

RealCare® Parenting Program Curriculum Overview

The RealCare® curriculum is designed for use with RealCare® Baby II-plus and RealCare® Baby II infant simulators. Compiled with the help of educators, healthcare practitioners and other health and child development experts, this abundant resource can be used independently or as a supplement to existing curricula.

Teachers who are experienced with using infant simulators contributed to the content and also participated in the field testing of the curriculum. Each section includes a list of the linked national and selected state teaching standards. Each unit contains meaningful activities, worksheets and reproducible documents. (These documents are also available for sale separately in packs of 30 copies each, by unit or all four units together.)

Introduction

This section describes the RealCare® Parenting Program, history of the world's first electronic infant simulator, and program benefits.

Unit One: Managing the Parenting Simulation

Unit One is an instructor guide for preparing and managing simulations. The unit helps participants reflect on their parenting experience and their individual personal readiness for parenting. Step-by-step instructions are provided to prepare simulation supplies and plan for each activity leading up to the infant care simulation. Later units build upon the simulation, making it easier for participants to relate to the information covered.

- Preparation of the equipment and supplies; organizational ideas
- Benefits of quality parenting
- Preparation of participants, organization and extended families
- Delivery and return procedures
- Pre- and post-simulation surveys
- Data gathering and performance feedback
- Discussion and personal reflection on the infant care experience
- Instructional modifications

Unit Two: Decisions That Shape Your Future

Participants set personal goals, define personal values and identify major influences on their values. Discussions include unplanned pregnancy, peer pressure and the importance of communication in relationships.

- Set goals
- Define personal values
- Discuss unplanned pregnancy
- Discuss peer pressure
- Identify effective vs. poor communication in relationships

Unit Three: Your Readiness for Parenting

The unit begins with a cultural awareness discussion about parenting practices around the world. Remaining topics focus on the far-reaching financial and social life changes that occur when becoming a parent. Activities promote financial awareness of the cost of raising a child, the time needed to care for an infant's many and varied needs, time management skills, and infant safety.

- Estimate what they imagine to be the cost of raising a child to 18
- Interview parents about monthly bills to heighten financial awareness
- Explore the financial impact of an having an infant
- Examine personal daily schedule and try to fit an infant's demanding care needs into it
- Discuss how an infant's needs often come before the parents' needs
- Learn about infant car seat safety
- Review of choking hazards and home safety issues

Unit Four: Infant Development and Care

Participants learn about infant development in the womb and during the first year of life. Nurturing skills and empathy are explored through role play. Other important topics include tips on comforting a crying infant, dealing with frustration, and serious infant health concerns like Shaken Baby Syndrome, Fetal Alcohol Syndrome and Sudden Infant Death Syndrome.

- Physical development during each trimester of pregnancy
- Infant development milestones
- Breastfeeding and bottle feeding
- Disposable diapers and cloth diapers
- Activities to build awareness of Shaken Baby Syndrome
- Hands-on infant care skill-building with infant simulator
- Activities related to infant health awareness

Reducing the Impact of Teen Pregnancy

Reality: One teenager becomes pregnant every minute.¹

In 2004, over 420,000 babies were born to teenage mothers in the U.S.² These are startling statistics, which schools are trying to reduce through education. The biggest challenge for changing a teen's attitude toward early parenthood is getting them to internalize the profound impact it would have on their lives. Research shows that incorporating infant simulators into parenting education curriculum can dramatically modify teenage attitudes about sexuality, parenting and even their future goals.³ The RealCare[®] Parenting Program⁴ from Realityworks helps you increase the effectiveness of your teaching. Through infant simulators, a comprehensive curriculum and administrative software, the RealCare[®] Parenting Program is an interactive solution with life-changing results.

"Since starting the [RealCare Parenting Program] over five years ago, we've seen our pregnancy rates drop at one school from 72 to 19 and at another school from nine to zero!"

LaNae Gaskill, Teen Parent Coordinator
Mahleour County, Ontario, Oregon

Teen Pregnancy

Even with a decline in recent years, the number of teen pregnancies in the U.S. remains unacceptable. In 2004, 6,789 girls under age 15 gave birth. Those between 15 and 19 gave birth to 415,408 babies.² And these are just the live births. The actual pregnancy numbers are much higher. In the face of these statistics, many school districts and social service organizations offer programs to encourage teens to consider the long-term consequences of sexual activity. These programs are important not just to keep girls from getting pregnant and dropping out of school; the consequences of teen mothers impact everyone. That's why effective parenting education programs are so critical.

