of the PSI Program***

The Atlanta PSI program was designed for students of all backgrounds and is aimed at students in the seventh or eighth grades. In this study, 99 percent of the students were African-American and all came from low-income families.

In Cincinnati, PSI is run as a partnership between Cincinnati Children's Hospital Medical Center and the Cincinnati Public Schools. PSI is a program of Cincinnati Children's Division of Adolescent Medicine. The program is overseen by Christopher Kraus, JD; MTS. Kraus works with three professional staff members and a Public Allies intern.

Cincinnati PSI also operates PSI PAYOFF, a community outreach, training and consultation service for school districts outside of Cincinnati Public Schools. PSI PAYOFF has helped establish PSI teen leadership programs in the tri-state area and around the country, including Washington DC, Harlem NY, Rochester NY, Corpus Christi TX, Richmond VA, Williston ND, Ft. Smith AK, Columbus OH, Milford OH, Highland County OH, Hamilton, OH and with the Kentucky Department of Health ([www.cincinnatichildrens.org](http://www.cincinnatichildrens.org)).

### **2.1.3 Program Objectives**

Postponing Sexual Involvement's five-session, peer-led curriculum is designed to augment a five-session human sexuality curriculum led by health professionals, who also refer sexually active youth to nearby reproductive health care. Although eighth graders were used in the original study, PSI Cincinnati recommends using it with seventh grade students, African-American youth, sexually inexperienced youth, and youth at higher risk due to socioeconomic disadvantage.

Postponing Sexual Involvement is a school-based program designed to delay sexual activity among adolescents. The program curriculum was developed at Atlanta's Grady Memorial Hospital in 1983 and widely introduced into the Atlanta public schools in 1985. In the mid-1970s, the hospital initiated a sex education program called "Human Sexuality," which consisted of five classroom sessions covering basic human sexuality, decision-making, and contraceptive methods. Health educators, nurses, and adolescent counselors presented the program to local eighth graders. Evaluations of the Human Sexuality program, however, showed that simply providing information was not effective in changing behavior.

Dr. Marion Howard and Marie Mitchell developed PSI to supplement the Human Sexuality program. PSI is based on the "social influence" theory, which holds that young people are more likely to become sexually involved because of social and peer pressures than because of a lack of knowledge. Thus, PSI uses activities that help identify the origins of pressure to engage in sexual activity,

examines the motivations behind that pressure, and helps students develop skills to respond to that pressure effectively. The program is also built on research that shows that teenage leaders produce greater and more lasting effects on other teens' behavior than do adults.

When implemented in Atlanta in 1985, students received both the Human Sexuality and PSI programs. PSI is designed to be delivered in five classroom sessions, each 45 to 60 minutes long. The first four sessions are conducted either in the same week or weekly over four weeks. The fifth session, which was designed to reinforce the material, is given one to three months later. A pair of teen leaders, usually a boy and a girl, lead each session. PSI was presented to all eighth graders in 19 schools, reaching about 4,500 students (Howard, McCabe, 1990).

Postponing Sexual Involvement teen leaders are role models for responsible sexual behavior and career aspirations. Once a week, teen leaders travel in pairs to an elementary or middle school class, where they teach five 45-minute lessons from the Postponing Sexual Involvement leaders' guide called **Managing Pressures Before Marriage**.

Teen Leaders actually run the class, conducting activities, leading discussions and role-plays, showing video segments, and developing a positive rapport with the students. Teen leaders are also involved in some behavior management of their students ([www.cincinnatichildrens.org](http://www.cincinnatichildrens.org)).

#### ***2.1.4 Sexual Behavior Changes after Implementing PSI***

In Atlanta, the PSI abstinence program reduced the rate of initiation of sexual activity during the 8th grade by 60 percent for boys and more than 95 percent for girls, in comparison with peers who did not participate in the program. For example, by the end of the eighth grade, boys who had not had the program were three times as likely to have begun having sex as boys who participated in the program, and girls who had not had the program were 15 times more likely to have begun having sex as peers who participated in the program. The effects of the program provided to eighth graders continued into the ninth grade. By the end of the ninth grade, students who had participated in PSI were still 35 percent less likely to have commenced sexual activity than peers who had not participated in the program (Howard, McCabe, 1990).

## CHAPTER 3

### LITERATURE REVIEW

After reviewing various books and articles from the literature regarding teen sexual behavior, there are six prevailing factors that contribute to the reasons why teens have sex. These factors are: family background, school context, individual aspects, peers, sexual partners, and neighborhoods & community. Also, after determining why teens become sexually active, it was also important to research and discuss information regarding teen pregnancy, and the economic and societal cost of births to teens.

#### 3.1 Why Teens Have Sex

There are many variables related to the onset of a teen's first experience with sexual intercourse, and subsequently, the possibility of the teen becoming a parent. On average, males begin having sex at younger ages than females, and blacks begin at younger ages than whites or Hispanics. There are also strong effects of developmental characteristics, such as early puberty and high levels of androgen hormones (i.e., testosterone), which are associated with increased adolescent sexual behavior. Dating, and especially early steady dating, provides a context for many adolescent sexual experiences.

Unconventional psychosocial attitudes and behaviors as reflected by early use of alcohol, tobacco and other drugs, school problems, delinquency, and physical aggression, are also associated with earlier onset of adolescent sexual intercourse. Parents' marital disruption and living with a single parent have been

found to be associated with earlier onset of adolescent sexual behavior. This finding reflects a variety of factors, including lower family incomes, disadvantaged neighborhoods, lesser supervision, parental modeling, and more permissive attitudes in single parent families. Similarly, having sexually active siblings and friends is strongly related to a younger age at the onset of sexual activity. On the other hand, having well-educated parents, supportive family relationships, parental supervision, sexually abstinent friends, good school grades and attending church frequently are all related to later onset of sexual intercourse (aspe.os.dhhs.gov).

### **3.1.1 Family Background**

Multiple family characteristics are associated with teen sexual behaviors. Teens that grow up in families with two biological parents and adolescents whose families have higher socioeconomic status (including higher education and income) are more likely to be taught the significance of abstaining before marriage. Further, teens whose parents had children at an early age or who have siblings who have had an early pregnancy are more likely to have an early age of sexual initiation and a greater likelihood of a teenage pregnancy or birth (East 1996a, 1996b; Widmer, 1997).

The quality of parent-adolescent relationships is also associated with sexual decision-making. Adolescents who feel like they have a high-quality relationship with their parents and who communicate regularly with their parents are more likely to initiate sex at a later age and exhibit fewer sexual risk-taking behaviors (Miller, 1998). Parents who discuss issues of sexuality and

contraceptive use and who communicate strong disapproval of early sexual activity are more likely to have children with more positive reproductive health outcomes (Miller, Levin, Whitaker, & Xu, 1998; Romer et al. 1999). Adolescent children whose parents are involved in their schooling exhibit fewer risk-taking behaviors (Manlove, 1998). In addition, parents who closely monitor their adolescents' activities have children who are less sexually active (Miller, 1998).

### ***3.1.2 School Context***

The school system represents one institution that most adolescents are involved in, and studies show that the type of school that teens attend, their perceptions of safety in school, and characteristics of the school population are all associated with teenage sexual behaviors and practices.

Attending a private or parochial school is associated with delayed sexual activity and a reduced risk of pregnancy and childbearing (Manlove, 1998; Resnick et al., 1997). Attending schools with fewer disadvantaged teens and attending safer schools with lower levels of crime and vandalism are also associated with more positive reproductive health behaviors (Manlove, 1998; Moore et al., 1998). Attending sex education programs in schools appears to be associated with improved knowledge of contraception and some studies have shown an association with delayed sexual activity and improved contraceptive use among some populations (Kirby et al., 1994).

### **3.1.3 Individual Aspects**

Various individual characteristics are associated with teenage sexual behaviors. Demographic characteristics, including gender, race/ethnicity, and age are all important, with males more likely than females to initiate sexual intercourse at an early age and to exhibit greater levels of sexual activity; racial and ethnic minorities are more likely to engage in behaviors related to teen pregnancy. Older teens are more likely to be sexually experienced, but also more likely to use contraception (Abma & Sonenstein, 2001; Miller, Norton et al., 1997; Raine et al., 1999; Santelli et al., 2000). Pubertal development and age at onset of menstruation are associated with the likelihood of being sexually experienced, and teens who appear older or more physically developed are more likely to be involved in sexual activity (Miller, Norton et al., 1997; Resnick et al., 1997).

Individual engagement and performance in school (Afxentiou and Hawley, 1997; Manlove, 1998; Thornberry et al., 1997), religious activities (Halpern et al., 2000; Lammers et al., 2000; Mott et al., 1996), and sports (among females) (Miller, Sabo et al., 1998; Sabo et al., 1998) are all associated with more positive reproductive health behaviors, indicating that involving teens in outside activities may help them avoid other risk-taking behaviors. In contrast, teens that are already involved in other risk-taking behaviors such as alcohol and drug use are more likely to engage in risky sexual behaviors (Kowaleski-Jones & Mott, 1998; National Center on Addition and Substance Abuse, 1999).

Adolescents with a greater knowledge of reproductive health issues are more likely to use contraception (Manning et al., 2000; Mauldon & Luker, 1996), and “virginity pledges” appear to protect against early sexual activity among some populations (Bearman & Brückner, 2001). In addition, teens that are highly motivated and confident that they will delay sexual initiation are more likely to do so (Carvajal et al., 1999).

#### **3.1.4 Peers**

Adolescent peer attitudes and behaviors are associated with reproductive health decisions. Teens with sexually active friends are more likely to have had sexual intercourse themselves (Miller, Norton, et al., 1997). In addition, teens that believe that their friends are having sex are more likely to initiate sexual intercourse at an earlier age (Kinsman et al., 1998). Alternatively, teens who report high-achieving peers with strong educational aspirations and peers who avoid other risk-taking behaviors are less likely themselves to have sex at an early age and are more likely to avoid an early pregnancy (Bearman & Brückner, 1999).

#### **3.1.5 Sexual Partners**

The relationship that adolescents have with their sexual partners, as well as the characteristics of their partners, is associated with their likelihood of using contraception and risk of pregnancy and Sexually Transmitted Infections (STIs). Not surprisingly, adolescents who have dated or who report that they have been in a romantic relationship are more likely to engage in sexual intercourse than those who have not (Blum, Beuhring, & Rinehart, 2000), and married teens

report a greater incidence of pregnancy (Darroch, Landry, & Oslak, 1999b). Adolescents who participate in risky behaviors such as drug and alcohol use are more likely to have multiple sexual partners, which puts them at a greater risk of pregnancy and STIs (Santelli, et al., 1998). Some studies show that teens in casual relationships were less likely to use a contraceptive method, at least at first sexual intercourse (Manning et al., 2000), while others suggest that teens may be more likely to use a contraceptive method with more casual partners (Forste & Morgan, 1998). Teens who discuss sexual risk with their partners are more likely to use a contraceptive method (Whitaker et al., 1999). In addition, teens with no voluntary sexual experiences and teens with much older sexual partners appear to be at-risk of early intercourse, multiple sexual partners, failure to use contraception, and a greater risk of pregnancy (Abma, Driscoll, & Moore, 1998; Darroch, et al., 1999a; Stock et al., 1997).

### ***3.1.6 Neighborhoods and Community***

In addition to families and schools, neighborhoods provide an environment within which adolescents make decisions related to sexual activity. The neighborhoods and communities that adolescents live in may also influence their reproductive health behaviors. Numerous studies show that adolescents living in disadvantaged communities with high poverty rates and low socioeconomic status have a greater risk of early sexual initiation, adolescent pregnancy and childbearing (Brewster, Billy, & Grady, 1993; Hogan & Kitagawa, 1985; Sucoff & Upchurch, 1998). The effects of the neighborhood environment, such as the community economic base and labor market conditions for women, account for a

substantial portion of the racial differences among blacks and whites in the timing of first sexual intercourse. Thus, in one study, the overall risk of non-marital first intercourse was reported to be 50 percent higher for black teens than white teens, even controlling for individual and family level factors such as mothers' education and marital status and respondents' education and religious affiliation ([www.infoforhealth.org](http://www.infoforhealth.org)). The addition of contextual variables such as median family income, female unemployment, and female full-time employment reduced the racial difference in risk of first non-marital intercourse to 36 percent. Alternately, living in a community with higher socioeconomic status is associated with a reduced risk of risky sexual activity. Racial/ethnic composition also influences outcomes, although this may be through the presence or absence of available sexual partners (Brewster, et al., 1993; Billy, Brewster, & Grady, 1994).

In addition to the literature that discusses why teens are deciding to have sexual intercourse at much younger ages, the literature also addresses how schools, peers and communities are confronting the need for young people to understand the importance of abstaining. Hence, many Cincinnati schools and community organizations have chosen PSI because of its approach. PSI attacks the issue of teen sexuality from all sides. PSI uses individual factors, family background, peers, partners, school context and community to reach out to teens and encourage them to abstain from sex until they are mentally, physically, and emotionally ready. The PSI approach focuses on how to help young teens understand the pressures in society that influence young people's attitudes about sex. Next, it tries to help young teens understand their rights in social

relationships. Also, PSI helps young teens deal with pressure situations through the use of assertive responses. After addressing the issue of pressure, the program then helps young teens say "No" to teenage sex. Lastly, the program is designed to help parents understand the pressures in our society that influence young people's attitudes about sex. Ultimately, PSI wants to give parents and teens the necessary tools to help young people say "No" to teenage sex.

### **3.2 Teen Parenting and the Juvenile Justice System**

A researcher for Florida State University's Center for Prevention & Early Intervention Policy looked at the incarceration rates of the sons of young mothers. His findings presented that 10.3% of males born to mothers age 17 and younger were incarcerated, compared to 3.8% of the sons born to older mothers ([www.cpeip.fsu.edu](http://www.cpeip.fsu.edu)).

Children are developmentally different from adults. As a result, youth offenders are both less culpable and more amenable to intervention and treatment. There is a fundamental difference in philosophy between juvenile courts and adult criminal courts. Because young offenders are believed to be particularly malleable and susceptible to rehabilitation, the juvenile court seeks to rehabilitate juvenile delinquents, thereby preventing future criminal behavior. In contrast, adult criminal courts seek to induce law-abiding behavior by means of punishment for wrongdoing. The goal of the Juvenile Court has been the recovery and rehabilitation of children rather than their punishment and incarceration ([www.teenprgencancy.org](http://www.teenprgencancy.org)).

In Hamilton County, the Hillcrest Training School is a 142 bed correctional/treatment facility for adjudicated, male adolescents placed there by the Court. The program provides both residential and aftercare service to males between 12 and 17 years of age who have committed felony offenses ([www.hamilton-co.org](http://www.hamilton-co.org)).

The boys are housed in 12 cottages of 11-12 inmates each; 6-7 staff members are on duty 24 hours a day. In addition to the cottages and Administration Building, there is a Charter School, gym with swimming pool, New Trail, where the boys learn cooperation and trust through outdoor activities, a large cafeteria and a chapel (non-denominational with attendance voluntary staffed by volunteer clergy). Staff includes well-trained and licensed counselors, social workers, teachers, psychologists, nurses, other professionals and volunteers who have been screened ([www.hamilton-co.org](http://www.hamilton-co.org)).

Upon intake each juvenile is evaluated for psychological and medical status, educational level, suicide risk, Attention Deficit and Hyperactivity Disorder (ADHD), history of abuse, and other relevant factors. Youths are then placed in an appropriate cottage. Residents are divided into three groups by the type of offense, non-violent offenders, substance abusers and sex offenders. Like offenders are housed together ([www.hamilton-co.org](http://www.hamilton-co.org)).

The boys' days are very structured between school, group and individual therapy sessions and group activities. Restitution is often a part of the juvenile's sentence and a work program is provided that includes ground maintenance, cafeteria jobs, and community service and supervised off-grounds work

experience. Parental participation includes Sunday visits, parent nights, home visits by staff, family counseling, education, and support groups ([www.hamilton-co.org](http://www.hamilton-co.org)).

The average stay at Hillcrest is 7 months or 210 bed days. In 2000, the average stay was 215 days. Youths enter an aftercare program six weeks prior to going home and remain in it for eight months. Sex offenders generally stay up to 14 months and remain in the aftercare program for a longer time.

Both the American Correctional Association, and the National Commission on Correctional Health Care (NCCHC) accredit the facility. In addition, Hillcrest operates under the full compliance with Department of Youth Services (DYS) standards and is also an Ohio Department of Mental Health provider. In 2001 the Correctional Accreditation Association of Ohio for its professionalism and role modeling selected it as facility of the year ([www.hamilton-co.org](http://www.hamilton-co.org)).