The Real Costs of Teen Pregnancies⁵

When a young girl gets pregnant, it doesn't just impact her future and her baby's. Her family, school, community and society all pay a price. And since girls ages 15 to 17 are 52% more likely to have a low birth weight baby than a 20- or 21-year-old, the propensity for a special needs child is high. The following are many of the costs associated with teenage childbearing.

Costs to Students

Loss of future income: 67% of adolescent mothers drop out of high school; dropouts earn about \$260,000 less over a lifetime than high school graduates.

Additional costs for the family: Children of adolescent mothers can be a financial burden for the family because the girl can't cover the costs for food, clothing and healthcare. The average cost to raise a child up to age 2 is \$5,440 and from 0 to 17 years old is \$118,590.

Costs to Schools

- **Loss of funding:** Every student that drops out means decreased funding for the school.
- **Infant programs:** Adolescent mothers are at high risk of having low birth weight babies, who are more likely to have special needs. Early intervention for 0- to 3-year-olds costs an average of \$15,740 per child.
- **Pre-school programs:** These same children may require special programs, at an average cost of \$7,667 per child.
- **School-age programs:** Educating special needs children from age 5 to age 21 costs an average of \$5,709 per child.
- **Other instructional programs:** Adolescent mothers using homebound, hospital and summer school programs to continue their education during pregnancy cost schools an average of \$3,839 per pupil.
- **Transportation services:** Special transportation services required either for adolescent mothers or their children with disabilities cost an average of \$4,418 per pupil.
- **Administration and support services:** Offering special education programs costs an average of \$662 per pupil.
- **Daycare services:** Schools can incur the expense of daycare so teen mothers can stay in school.

Costs to Society

- **Welfare and food stamps:** 80% of teen mothers end up on welfare. The costs of providing public assistance benefits, welfare and food stamps: \$2.2 billion annually.
- **Medical care:** Cost to provide medical care to teen mothers and their children: \$1.5 billion annually.
- **Foster care:** Costs for children of adolescent mothers who end up in foster care: \$900 million annually.
- **Child abuse:** Children of adolescent mothers are twice as likely to be abused as those born to 20 or 21 year olds.
- **Shaken Baby Syndrome (SBS):** Two thirds of SBS children die or suffer permanent disability. Medical care for a severely injured SBS child ranges from \$300,000 to over \$1,000,000 for the first five years.
- **Loss of tax revenue:** The effect of adolescent parenthood on the work patterns of fathers: \$1.5 billion annually.
- **Incarceration:** Constructing and maintaining prisons and associated inmate costs caused by adolescent childbearing: \$1 billion annually.

1 "Estimated Pregnancy Rates for the United States, 1999-2000: An Update," National Vital Statistics Report, Vol. 52, No. 23, June 15, 2004

2 Centers for Disease Control and Prevention, National Center for Health Statistics, 2004

3 "The Effectiveness of Infant Simulators in Teen Sexuality & Parenting Programs," Realityworks whitepaper, 2006

4 The Realityworks RealCare[®] Parenting Program was formerly called Baby Think It Over[®]

5 Sources for the data in this section: The Campaign for Educational Equity (Teachers College, Columbia University); "Kids Having Kids: A Robin Hood Foundation Special Report on the Costs of Adolescent Childbearing," 1996; The National Early Intervention Longitudinal Study, June 2004, Data Report No. 4; Special Education Expenditure Project, "What Are We Spending on Special Education Services in the United States, 1999-2000?"; USDA, "Expenditures on Children by Families - 2001 Annual Report."