### **3.3 Teen Parenting and Childcare**

Most developing countries do little legally to mandate that the father provide financial support for the mother and infant. Even where support is mandated, as in the US, enforcement may be erratic or ineffective. In some societies, unmarried young women who give birth receive economic support from the child's father or his family, especially when the father officially acknowledges paternity ([www.infoforhealth.org](http://www.infoforhealth.org)). As a result of the lack of financial assistance through child support, many teen mothers are forced to apply for aid to help pay for much needed expenses like day care.

### **3.4 Teen Parenting and Welfare**

Welfare demonstration programs aimed specifically at teenage mothers have shown minimal effects on subsequent fertility behavior. New Chance, a welfare demonstration project designed to assist young mothers in strengthening their skills to become self-sufficient, was conducted at 16 sites in 10 states. The program offered participants educational preparation, career training, health and family planning classes and other services such as childcare. A short-term follow-up at 18 months showed the program group to have more pregnancies and abortions and a greater likelihood of living with a husband or partner than the control group. A longer-term follow-up (42 months) showed virtually no difference between these groups on marriage or fertility outcomes (Quint, Bos & Polit, 1997). Another program targeted at transitioning teenage mothers to self-sufficiency, the Teenage Parent Demonstration (TPD), showed no impacts on marriage and fertility behavior. TPD, implemented in New Jersey and Illinois, provided young mothers receiving Aid to Families with Dependent Children (AFDC) supportive services such as case management, child care assistance, and transportation assistance while they were participating in mandatory education, job training, or employment-related activities. Nevertheless, TPD participation did not significantly reduce participants' future pregnancies or births (Kisker, Rangarajan, & Boller, 1998).

In addition to the goal of moving welfare recipients into work, the 1996 federal welfare reform law placed a strong emphasis on reducing out-of-wedlock childbearing and teen pregnancy. Welfare caseloads have declined dramatically

since 1996 and millions of low-income parents have moved into the labor force. Child poverty rates have also declined significantly. However, this progress could be short-lived if a pregnant younger sister, or daughter, who is not prepared to support a family, replaces every welfare recipient who goes to work and begins moving toward self-sufficiency. To sustain the progress made to date, it is important to implement policies and invest resources that help young people - both girls and boys - avoid premature pregnancy and childbearing ([www.teenpregnancy.org](http://www.teenpregnancy.org)).

## CHAPTER 4

### METHODOLOGY

Not only does teen childbearing have serious consequences for teen parents, their children, and society, it also has important economic consequences. Helping young women avoid too-early pregnancy and childbearing, and helping young men avoid premature fatherhood, are easier and much more cost effective than dealing with the range of problems that occur after the babies are born.

The Schaefer Center, in Baltimore, completed a study of the economic impact of adolescent pregnancy in Maryland and selected political subdivisions. The study concluded that in 1987, federal and state governments spent over \$454 million to provide assistance to Maryland families that were begun by a teen mother. Over half of these funds went to families in Baltimore City ([www.dctt.ubalt.edu](http://www.dctt.ubalt.edu)). With so much money spent on assistance of this type, there is an economic, as well as a social reason, to reduce teen pregnancies. As a result, a benefit-cost analysis of the PSI Cincinnati program is conducted to assess if the economic and social benefits of instituting such a program outweighs the societal problems that coincide with teen pregnancy such as an increase in teens on welfare, male juvenile incarcerations and a greater demand for child care subsidies.

## **4.1 Cost-Benefit Analysis**

Several factors must be taken into consideration if one hopes to conduct a comprehensive economic analysis of a program. Conducting a cost-benefit analysis of a program is an attempt to assess social and economic costs and benefits.

A cost-benefit analysis of the Postponing Sexual Involvement Program requires estimates of the tangible benefits of the program and estimates of the costs of undertaking the program, both direct and indirect. Once specified, the benefits and costs are translated into a common monetary measure.

## **4.2 Costs**

When conducting a cost-benefit analysis, the costs are the expenditures that incur. When calculating the costs of a societal health issue, the direct costs are the expenditures for services attributable to the health issue, reflecting the use of resources. Indirect costs are the loss of output attributable to a particular health issue. In the case of teen pregnancy, there may be an additional loss of output owing to the “stigma” of being a teen parent. Direct costs can be reduced by failing to provide services, but usually at the penalty of increasing the indirect costs (Klarman, 1963)

The stigma associated with being a teen parent may not be an issue that has a direct cost allotted to it, but there are direct costs to the parent and society. Often times, teen parents are left feeling embarrassed, betrayed, and ostracized from society. They and their children run the risk of being marginalized by their peer groups and their communities.

#### **4.2.1 Social Costs of Teen Parenting**

Out-of-wedlock teen births are not only a costly social problem, but the children themselves are at a significant disadvantage compared to children born to two-parent families. Below are the statistics as cited from the National Center for Policy Analysis:

- Children born to teen parents are 50% more likely to be born with a low birth weight and have a higher rate of infant mortality.
- Some 29.7% of children born to teen parents must repeat a grade at school, compared to the overall rate of 11.6%.
- Children from single-parent families or stepfamilies are two to three times more likely to have emotional or behavioral problems.
- Daughters of single parents are 53% more likely to marry in their teens, 111% more likely to have children as teenagers, 164% more likely to have premarital births, and 92% more likely to end their marriages.
- Studies show that when they reach their 30s, children of one parent families earn an average of \$11,500 less than those from two-parent families - regardless of race or parent income.
- Seven in ten juveniles in long-term correctional facilities did not live with their fathers while they were growing up.

Currently, experts estimate that the combination of lost tax revenues and increased spending on public assistance, child health care, foster care, and the

criminal justice system in the United States totals about \$7 billion annually for births to teens (The Urban Institute Press, 1997).

#### ***4.2.2 Teen Parenting and Incarceration Costs***

The sons of teen mothers are 13 percent more likely to end up incarcerated than sons of mothers who delay childbearing for even a few years. If teens waited until they were at least 20 years old to have a baby, it is estimated that the national incarceration rate would fall by 3.5 percent, a savings of \$1 billion a year in correctional costs. Moreover, because the costs of incarceration only account for approximately one-third of the total costs of law enforcement, the total savings to the criminal justice system could be significantly greater ([www.teenpregnancy.org](http://www.teenpregnancy.org)).

#### ***4.2.3 Teen Parenting and Subsidized Childcare Costs***

Under Temporary Assistance for Needy Families (TANF), states may not provide financial assistance to unmarried, minor, custodial parents who do not have a high school diploma or its equivalent unless they are attending school. This provision was included to make clear to young parents that having a child does not release them from responsibility for completing their education; instead, having a child obligates them to complete their education in order to be more self-sufficient, prepared for work, and a responsible parent and role model for their child. However, in order for a teen mother to continue their education and receive their TANF funding, she will need childcare provisions. Unfortunately, the majority of teen mothers are unable to afford childcare with their TANF funding, so they need additional subsidies for childcare services.

#### **4.2.4 Teen Parenting and Welfare Cost**

In *Kids Having Kids: A Robin Hood Foundation Special Report on the Costs of Adolescent Childbearing*, researchers note that during her first 13 years of parenthood, the average adolescent mother receives AFDC and food stamps valued at just over \$1,400 annually.

Continuing to reduce teen births will sustain the recent decreases in welfare dependency and poverty, especially persistent child poverty. Poverty is a cause as well as a consequence of early childbearing, and some impoverished young mothers may end up faring poorly no matter when their children are born. Nevertheless, most experts agree that although disadvantaged backgrounds account for many of the burdens that young women shoulder, having a baby during adolescence only makes matters worse:

- Compared to women of similar social-economic status who postpone childbearing, teen mothers are more likely to end up on welfare.
- Almost one-half of all teen mothers and over three-quarters of unmarried teen mothers began receiving welfare within five years of the birth of their first child.
- Some 52 percent of all mothers on welfare had their first child as a teenager.
- Teen mothers are less likely to complete the education necessary to qualify for a well-paying job. Only 41 percent of mothers who have children before age 18 ever complete high school compared with 61

percent of similarly situated young women who delay child bearing until age 20 or 21.

- Virtually all of the increase in child poverty between 1980 and 1996 was related to the increase in nonmarital childbearing, and half of never-married mothers begin their childbearing as teens.
- Two-thirds of families begun by a young unmarried mother are poor.
- Nearly 80 percent of fathers of children born to teen mothers do not marry the mothers. These fathers pay less than \$800 each annually in child support, often because they are quite poor themselves. Since child support can be an important source of income for poor children, children born to young fathers are at further disadvantage.
- Teen mothers are likely to have a second birth relatively soon — about one-fourth of teenage mothers have a second child within 24 months of the first birth — which can further impede their ability to finish school or keep a job and to escape poverty ([www.teenpregnancy.org](http://www.teenpregnancy.org)).

#### ***4.2.5 Teen Parenting Costs to Hamilton County***

In Hamilton County, current figures show the Juvenile Court system received approximately \$34,100,000.00 from County General Funds.

The cost for male juvenile incarcerations, subsidized childcare and welfare subsidies are a significant part of the social services budget. Comparatively, a study about teen parenting costs conducted in Denver, Colorado showed similar results to those in Hamilton County ([www.friendsfirst.org](http://www.friendsfirst.org)).

**Figure 1: Direct Costs (Denver, CO)**

<b>PROGRAM</b>	<b>COSTS</b>
AFDC/TANF	\$289/ month
Food Stamps	\$150/month
WIC	\$60/month (formula)
Medicaid Costs	\$250/month
<b>Total Costs</b>	<b>\$749/month</b>

Sources: ([www.friendsfirst.org](http://www.friendsfirst.org))

**Figure 2: Direct Costs (Hamilton County, OH)**

<b>PROGRAM</b>	<b>COSTS</b>
TANF	\$356/month
Food Stamps	\$308/month
Medicaid	\$277/month
Administrative Costs	\$41/month
<b>Total Costs</b>	<b>\$983/month</b>

Sources: ([www.cba.uc.edu](http://www.cba.uc.edu))

#### **4.2.6 Cost to Implement PSI in Hamilton County**

In Cincinnati Public Schools (CPS), PSI charges a \$20.00 per pupil per year service fee to Cincinnati Public School buildings hosting PSI in 2003-04.

In a small school district that targets 400 students per year, Postponing Sexual Involvement can cost less per pupil.

In order to train potential PSI adult leaders, PSI PAYOFF conducts 8-hour training sessions. The fee to train groups outside of the Cincinnati Public School District is \$600 per 8-hour day, plus travel, meals and lodging. This does not include the cost of Postponing Sexual Involvement books, which must be purchased from Atlanta Postponing Sexual Involvement ([www.cincinnatichildrens.org](http://www.cincinnatichildrens.org)).

Indirect costs are resources not actually budgeted for or assigned to the program, but nonetheless represent a withdrawal of resources from the economy

that allows the program to operate. These costs are often borne to the participants and as such they may represent opportunity costs to the individuals (Lambur, Cox, & Ellerbrock).

#### **4.3 Discount Rate (rationale for discounting)**

To compute the net present value, it is necessary to discount future benefits and costs. All benefits and costs should be discounted.

**Discount Factor:** The discount factor is the factor that translates expected benefits or costs in any given future year into present value terms. The discount factor is equal to  $1 / (1 + i)^t$  where  $i$  is the interest rate and  $t$  is the number of years from the date of initiation for the program or policy until the given future year.

Another acceptable reason for discounting is time preference. People prefer current consumption to future consumption, all other things being equal. Having money now gives one the option of spending it or saving it, or doing some of both. Waiting a year to receive money reduces one's options without offering any compensating advantages other than security (Warner & Luce).

##### **4.3.1 Private vs. Social Rates of Discount**

Selecting the appropriate discount rate depends largely upon the decision maker. For example, a rate of 10% would mean that an individual would give up \$1.00 in consumption in this time period if he/she were compensated with a minimum of \$1.10 of consumption in the next time period (Sassone & Schaffer). The discount rate for studies that take the societal perspective is called a social discount rate. In the case of social decisions, one would want to use the social

rate of time preference, although many economists suggest that the private opportunity cost of capital provides the most reliable guideline for the social rate of discount (Sloan). A social rate reflects an individual's judgment as to the correct growth path for real per capita consumption in the economy. For example, an individual who places more attention on the present will have a high social discount rate (Sassone & Schaffer). An individual with more concern for their distant future and future generations will have a low social discount rate (Schmid). Several economic analyses in recent years in areas of prevention-effectiveness (focusing on preventing disease and injury), health-care intervention, and public health service have used a 3 or 5 percent discount rate. However, the constant-dollar cost-benefit analysis of proposed investments and regulations should report net present value and other outcomes determined using a real discount rate of 7 percent. This rate approximates the marginal pretax rate of return on an average investment in the private sector in recent years ([www.whitehouse.gov](http://www.whitehouse.gov)).

#### **4.4 Net Present Value and Related Outcome Measures**

The standard criterion for deciding whether a government program can be justified on economic principles is *net present value* -- the discounted monetized value of expected net benefits (i.e., benefits minus costs). Net present value is computed by assigning monetary values to benefits and costs, discounting future benefits and costs using an appropriate discount rate, and subtracting the sum total of discounted costs from the sum total of discounted benefits. Discounting benefits and costs transforms gains and losses occurring in different time periods

to a common unit of measurement. Programs with positive net present value increase social resources and are generally preferred. Programs with negative net present value should generally be avoided ([www.whitehouse.gov](http://www.whitehouse.gov)).

## **4.5 Benefits**

### ***4.5.1 Direct Benefits***

Direct tangible benefits are the primary positive outcomes or consequences of the program that accrue to participants and others directly involved in the program (Lambur, Cox, & Ellerbrock). In an abstinence-based sex education program, the direct benefits are the societal costs avoided or delayed as a result of the program. For example, if the number of births to teens is reduced as a result of the PSI program, resources are saved. Further, the avoidance of any direct costs can be considered a direct benefit.

### ***4.5.2 Indirect/Intangible Benefits***

Indirect tangible benefits are the secondary outcomes or consequences of the program. These benefits accrue to program participants, program non-participants, community agencies and society in general. The indirect benefits of an abstinence-based sex education program are the prolonged sex education benefits of the program recipients, as well as indirect costs averted. Advanced education and increased personal earnings are at risk when a teen has a child. Often times the teen may drop out of school, but also cannot work and therefore cannot earn income. This vicious cycle often leads to the beginning of poverty. Therefore, avoiding or delaying the onset of first sexual experiences becomes a benefit by decreasing the potential of pregnancy. Additionally, if teen pregnancy

is eliminated and the onset of teen sexual experiences is delayed via program participation, society becomes an indirect beneficiary because of the increased ability of people to advance their education and become gainfully employed.

#### ***4.5.3 Human Capital***

The human capital approach views the attributes of a person that are productive in some economic context. Human capital often refers to formal educational attainment, with the implication that education is investment with returns in the form of wages, salary, or other compensation. These are normally measured and conceived of as private returns to the individual but can also be social returns ([www.economics.about.com](http://www.economics.about.com)). In other words, if a teenager continues their education, and becomes a viable citizen in the community instead of becoming a teen parent, they are viewed as capital investments.

Individuals will be in the labor force and productive during their expected lifetime in accordance with the current pattern of the labor force participation for one's gender, color, and educational level (Rhoads).

When children have children, their opportunities are diminished right from the start, and their future is often one of poverty. That's not good for business. The business community has a vested interest in preventing teen pregnancy and childbearing because of the associated financial, social, and workforce-related consequences. If teens can delay parenthood, they will have the time and resources they need for their education and training, which are crucial to a productive workforce in an increasingly high-tech world.

Reducing teen pregnancy will strengthen the future U.S. workforce.

Today's economy demands a sophisticated and educated workforce. But teen pregnancy and too-early parenthood often short circuit the education process and prevent young men and women from preparing themselves for good jobs and becoming established in the labor market.

A major problem with the human capital approach is that it does not measure the value of life; rather, it measures the market value of livelihood. To be sure, the productive potential in an individual represents something of value to society, but it is not the full measure of either the individual's self-valuation of life or of society's valuation of the individual's life (Warner & Luce).

## CHAPTER 5

### RESEARCH ANALYSIS

#### 5.1 Cost-Benefits: Teen Parenting in Hamilton County vs. Implementing PSI

The cost-benefit analysis results demonstrated by my research suggest that male juvenile incarceration cost, childcare subsidies and welfare assistance in Hamilton County far exceeds the economic benefits presented by implementing PSI in Hamilton County.

The numbers used to calculate these costs were provided by various sources. An annual report prepared by The Hamilton County Juvenile Court provided the numbers concerning the average days stayed at Hillcrest Training Center in 2000, which was 215. A study conducted by the University of Cincinnati's Center for Economic Education determined the cost for childcare and welfare assistance for a family below poverty with 2.5 individuals, one of which is a child. Lastly, a Birth Public Health Report conducted by Hamilton County in 1999 offered the number of births to teens according to the counties political jurisdictions. These numbers were then used to calculate the information presented below in **Figures 3 & 4**.