Qualitative Benefits of the Realityworks Approach

Students	
Maintain academic standing and career development	Help teens keep up their attendance or avoid dropping out of school due to pregnancy.
Develop parenting skills	Provide teens the comprehensive yet practical skills required for caring for an infant that can be utilized in babysitting and future parenting. This includes dealing with the stress of responding to the constant demands of an infant, which may avoid a future case of child abuse or Shaken Baby Syndrome.
Build character	Help adolescents internalize what it takes to be responsible, while increasing self respect and empathy for others.
Understand consequences of actions	Assist teens in understanding the consequences that bearing children has on them and others, teaching life-long lessons on being responsible for their actions.
Understand financial and lifestyle impact	Demonstrate to students the financial impact of having a child as a teen, along with the resulting immediate and long-term impacts on their lifestyle.
Break the cycle of teenage motherhood	Children of teenage mothers are 83% more likely to become teen mothers themselves. ⁴
Schools	
Improve the school image	Offer innovative programs in parenting and life consequences that bring positive visibility to the school on a topic important to all.
Build strong families and strong communities	Offer programs that increase the schools' interactions with their communities and result in stronger families and more productive citizens.
Society	
Reduce health costs to future employers	Children born to adolescent mothers are more likely to have special needs and incur increased lifetime health costs.
Redirect program spending to other areas and increase funding available	Reduce the number of adolescent mothers and therefore the spending on programs that support them. In addition, increase tax revenue by enabling teen mothers and fathers to achieve their earning potential.

Why Does Reality Work?

As any parent knows, dealing with a newborn baby can be difficult, time-consuming and exhausting. The late-night feedings, the inexplicable crying, the inconvenient diaper changes, the around-the-clock care that is required...these are the realities of parenting. These are also intangibles that can't really be taught by a curriculum that involves only words, images, or passive baby stand-ins such as eggs or bags of flour.

The Realityworks Approach

Modifying teen attitudes towards sexuality and parenting requires changing their perceptions. Yet to drive home just how challenging caring for a baby can be, teenagers need a dose of reality. They need an interactive curriculum that lets them experience parenthood in as real a way as possible. Because reality works.

"We have kids begging to take the Baby home on Friday, but they sure are glad to bring it back Monday morning. If it helps just one of our kids to make better decisions, it will be worth it all."

Linda Cox, Guidance Counselor
Bellwood Middle School, Tennessee

Whether your curriculum teaches abstinence, contraceptive use or both, adding the RealCare[®] Parenting Program with its infant simulators, curriculum and software makes your teaching more effective. As a result, your students' awareness of the actual consequences of having a baby is transformed from abstract concept to startling reality.

Adding the RealCare[®] Parenting Program to your curriculum is also an investment with a potentially huge payoff: For some schools, keeping just five girls from getting pregnant and dropping out means retaining enough funding to cover the annual salary of a first-year teacher.

For interactive simulations that bring about life-changing results, consider making the Realityworks RealCare[®] Parenting Program an integral part of your Family and Consumer Science, Health, Child Development or Life Skills curriculum.

Next Steps

To learn more about our infant simulators, parenting programs and possible funding sources, contact a Realityworks Product Consultant at 1-800-830-1416 or go to www.realityworks.com. At our site, you can also request a copy of our white paper on the effectiveness of infant simulators in teen sexuality programs.



WHITE PAPER

**The Effectiveness of Infant Simulators
in Teen Sexuality & Parenting Programs**

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INTRODUCTION

Parenting educators worldwide are well aware of the problems associated with teen pregnancy, child abuse and the importance of learning good infant care skills. As a result, they are committed to delivering comprehensive parenting programs that support the formation of realistic attitudes about sexuality and parenting.

Ideally, the information and experiences that adolescent participants receive in these programs serve as a foundation for informed choices, including the decision to delay parenthood until they are adults. Studies show that successful parenting programs cover multiple aspects of sexuality and parenting, and include a means for measuring competency. Therefore it is important that a parenting program include infant-care experiences that are as realistic as possible without putting actual infants at risk.

Parenting programs that achieve this realism through the use of science-based tools such as computerized infant simulators have been shown to have a significant positive effect on participants compared with programs that rely upon curricula alone, or on symbolic baby stand-ins, such as eggs or bags of flour. At least 20 studies published between 1997 and 2006 have observed positive changes in participants' attitudes toward early parenthood when curricula includes infant simulators. This paper summarizes published findings related to changes in teens' attitudes toward the intensity of parenthood and the impact of early parenthood on their social lives, academic lives, and future goals.