**Figure 3: Teen Birth Costs to Hamilton County, Ohio**

<b>Costs by Category</b>	<b>Per Day Costs</b>	<b>Annual Costs (per costs X 365 days)</b>	<b>Costs by Categories</b>	<b>Total Costs (annual costs X category costs)</b>
Male Juvenile Incarceration	\$130.00 per bed day	\$47,450.00	215 avg. days served in 2000	\$10,201,750.00
Subsidized Child Care	\$384.00 per family of 2.5	\$4,608.00	345 teen births in 1999	\$2,004,480.00
Welfare Assistance	\$983.00 per family of 2.5	\$11,796.00	345 teen births in 1999	\$5,131,260.00

**Figure 4: Costs to Implement PSI in Hamilton County, Ohio**

<b>Costs by Category</b>	<b>Per Costs</b>	<b>Costs by Categories</b>	<b>Total Costs</b>
Training Sessions	\$600.00 per 8 hour session	3 (8 hour sessions)	\$2,000.00
Student	\$20.00 per student	20 (students per class)	\$400.00
Class Time	-----	\$400.00 (20 classrooms)	\$8,000.00

## **5.2 Costs-Benefit Ratio/Net Present Value**

An economic analysis using a societal perspective analyzes the benefits of a program and the costs of a program. For most public health studies, the societal perspective is appropriate because the goal of research is to analyze the allocation of societal resources among competing activities (Haddix, Teutsch, Shaffer & Dunet).

The individual, group, or organization that receives the program perspective often produces the highest benefit-to-cost assessment, because individual program participants benefit the most from social programs.

The program sponsor perspective focuses on the objectives of the funding organization and is most appropriate when choices involve alternative programs under constrained budgets. From the sponsor's focus, benefits are usually costs that, as a result of the program, will no longer be required. In the case of PSI being implemented in Hamilton County, the benefits are the \$184,150,144.00 being saved minus the cost to implement PSI \$94,078.00. This amount was calculated over a twenty-year period using a 7 percent discount rate and not treating inflation. **(See Figures 5 & 6)**

The present value of a future expenditure is the sum of money that would have to be set aside at present and cumulated at the social rate of discount (currently using 7% for this study) to equal the monetary cost of the expenditure at the time it will be incurred. In making this calculation it is usually assumed that the general price level will remain constant (Klarman, 1963).

After calculating the discounted costs for both the implementation of PSI and the teen birth costs to Hamilton County, the net present value was then determined (b-c=npv)  $\$184,150,144.00 - \$94,078.00 = \$18,320,936.00$ .

The present value of benefits from total eradication of teen births in Hamilton County by implementing PSI would prevent at least \$18,320,936.00 of the counties funds being spent to care for these births. However, since total eradication is not feasible, a 60% success rate from the teen males studied in the PSI Atlanta program was used to determine a more conservative net present value for implementing PSI (\$10,992,561.00).

Although net present value is not always computable (and it does not usually reflect effects on income distribution), efforts to measure it can produce useful insights even when the monetary values of some benefits or costs cannot be determined ([www.whitehouse.gov](http://www.whitehouse.gov)). In these cases:

- A comprehensive enumeration of the different types of benefits and costs, monetized or not, can be helpful in identifying the full range of program effects.
- Quantifying benefits and costs is worthwhile, even when it is not feasible to assign monetary values; physical measurements may be possible and useful.

### **5.3 Why Implement PSI?**

There are various elements that comprise the direct and indirect costs of teen births. Among the costs calculated in this paper, in addition to direct economic expenditures, the costs for loss of production, pain and discomfort, along with various other factors are but a few of the indirect costs of teen parenting that may not be able to be quantified at this time, but should not discourage the County from using the PSI curriculum.

Even though all costs, cannot be quantified from an economic standpoint, there are also benefits that cannot be measured monetarily. In addition to the costs benefits, the PSI curriculum was found to have some additional unanticipated positive outcomes that do not directly affect costs. By using teen leaders to conduct the PSI sessions, the teen leaders also benefited. After teaching PSI, the teen leaders became more confident, had improved

presentation skills, and were more articulate. For some, it was their first time helping others in an organized way. In doing so, they enjoyed the recognition and respect of the younger students. A few teen leaders stated that their experience has influenced their decision to become teachers (Howard, McCabe, 1990).

#### **5.4 How to Improve Results**

The loss of production and human capital is discussed in the previous section, but I did not use it as one of my indirect costs determinates. Unfortunately, it is not possible to realistically calculate the costs associated with loss of production at this time. However, it is a viable issue, and would certainly help to strengthen the argument for implementing PSI. Also, since an extremely conservative cost-benefit analysis was conducted, there may be some reservations about the actual benefit to instituting PSI County wide. However, if only implementing PSI in Hamilton County prevented 10% of the economic costs, there would still be a significant benefit.

**Figure 5: The Cost of Implementing PSI in Hamilton County**

<b>Year</b>	<b>Cost to Implement PSI</b>	<b>Discounted (.07)</b>	<b>Cost to Teach 20 Classrooms</b>	<b>Discounted (.07)</b>
20	\$2,000.00	\$518.00	\$8,000.00	\$2,073.00
19			\$8,000.00	\$2,216.00
18			\$8,000.00	\$2,374.00
17	\$2,000.00	\$635.00	\$8,000.00	\$2,540.00
16			\$8,000.00	\$2,712.00
15			\$8,000.00	\$2,909.00
14	\$2,000.00	\$778.00	\$8,000.00	\$3,113.00
13			\$8,000.00	\$3,333.00
12			\$8,000.00	\$3,556.00
11	\$2,000.00	\$952.00	\$8,000.00	\$3,809.00
10			\$8,000.00	\$4,082.00
9			\$8,000.00	\$4,372.00
8	\$2,000.00	\$1,170.00	\$8,000.00	\$4,678.00
7			\$8,000.00	\$5,000.00
6			\$8,000.00	\$5,333.00
5	\$2,000.00	\$1,429.00	\$8,000.00	\$5,714.00
4			\$8,000.00	\$6,107.00
3			\$8,000.00	\$6,557.00
2	\$2,000.00	\$1,754.00	\$8,000.00	\$7,018.00
1	\$2,000.00	\$1,869.00	\$8,000.00	\$7,477.00
<b>Total</b>		<b>\$9,105.00</b>		<b>\$84,973.00</b>

The total discounted costs are \$94,078.00.

**Figure 6: Discounted Teen Parenting Related Costs to Hamilton County**

<b>Year</b>	<b>Male Juvenile Incarceration</b>	<b>Discounted (7%)</b>	<b>Subsidized Childcare Family (2.5)</b>	<b>Discounted (7%)</b>	<b>Welfare for Family (2.5)</b>	<b>Discounted (7%)</b>
20	\$10,201,750.00	\$2,642,940.00	\$2,004,480.00	\$519,295.00	\$5,131,260.00	\$1,329,341.00
19	\$10,201,750.00	\$2,825,969.00	\$2,004,480.00	\$555,257.00	\$5,131,260.00	\$1,421,401.00
18	\$10,201,750.00	\$3,027,225.00	\$2,004,480.00	\$594,801.00	\$5,131,260.00	\$1,522,629.00
17	\$10,201,750.00	\$3,238,650.00	\$2,004,480.00	\$636,342.00	\$5,131,260.00	\$1,628,971.00
16	\$10,201,750.00	\$3,458,220.00	\$2,004,480.00	\$679,484.00	\$5,131,260.00	\$1,739,410.00
15	\$10,201,750.00	\$3,709,727.00	\$2,004,480.00	\$728,901.00	\$5,131,260.00	\$1,865,912.00
14	\$10,201,750.00	\$3,969,552.00	\$2,004,480.00	\$779,953.00	\$5,131,260.00	\$1,996,599.00
13	\$10,201,750.00	\$4,250,729.00	\$2,004,480.00	\$835,200.00	\$5,131,260.00	\$2,138,025.00
12	\$10,201,750.00	\$4,534,111.00	\$2,004,480.00	\$890,880.00	\$5,131,260.00	\$2,280,560.00
11	\$10,201,750.00	\$4,857,976.00	\$2,004,480.00	\$954,514.00	\$5,131,260.00	\$2,443,457.00
10	\$10,201,750.00	\$5,204,974.00	\$2,004,480.00	\$1,022,693.00	\$5,131,260.00	\$2,617,989.00
9	\$10,201,750.00	\$5,574,726.00	\$2,004,480.00	\$1,095,344.00	\$5,131,260.00	\$2,803,967.00
8	\$10,201,750.00	\$5,965,935.00	\$2,004,480.00	\$1,172,210.00	\$5,131,260.00	\$3,000,736.00
7	\$10,201,750.00	\$6,376,093.00	\$2,004,480.00	\$1,252,800.00	\$5,131,260.00	\$3,207,037.00
6	\$10,201,750.00	\$6,801,166.00	\$2,004,480.00	\$1,336,320.00	\$5,131,260.00	\$3,420,840.00
5	\$10,201,750.00	\$7,286,964.00	\$2,004,480.00	\$1,431,771.00	\$5,131,260.00	\$3,665,185.00
4	\$10,201,750.00	\$7,787,595.00	\$2,004,480.00	\$1,530,137.00	\$5,131,260.00	\$3,916,992.00
3	\$10,201,750.00	\$8,362,090.00	\$2,004,480.00	\$1,643,016.00	\$5,131,260.00	\$4,205,950.00
2	\$10,201,750.00	\$8,948,903.00	\$2,004,480.00	\$1,758,315.00	\$5,131,260.00	\$4,501,105.00
1	\$10,201,750.00	\$9,534,345.00	\$2,004,480.00	\$1,873,345.00	\$5,131,260.00	\$4,795,570.00
<b>Total</b>		<b>\$108,357,890.00</b>		<b>\$21,290,578.00</b>		<b>\$54,501,676.00</b>

Total discounted costs are \$184,150,144.00.

**Table: 2 Net Present Values/Benefits**

<b>Benefits</b>	<b>Costs</b>	<b>Net Benefits</b>
\$184,150,144.00	\$94,078.00	\$18,320,936.00
-----	-----	\$10,992,561.00 (after reduction by 60%)

The net benefits of implementing PSI are \$18,320,936.00 X 60% (success rate for males PSI Atlanta study) = \$10,992,561.00.

## CHAPTER 6

### EVALUATION METHODS AND RESULTS

#### 6.1 PSI Atlanta Evaluation Methods

In an evaluation of the Atlanta project, students were included if they were born at Grady Hospital in 1972, if they were entering eighth grade in 1985, and if they or their mothers had received care from the hospital within the past five years. Students were then assigned to either the program or a control group based on where they lived. All students attending the four largest Atlanta school systems received the PSI program (program group). Students in the three smaller school systems received those schools' regular sexual education program (control group).

Six health surveys were administered by telephone to the students over a five-year period, beginning in the fall of 1985. Three surveys were given during the eighth grade, two in the ninth grade, and one at the end of the twelfth grade. The questionnaire was part of a larger study on the health habits of eighth and ninth graders. The questions covered attitudes and behaviors regarding a wide range of areas, such as tobacco, alcohol, and drug use; diet; exercise; and sleep, in addition to sex. The students did not know they were participating in an evaluation of PSI. After a year and a half, retention rates were 85 percent for the program students and 81 percent for the control students. Retention rates at the end of the twelfth grade were 56 percent among program students and 43 percent among control students. The main reasons for loss at follow-up were that

youth could not be located or that phones were disconnected. Because the students were identified through the hospital, medical records were used to check the questionnaire data. Contradictions occurred in only 1 percent of the cases (Howard, McCabe 1990).

## **6.2 PSI Atlanta Findings/Results**

After evaluating the Atlanta program, Howard and McCabe (1990) found that:

- Among students who were not sexually active prior to the program (that is, non-experienced), students in the control group were significantly more likely to have begun having sex than were program students by the end of eighth grade (20 percent versus 4 percent). The difference was still significant at the end of ninth grade (39 percent versus 24 percent). Thus, it can be concluded that the program effectively delayed the onset of first time sexual experiences until high school.
- Among girls who were not sexually active prior to the program (non-experienced), those in the control group were significantly more likely than girls in the program to have engaged in sex by the end of eighth grade (15 percent versus 1 percent). By the end of the ninth grade the difference was still significant—27 percent versus 17 percent. Therefore, it can be concluded that PSI has positive long-term effects outside of the initial expected time period.
- Among non-experienced boys, those in the control group were significantly more likely to have engaged in sex by the end of eighth grade

(29 percent versus 8 percent). By the end of ninth grade, the difference was still significant, 61 percent versus 39 percent.

- Among students who became sexually active but used condoms, 73 percent of program students reported using them because of what they learned in school, compared with 38 percent of the control students.
- The program was not effective for those who were sexually active before the program (that is, they did not reduce their sexual involvement or increase their use of contraceptives).

### **6.3 PSI Atlanta Follow-Up**

After four years (1992), Marion Howard reevaluated the program and found that:

- A year after the program, at the end of the ninth grade, program students were more likely to use birth control than those who had not participated in the program. Moreover, if they used birth control, they were twice as likely to say it was because of what they learned in school.
- At the end of the twelfth grade, among non-experienced girls, 36 percent of the program group and 52 percent of the control group reported a pregnancy. The overall effect of the program was a reduction in pregnancies of about one-third.

## 6.4 PSI CINCINNATI SURVEY/EVALUATION RESULTS

PSI was implemented in Cincinnati in 1990, because of the high incidence of teen births. Since its implementation in Cincinnati, PSI has been well received in the community.

Postponing Sexual Involvement has been extremely well received by students, parents, teachers and the general community. Less than 1% of parents of students have opted for their son or daughter to not participate in PSI ([www.cincinnatichildrens.org](http://www.cincinnatichildrens.org)).

Parent surveys conducted annually by volunteers indicate a high percentage of satisfaction with the program. The program has received numerous favorable feature and editorial comments in Cincinnati as well as nationally.

Individually matched pre- and post-tests from 1815 participants in 2002-03 show that students in PSI significantly strengthened their assertive communication skills in the face of simulated sexual pressure ( $p < .05$ ) ([www.cincinnatichildrens.org](http://www.cincinnatichildrens.org)).

Postponing Sexual Involvement tracks the live births by year as well as by age (16 years and younger) for girls in the city of Cincinnati. This information gives some trends, but does not specifically address the effect of the program on an individual student. From 1992-2000, over 90% of middle school health instruction in CPS 7th or 8th grade has included five PSI lessons. From 1993 to 2002, the number of births to young female teens in Cincinnati declined by 42%.  
**(See Table 3)**

In 1992, Postponing Sexual Involvement initiated a phone interview of students in four of the 17 schools which are representative of the entire district. No interviews were done without first obtaining active parental consent on the telephone.

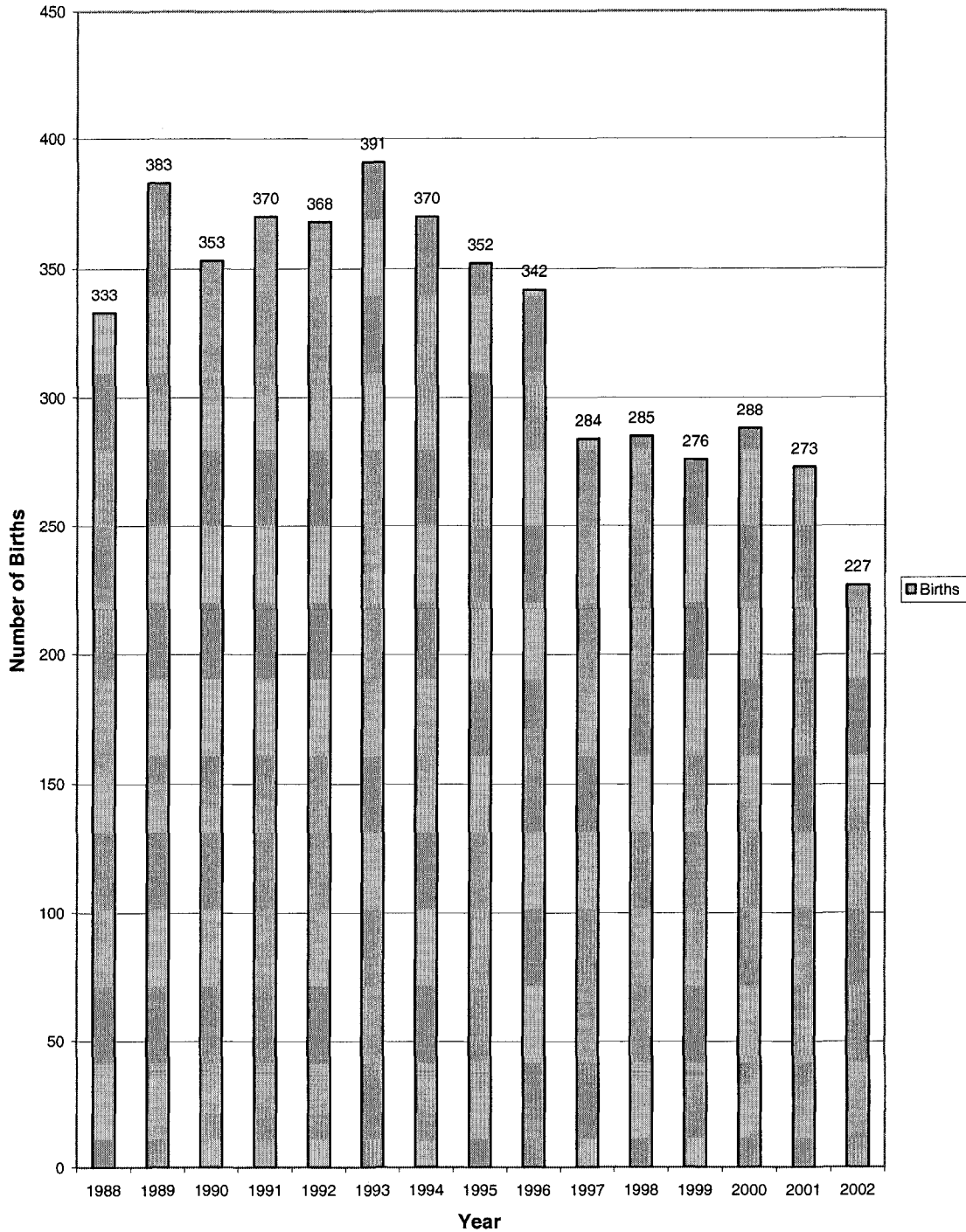
This interview in which explicit questions about sexual behavior are asked was administered before Postponing Sexual Involvement classes during the second semester of the 1992-93 school year, immediately after Postponing Sexual Involvement in the late spring and one year later at the end of the eighth grade.