BACKGROUND

Infant Simulators' Contribution to Teen Parenting Programs

Two widely accepted learning theories support the inclusion of infant simulators in parenting programs. According to the "attitude accessibility" model of learning, programs that use infant simulators provide the most realistic experience possible short of actual infant care in which a teen learns the demands of parenting.¹ By responding appropriately to the infant simulator, participants can draw strong associations between the many responsibilities of caring for an infant and their attitudes toward parenthood. In the future, these attitudes can be easily recalled and are more likely to influence behavior.

Following the "experiential learning" theory, infant simulators enable teens to gain realistic knowledge of parenting and its demands, to draw upon their own experiences to form autonomous approaches to parenting responsibilities, and to form new decision-making skills regarding their future goals.²

Furthermore, as a teaching method, the use of infant simulators allows a departure from lecturing strategies so that students can learn interactively without placing a real baby at risk. The parenting simulation is time-limited and reversible if the situation becomes unmanageable for teen participants.

Characteristics of the Infant Simulator and Curriculum

The infant simulators used in the studies cited³ come with a complete parenting curriculum, now called the RealCare® Parenting Program, which can be used alone or with a community's established parenting curricula.

¹Fazio, R.H. (1989). On the power and functionality of attitudes: the role of attitude accessibility. In A.R. Pratkanis, S.J. Beckler, and A.G. Greenwald (Eds.), *Attitude Structure and Function* (pp. 153-79). Hillsdale, NY: Erlbaum.

²Kolb, D. The theory of experiential learning and ESI. (1997). *The Internet TESL Journal*. (3)9.

³The infant simulators researched in the studies collected in this paper are manufactured by Realityworks Inc., Eau Claire, Wisconsin, USA, and registered under the trademarks Baby Think It Over® (BTIO) and RealCare® Baby. The BTIO infant simulators referred to in the studies are an earlier version of RealCare® Baby II.

Infant Simulator

The simulators are programmed by an instructor to require specific infant care following 15 different 24-hour schedules (schedules based on data from real infants, ages newborn to three months). The instructor can choose the care schedule and level of difficulty, or select a random set of schedules that varies throughout the

Participants must keep the simulators with them at all times in order to respond quickly and appropriately, resulting in a realistic, extended role-play experience.

simulation. Care events include feeding, burping, rocking, and diaper changing. The infant simulators cry at random times and the simulator's cry increases in volume and intensity if the correct actions are not taken promptly. The participant must determine the type of care

required. The simulator makes real infant sounds when it is receiving care—such as feeding noises when the bottle is held to its mouth—and will coo at the end of a care session performed correctly. Other audio snippets are programmed into the simulator, such as breathing, coughing and burping sounds. Participants must keep the simulators with them at all times in order to respond appropriately, resulting in a realistic, extended role-play experience.

The infant simulator's internal microcontroller and neck sensors are designed to detect mishandling or rough handling, as well as the nature and degree of rough handling that in a real baby would result in Shaken Baby Syndrome. The simulator will shut down after a total of 24 abuses or 12 continuous hours of neglect.

The infant simulators are given to participants to care for over a period of time, such as two or three days, usually over a weekend. During that time, the microcontroller inside the simulator prompts for care by whimpering or crying, then records the type of caregiver contact (correct care or missed care) and the exact dates and times each missed care took place. Correct care events meant the student properly responded to Baby's needs within two minutes.

Simulator software produces printable logs of caregiver contact that can be used as a measurement of competency. When the participant returns the infant simulator, the instructor can print the care log as a record of the participant's experience.

Some of the findings cited in this paper include data collected from actual infant simulator care logs.

Curriculum

The science-based RealCare® Parenting Program that accompanies the infant simulator draws upon U.S. national teaching standards and selected state teaching standards for family and consumer sciences and health education. Topics include decision making, parenting readiness, goal setting, infant care and child development. The curriculum was independently reviewed by several members of the National Parenting Education Network, and can be used alone or with an established parenting curriculum. The RealCare® Parenting Program does not address contraception.

Studies Cited

The studies cited in this paper were chosen on the basis of research questions/hypotheses, sample size, scientific method, and professional reputation of the publishing journal. All other published studies involving the Baby Think It Over® (BTIO) and RealCare® Baby infant simulators are collected in Appendix A: Additional Published Studies

FINDINGS

Numerous studies published between 1997 and 2006 support the significant, positive effect of including infant simulators in parenting curricula. These studies have addressed a number of objectives related to teens' attitudes toward early parenthood, including the impact on their social and academic lives, their family members, their own emotional health, and their education and career goals. Some studies examined changes in teens' attitudes about the relationship between sexuality and parenthood and parenthood within marriage.

Intensity of Parenthood

A U.S. study by Diane de Anda (2006) surveyed 353 male and female predominantly 9th grade students (94.3 percent) before and after their experiences with an infant simulator. The study found a “statistically significant increase” in teens’ recognition that substantial time and effort is required to care for an infant, that caring for an infant might be “too much for them [an adolescent parent] to handle,” and that adolescent parenthood affects other members of the adolescent’s family. In this study of predominantly Latino (92.9 percent) students in California, participants were used as their own controls through paired pretest-posttest comparisons. Questions focused on the likely effect of early parenthood on social and academic life, extended family, emotional health, and career and educational goals.

“When combined with a well-designed curriculum, it [the simulator] enhances the likelihood that student attitudes toward sexuality/parenting issues can be significantly modified.”

The de Anda study also found significant pretest-to-posttest gains in realistic perspectives about infants’ crying behaviors. Among the participants, 92.6 percent disagreed or strongly disagreed that it was “easy to ignore a fussy, crying baby,” and 86.1 percent disagreed or strongly disagreed that babies would not cry if they were loved and loved the parent in return. The majority of participants “appeared to understand why infants cry and refrained from making inaccurate and judgmental appraisals of both infant and parent behavior.” Eighty-five percent did not view a baby who “cries a lot” as “spoiled,” 65.7 percent did not attribute an infant’s crying to insufficient care by parents, and 94.6 percent regarded crying as a form of communication.

In a U.S. study by Scott Roberts and Richard McCowan (2004), which involved 236 male and female participants ages 14 to 18, a majority of participants responded in a posttest that “parenting is a skill that takes time and patience to learn.” Researchers concluded that student agreement on this issue doubled after exposure to the [RealCare®] curriculum and infant simulator, and that “When combined with a well-designed curriculum, it [the simulator] enhances the likelihood that student attitudes toward sexuality/parenting issues can be significantly modified.” In this study of predominantly Caucasian (84.3 percent) students in New York, participants completed an impact scale developed by the researchers as a pretest and posttest.

In a U.S. study by Jerrold Barnett and Cynthia Hurst (2004) of 379 male and female students in 8th and 10th grades, 73 percent reported that the experience with the infant simulator was an effective indicator of what it would be like to be a single parent. In this study of students in rural parts of northwest Missouri (racial demographic not available), caregiver logs were obtained from the infant simulators and participants completed questionnaires specifically about their reactions to the infant simulators one month after completion of the program. The authors concluded that survey responses (see Table 1, p. 8) clearly show the value of the BTIO experience in helping students to recognize “the difficulty of caring for an infant and to understand the importance of delaying parenthood.”

Table 1. Participants' Responses to Simulator Survey

Item	Strongly Agree	Agree	Disagree	Strongly Disagree
[My experience with the infant simulator] made me want to become a teenage parent.	5	6	27	63
...made me realize how easy it is to hurt a baby.	18	48	23	12
...made me realize how much fun babies are.	7	23	39	31
...made me realize I am ready to become a parent.	5	8	35	52
...helped me decide to wait to have children.	38	38	12	12
...showed me how it would be to be a single parent.	22	51	18	10
...made me think I could take care of a child on my own.	6	17	41	35
...made me more likely to postpone having sex.	27	38	22	13

Source: Barnett, J., and Hurst, C. (2004). Do adolescents take "Baby Think It Over" seriously? *Adolescence*, 39(153), 65-76. Table 1, Frequency (in Percentages) of Responses to BTIO (Realityworks) Survey Items

A U.S. study by William Strachan and Kevin Gorey (1997) of 48 male and female participants ages 16 to 18 found that 83 percent "doubted their capacity to be consistently tolerant and understanding with such persistent infant demands." The students who participated "had much more realistic notions about the responsibilities and demands involved in childrearing." In this study of mostly African-American (48 percent) and non-Hispanic white (42 percent) students in New York, students completed questionnaires both before and after the parenting program about their attitudes toward parenting and toward childrearing with a partner.