In 1997-98, Postponing Sexual Involvement began evaluating students' assertive communication skills, as indicated by their student activity sheets before and after the PSI series. In 2002-2003, PSI began evaluating students' attitudes about abstinence. The PSI survey and evaluation results are listed in their entirety in **Appendix 1**.

Based on social learning theory, skills-oriented prevention programs such as PSI combine traditional informational approaches with skill building activities. These are active rather than passive strategies that help adolescents to personalize sexual issues and develop specific negotiation and refusal skills needed in sexual relations. Activities that teach about social and media pressures, modeling, and communication along with negotiation with respect to both sexual behavior and contraceptive use are utilized ([www.caps.ucsf.edu](http://www.caps.ucsf.edu)).

The data include births to teens in public school, private school, and out of school. Records from area hospitals on births to local teens by zip code of teens' residence, age, race, and year of birth are as follows:

**Table 3: Reduction of Reported Teen Births in Cincinnati, 1993-2002**



## CHAPTER 7

### RECOMMENDATIONS

In 1999, the teen birth facts for the Hamilton County General Health District (HCGHD) were as follows:

- The youngest mother was 12 years old.
- 89 percent of teen births were to unwed mothers.
- 14 percent of teen mothers had at least one other previous live birth.
- 23 percent of teen mothers received no first trimester prenatal care.
- 9 percent of births to teen mothers were low birth weight (less than 2500 grams).
- 27 percent of teen mothers smoked during pregnancy.

Given these statistics, along with the economic costs of teen parenting, and after reviewing the PSI Atlanta curriculum, and evaluation results, it was determined that the PSI Cincinnati program possesses characteristics that enable it to be an effective sex education program to be implemented in Hamilton County, Ohio.

Based on social learning theory, skills-oriented prevention programs such as PSI combine traditional informational approaches with skill building activities. These are active rather than passive strategies that help adolescents to personalize sexual issues and develop specific negotiation and refusal skills needed in sexual relations. Activities that teach about social and media

pressures, modeling, and communication along with negotiation with respect to both sexual behavior and contraceptive use are utilized ([www.caps.ucsf.edu](http://www.caps.ucsf.edu)).

Recent research has examined the relationship between the community of residence and reproductive health behaviors. These studies have shown a relationship between measures of neighborhood and community socioeconomic status (SES), racial/ethnic composition, and crime on teen sexual behaviors. However, most studies indicate that individual and family characteristics have a greater impact on reproductive health behaviors than neighborhood and community characteristics.

Some parents and educators may not feel comfortable giving young people information about postponing sexual involvement. Therefore, it is important to incorporate community-organizing skills in order to help a community feel confident and comfortable about the idea of implementing an effective sex education curriculum such as PSI in their neighborhood.

Community organizing is one of the few strategies working to build leadership, community initiative and constituent influence in neighborhoods and communities that are often forgotten or ignored by those in power. Therefore, in order to execute an effective community organizing effort to support the implementation of PSI in a Hamilton County community or school district, there are some specific guidelines that are recommended by the Sexuality Information and Education Council of the United States (SIECUS). These guidelines are as follows:

## **1. Encourage involvement of community members.**

- Remember that most community members support comprehensive sexuality education. In fact, more than 80 percent of parents want sexuality education - including safer sex information - taught in schools.
- Many support networks are already in place, making it easy to contact people who support sexuality education and will work to ensure that effective programs are implemented.
- Some organizations that support sexuality education include: Parent Teacher Associations (PTAs) and Parent Teacher Organizations (PTOs) at schools, teacher's unions, local organizations serving youth (YMCA, Girl/Boy Scouts, recreation centers, etc.), local Planned Parenthoods, and the Junior League.

## **2. Develop a Community Advisory Committee.**

- Many communities have developed Community Advisory Committees to support comprehensive sexuality education. The Committee may be appointed by the school board or may consist of interested citizens who convince the school board of the need for a sexuality education program.
- The Committee will be most effective if it includes representatives from many different sectors of the community. If no Committee exists, communities can give the school board the names of community members who might want to participate.

### **3. Organize an educational forum.**

- An educational forum can promote understanding of PSI in the community. It can feature PSI staff, teen leaders, and former students.
- School board members may not have much knowledge about sexuality education, teen pregnancy, sexually transmitted diseases, and HIV/AIDS. The Community Advisory Committee and concerned citizens can educate board members by providing them with information and meeting with them to discuss these topics.

### **4. Go to school board meetings.**

- In most areas, the school board ultimately decides on all curricula to be used in the schools, including those used for sexuality education. Find out when discussions are scheduled. Such discussions are not always announced, especially if members who oppose sexuality education sit on the school board.
- Try to send a member of the community who supports comprehensive sexuality education to every school board meeting. Have a phone tree in place so that if a discussion about sexuality education comes up unexpectedly, community members can be contacted quickly to arrive in greater numbers to the meeting.
- When a discussion about sexuality education is to take place in front of the school board, be sure the ground rules are firmly established. For example, many school boards decide that those

who testify must live in the community, and that each side must be provided with equal time to present their information. In some communities, only community residents are allowed to attend meetings.

**5. Work in coalitions.**

- Many groups share a commitment to education, health care, and quality of life for youth. Reach out to these groups to build a broad network of support for comprehensive sexuality education in the community.

**6. Remember your target audience.**

- Do not try to convince opponents of comprehensive education to adopt another view. The important people to educate about a comprehensive approach to sexuality education are parents and community members who may not yet be aware of the issues or the specific situation in the community.

**7. Choose a spokesperson.**

- One individual may have arbitrarily become the spokesperson for comprehensive sexuality education in your area. Evaluate if the current spokesperson is well known in the community for activities on another issue that might help or hinder efforts to secure comprehensive programs in the schools.

## **8. Consider help from national organizations.**

- The involvement of national organizations is another decision that needs to be carefully considered. Local spokespeople need to decide how much they want to utilize literature from national organizations, whether or not to have speakers from national organizations, and whether or not to defend national organizations that come under attack.

## **9. Involve local religious leaders.**

- Groups that oppose sexuality education may falsely represent themselves as having all of the religious parents and leaders in a community on their side. Many religious people support sexuality education and are willing to testify about their viewpoint.
- Contact local churches and synagogues to discuss a possible involvement in the campaign for comprehensive sexuality education. Additional support may be garnered by asking religious leaders to speak in support of comprehensive sexuality education to their congregations.

## **10. Contact other community leaders.**

- Contact both elected officials and other well-known members of the community. Ask them to speak at community forums, sign petitions, discuss the issue with the media, and help support your efforts.