In a U.S. study by Judy Didion and Helen Gatzke (2004) involving 250 male and female 11th graders, a survey upon completion of the parenting program found that "marriage was considered essential or very important before having children by 80 percent of the participants." In this study of students from four Mid-west high schools (racial demographic not available)—which was conducted 2-3 years after the students completed the program—students filled out a survey with questions about the parenting experience and their personal intentions related to sexual activity. A risk behavior inventory was included in the survey.

In a U.S. study by Betty Rosenbaum and Elizabeth Parietti (1997) of 13 8th graders, "all participants stated that raising a baby was a 24-hour project that required both parents." In this study of students in New Jersey (racial demographic not available), students completed pretests and posttests about their attitudes toward caring for a newborn and the ages at which they wanted to become parents.

Impact of Early Parenthood on Social and Academic Life

The Didion and Gatzke study found that “nearly every student (98 percent) said that having a baby would limit their social life.” The Strachan and Gorey study found that “more than half of them [the participants] specifically mentioned the rigorous demands of the caregiving tasks (e.g. the amount of time involved) and how these additional ‘responsibilities’ impacted their daily schedule.”

In the de Anda study, more than three quarters of a sample of 108 posttest-only students “indicated that they wanted to complete college and have a job or career before becoming parents.” This study also noted an increase in the percentage of participants who indicated that early parenthood would “interfere with their education” (from 65.7 percent to 83.3 percent), “getting a good job or career” (from 54.6 percent to 77.8 percent), and with their “social life” (from 58.3 percent to 73.1 percent).

A U.S. study by Cheryl Somers, Jamie Gleason, Stephanie Johnson and Mariane Fahlman (2001) of 147 male and female 9th through 12th graders noted that participants increased their “recognition of the difficulties of raising children, especially as teenagers.” The study also found that by the end of the parenting program, participants who currently had a girlfriend or boyfriend had increased the number of conversations with each other about pregnancy. In this study of one sample of mostly Caucasian students and a second sample of predominantly Middle Eastern students, a control and an experimental group completed surveys before and after the simulation on the topics of contraceptive use and sexual attitudes, desire to achieve or avoid pregnancy, the responsibility of parenthood, and the impact of early parenthood on their future goals.

Sexuality

Note: Since the RealCare® Parenting Program does not address contraception, findings regarding contraception are the result of students’ exposure to other factors, including the parenting curricula into which the RealCare® Parenting Program was integrated.

The Rosenbaum and Parietti study noted that students appeared to gain “a sense of empowerment because they now had a reason to say no to sex and the ability to explore alternative behaviors,” and became “more open to discuss sexual attitudes, parental restrictions, risk factors, and peer pressure.”

Among teen participants in the Barnett and Hurst study, 65 percent agreed that their experiences with the infant simulator “made them more likely to postpone sex.” In the Somers et al. study, participants increased their understanding of the “importance of using birth control to avoid pregnancy.”

The Roberts and McCowan study found that students who experienced the infant simulator showed significant agreement with [the statement] “Teenagers should abstain from sexual behaviors.” The de Anda study found that nearly two-thirds (58.3 percent) of the sample of posttest-only students reported that the infant simulator “helped change their minds about using birth control or protection to prevent unwanted pregnancies.” Reported use of birth control or protection increased from 22.2 percent to 28.7 percent.

In a study by Jennifer Out and Kathryn Lafreniere (2001), in which 114 students completed questionnaires before and after their experience with the infant simulator, students in the intervention group reported having “more favorable views regarding abstinence from premarital sex” and “more positive attitudes toward the use of contraception.” These 14- to 19-year-old Canadian students (racial demographic not available) were divided into intervention and comparison groups of 53 and 61 students respectively.

Future Goals and Plans for Parenthood

Future Goals

A U.S. study by Cheryl Somers and Mariane Fahlman (2001) of 213 male and female 10th through 12th graders found that the two most frequently checked survey statements about participants' involvement with the infant simulator were "that being a parent is time-consuming and a lot of responsibility and that being a teen parent will keep you from meeting future goals." In this study of primarily white students in the Midwest, both the control and the experimental groups completed questionnaires before and after their experiences with the infant simulators. The experimental group completed an additional open-ended question after the program about their reaction to the simulator.

Participants in the de Anda study "increased their awareness of how caring for an infant would interfere with future plans and goals with regard to both education and career." The majority of participants in this study had planned to attend college, and their experience with the infant simulator "intensified this desire to further their education."

Plans for Parenthood

The Somers et al. study noted that "52.1 percent of the teens believed the [infant simulator] experience either made them "more concerned about becoming pregnant as a teenager" or "totally afraid of having a child right now." Roberts and McCowan found that the experience with the infant simulator positively affected "student attitudes toward deferring conception."

Participants in the de Anda study reported that their experience with the infant simulator "delayed the age at which they desired to have a child," from approximately 23 to 25 years, with "a dramatic drop in those indicating an age of 24 years or less (67 percent to 32.3 percent)." Most significantly, a sharp decrease was found from pretest to posttest in the number of participants who wanted children before graduating from high school, from 8.7 percent to 1.5 percent.

The de Anda study included open-ended questions that many participants declined to answer. But among those who did answer, most stated that the infant simulator showed them that "it was much harder work to care for a baby than they had previously thought." Among the responses to a question regarding what they thought of the program in general, many described the program as "good" or "effective" (61.1 percent), and noted that the program "help[ed] them learn how hard taking care of a baby actually was and that they did not want a child at this time (39.9 percent)."

An Australian study by Brandi McCormack and Moira Sim (2005) of 696 male and female students ages 12 to 18 found that "the desired age for having their first child increased by 1.5 years (23.4 to 24.9 years)." In this study, students in 13 of 20 Western Australia high schools (racial demographic not available) completed pre-program and post-program questionnaires and attended a one-to-one debriefing after the program with a youth health officer.

In the Barnett and Hurst study, "76 percent [of the students] agreed that BTIO helped them decide to wait to have children." Didion and Gatzke found in their study that "adolescents related that the experience with the infant simulator was sufficient to teach or reinforce opinions about the negative consequences of teen parenthood," and students "reported that they intended to delay childbearing."

Parents' Perceptions of the Infant Simulator Experience

A U.S. study by James Price and K. Lynne Robinson (2000) of 120 junior high students in rural Ohio solicited responses from the parents of students in their study, and found that "approximately two-thirds of the parents claimed the baby [infant simulator] had increased communication with their child." The vast majority of parents perceived that the experience "taught their children that 'having a baby is a lot of responsibility' (85 percent), 'having a baby is time consuming' (79 percent), and that 'having a baby would keep them from meeting their goals in life' (71 percent)."

The parent perception component of the McCormack and Sim study found that "the majority of parents who provided feedback believed participation in the program had been beneficial (85 percent) and their child had a more realistic idea of parenting after the program (89 percent)."

CONCLUSION

According to the U.S. Department of Health and Human Services Centers for Disease Control and Prevention (CDCP), the United States has set a national goal of decreasing the rate of teenage pregnancies to 43 pregnancies per 1,000 females ages 15 to 17 by 2010. The CDCP publication Unintended and Teen Pregnancy Prevention notes that the social and medical research communities continue to identify additional innovative interventions that address the social, cultural, and environmental influences on teen pregnancy.

The studies cited in this paper demonstrate that parenting programs that include infant simulators along with appropriate curricula are more effective in changing teens' perceptions of the responsibilities and constraints involved in early parenthood than programs that rely on curriculum alone. Science-based teaching tools, such as realistic infant simulators and comprehensive curricula, give educators, parents, and community members the tools to deliver effective programs that support healthy parenting decisions.

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Appendix B: Teen Pregnancy Rates

United States Teen Pregnancy Rates

The National Campaign to Prevent Teen Pregnancy (NCPTP), established in 1996, is a not-for-profit, nonpartisan organization committed to reducing the nation's teen pregnancy rate in order to "improve overall child well-being and to reduce persistent child poverty."