### **11. Develop reasonable goals.**

- Sexuality education programs are often held to a much higher standard than other school programs. For example, English curricula are not formally evaluated regarding how well students speak or use grammar. Sexuality education curricula are, however, often measured by changes in behavior of students outside the classroom --behavior that is often difficult to influence or change.
- Do not expect that a sexuality education program will transform pregnancy rates in the community in the short term. Be realistic about the impact of comprehensive sexuality education.

### **12. Designate a media spokesperson.**

- Designate one person to coordinate statements to the media to help ensure that consistent information is provided. Make certain that the spokesperson develops strong relationships with the editorial board and reporters at the local newspapers.

### **13. Keep the school board informed.**

- School board members may not have much knowledge about sexuality education, teen pregnancy, and sexually transmitted diseases. The Community Advisory Committee and concerned citizens can educate board members by providing them with information about PSI and meeting with them to discuss these topics.

#### **14. Become an informed voter.**

- In many communities, people opposed to sexuality education decide to run for school board office as part of a larger strategy to change school policies. In some conservative communities, the majority of school board members now oppose drug education, sexuality education, and science education that do not include creationism and global education.
- Supporters of sexuality education can become involved in local school board races by running for office or working on campaigns, assisting in voter education, questioning candidates on their positions, and being informed voters.

#### **15. Be persistent.**

- Unfortunately, even after a comprehensive program is adopted or a challenge is thwarted, controversies over sexuality education may recur. Continuity will be critical to confronting these challenges successfully. Do not give up -- individuals can make a difference!

#### **16. Keep SIECUS informed.**

- Inform SIECUS of any community controversy over sexuality education. SIECUS is gathering data about such debates across the country in an effort to provide technical assistance in organizing to support sexuality education.

Often times action from agencies such as the United Way or the Urban League may be needed in order for community organizing to get started in an

area the size of Hamilton County. Having school boards work with major agencies would be the catalyst to initiate action between the County and PSI.

## CHAPTER 8

### CONCLUSION

In general, teenagers who are socially and economically disadvantaged are more likely to become teen parents. They are less likely to complete their education, be employed, earn high wages, or be happily married; they are also more likely to have larger families and to receive welfare or other public assistance. In fact, women's education is one of the most effective contraceptives. Educated women usually have more job opportunities, more awareness of family planning, and more decision-making power. They are also more likely to marry late and postpone their first pregnancy.

Social and economic conditions may vary considerably from one geographic area or even one school district to the next, and specific social trends and issues will have more relevance for some districts or states than for others. Yet a number of social, economic, and demographic trends continue to influence the effectiveness of instruction and the social development of youth across the country. The ability or inability of school districts to respond swiftly to the effects of such issues as poverty, drug use, teen pregnancy, and homelessness has profound long-term implications for students, families, and entire communities.

According to a report cited by the Educational Resources Information Center (ERIC), children and youth are the fastest growing segments of the homeless population. Half of all homeless children do not attend school regularly, often because of enrollment or transportation barriers. Teens that do not attend

school regularly are more likely to engage in sexual activity, experience an unwanted pregnancy, and become homeless.

According to the Education Law Center, “a federal law, known as the McKinney Act, requires states to provide homeless children and youth with the same access to free public education as is available to other students ([www.eric.uoregon.edu](http://www.eric.uoregon.edu)).” Unfortunately, both school districts and the general public are frequently unaware of homeless children’s instructional rights.

These are some of the societal issues that planners must deal with when developing a community. Planners need to focus on building affordable housing to alleviate the homeless problem. Communities need schools that provide services to keep youth involved and interested in school. They will also need to develop effective transportation methods that enable residents to travel efficiently between work, home and school.

From a cost-benefit analysis standpoint, the benefits of PSI far outweigh the costs. Thus, the cost of utilizing skills-oriented prevention programs, such as PSI to lower the number of teen births are justified by the long-term societal benefits of implementing these programs. However, once the program has been implemented, it is imperative that adult leaders who have time and are motivated and comfortable with the philosophy and content of Postponing Sexual Involvement are identified. Approval of the PSI material should begin with the local Board of Education. Finally, PSI supporters should establish a partnership with a regional hospital to pool resources and finance the program.

The PSI education findings show that it can be an effective approach to preventing pregnancy. PSI reduced the rate of initiation of sexual activity during the 8th grade by 60 percent for boys and more than 95 percent for girls, in comparison with peers who did not participate in the program. (i.e., by the end of the eighth grade, boys who had not had the program were three times as likely to have begun having sex as boys who participated in the program, and girls who had not had the program were 15 times more likely to have begun having sex as peers who participated in the program). The positive effects that the program provided to eighth graders continued into the ninth grade. By the end of the ninth grade, students who had participated in PSI were still 35 percent less likely to have commenced sexual activity than peers who had not participated in the program.

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## APPENDIX

## **APPENDIX 1: POSTPONING SEXUAL INVOLVEMENT CINCINNATI PUBLIC SCHOOLS EVALUATION RESULTS, 2002-2003**

Each year, an evaluation is conducted to determine the effectiveness of PSI and to provide CPS administrators with valuable information for decisions concerning the revision, expansion, and continuation of the program.

Objectives, summary of results and methods of the evaluation are listed below:

### **PARENT SURVEY:**

Did parents of participating students hold positive attitudes towards the PSI program after participation by their child? YES!

In a February, 2002 survey of parents/guardians of 6th, 7th and 8th grade students who had taken PSI the first semester of 2001-2002, 85% of the respondents reported that they are supportive of PSI, and 15% were neutral or withheld judgment until they learned more about PSI. Also, 94% think PSI will help a child postpone sex. 126 parent/guardians were randomly selected for the survey. 52 of the surveys (41%) were completed.

### **STUDENT SURVEY:**

Was there a measurable change toward more mature behavior, beliefs and attitudes by seventh grade students participating in this program? YES!

Among eighth graders completing a 1994 survey thirteen months after PSI instruction, 78% indicated that they do not think sex makes you feel grown up. In 1993, before PSI, 69% of the same student sample indicated that they do not think sex makes you feel grown up ( $p < .01$ ). (Data are from a group of 147 middle school students with individually matched responses from a pre/post/post test

design over a 17-month period. The 147 respondents represent a 45% response rate from a randomly selected sample of 328 CPS students in PSI. 84% of the parents contacted gave permission for their child to participate in the survey.)

**TEACHER SURVEY:**

Were the high school student peer leaders effective in carrying out their roles in this program? YES!

In a spring 2003 survey of classroom teachers hosting PSI, 84% of the respondents agree that Cincinnati Public Schools should continue PSI. In addition, 93% believe that their students' benefit from the PSI teen leaders' instruction, and 78% think the Teen Leaders were effective. Twenty-seven (27) of 70 teachers (39%) completed a survey.

**REDUCTION OF REPORTED TEENAGE BIRTHS:**

Was there a reduction in the number of reported births across the school system for a four-year period following program implementation? YES!

There has been a 42% reduction in the number of births to young teen girls who lives in the Cincinnati School District, from 1993 - 2002. The 2002 total of 227 births to girls 16 and under is the lowest annual total in fourteen years, since PSI first tabulated local hospital birth records in this manner.

**PARENTAL PERMISSION:**

Did many parents object initially to having their child participate in the program? NO!

Approximately 13 out of 2,860 students (< 1%) enrolled in 5th - 8th grade classes hosting PSI in 2002-2003 were opted out of PSI by written request from their parents or legal guardians.

**DIARY OF INSTRUCTION:**

Was actual classroom implementation of the program done in a manner consistent with planned procedures? YES!

**PSI Instruction, Cincinnati Public Schools, 2002-2003**

<b>Program</b>	<b>5<sup>th</sup>/6<sup>th</sup> Grade Preteen PSI</b>	<b>7<sup>th</sup>/8<sup>th</sup> Grade Young Teen PSI</b>	<b>Totals</b>
Sessions by PSI staff			704
Classes	26	74	134
Sessions per class			5.3
Teachers			76
Teen leaders who taught**			68
Students	768	2,092	2,860
Schools	14	25	33
Percent of CPS schools with PSI	23% (of 61)	46% (of 54)	49% (of 68)

Each session lasts 45-60 minutes

\*Includes 70 ninth graders

\*\*Includes two teen parent guest speakers

**ASSERTIVENESS OUTCOMES:**

Did students learn assertive communication skills? YES!

Following program implementation: 88% of students selected at least two assertive communication techniques, compared to 78% pre-program. 64% of students' written responses to a pressure line were assertive, compared to 58% pre-program. 55% of students who recognized only one or no assertive techniques in the pretest recognized more techniques in their posttest. ( $p < .01$ ) Results are based on 2,787 student respondents in 2002-03.