The NCPTP's website, <http://www.teenpregnancy.org>, publishes state-by-state pregnancy data. Table 2 below shows its ranking of states according to the rate of pregnancy for girls aged 15 to 19 for the years 1992 through 2000. Ranking is from lowest (1) to highest (50).

Table 2. Pregnancy Rates (per 1000) for Girls aged 15 to 19, 1992 through 2000, State Rankings.

State	Rate	Rank	State	Rate	Rank	State	Rate	Rank
North Dakota	42	1	Virginia	72	19	Alabama	90	36
Vermont	44	2	Indiana	73	20	New York	91	37
New Hampshire	47	3	Alaska	73	21	Maryland	91	38
Minnesota	50	4	Missouri	74	22	Hawaii	93	39
Maine	52	5	Ohio	74	23	Delaware	93	40
Utah	53	6	Michigan	75	24	Arkansas	93	41
South Dakota	54	7	Washington	75	25	North Carolina	95	42
Iowa	55	8	Kentucky	76	26	Georgia	95	43
Wisconsin	55	9	Wyoming	77	27	California	96	44
Nebraska	59	10	Oregon	79	28	Florida	97	45
Massachusetts	60	11	Colorado	82	29	Texas	101	46
Pennsylvania	60	12	United States	84	N/A	New Mexico	103	47
Montana	60	13	Oklahoma	86	30	Mississippi	103	48
Idaho	62	14	Illinois	87	31	Arizona	104	49
Rhode Island	67	15	Louisiana	87	32	Nevada	113	50
West Virginia	67	16	Tennessee	89	33	DC	128	N/A
Kansas	69	17	South Carolina	89	34			
Connecticut	70	18	New Jersey	90	35			

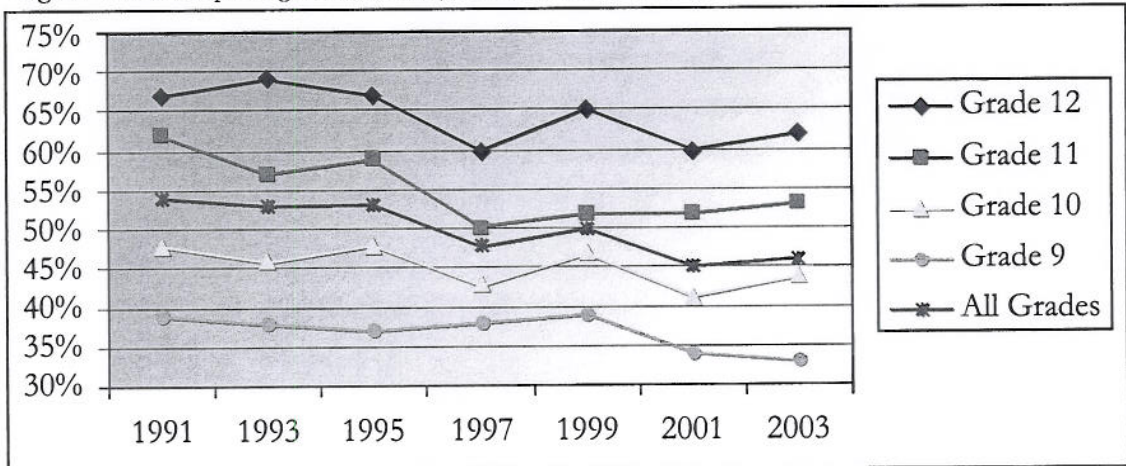
Source: National Campaign to Prevent Teen Pregnancy, obtained March 4, 2006, from <http://www.gutmacher.org/pubs/2006/02/28/IB2006n1.pdf>

Appendix C: Teens Reporting Sexual Activity, Grades 9-12, 1991-2003

The U.S. Department of Health and Human Services Centers for Disease Control and Prevention (CDCP) tracks pregnancy data by numerous variables.

Figure 1 shows the CDCP's data on the percentage of high school students who have had sex at least once. While teen pregnancy rates declined slightly in the time period from 1995 to 1997, they appear to be holding steady for teens in all grades except for grade 9, appears to be experiencing a decline.

Figure 1. Teens Reporting Sexual Activity, Grades 9 to 12, 1991-2003



Source: Centers for Disease Control and Prevention. (May 2004). Surveillance Summaries. MMWR 2004:53(No.SS-2).