

## ***Baby Think It Over: A Weekend with an Infant Simulator***

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*This study examined high school freshmen's perceptions of teen pregnancy with infant simulators. The research questions for this study included: What happens when the participants take home the infant simulator? Does the infant simulator change their lifestyles while they are taking care of it, and in what ways? Does the infant simulator cause the participants to feel like parents, and in what ways? Does Baby Think It Over open communication between parents and teens on the responsibilities of parenting? What does being a parent mean to the participants? and how do the participants feel about being teen parents? The participants' experiences with Baby Think It Over reinforced their plans to wait to have children.*

The rate of teen pregnancy in the United States, although has declined in the past 15 years, continues to be higher than the rates of other industrialized countries (Singh & Darroch, 1998). Almost 750,000 United States women under the age of 20 (71.5 out of every 1,000 girls ages 15 to 19) became pregnant in 2006 (Guttmacher Institute, 2010). Of teen pregnancies, 81% are unplanned (The National Campaign to Prevent Teen and Unplanned Pregnancy, 2008).

Many think of teen pregnancy as being a concern only of modern times. Actually, programs to reduce unprotected intercourse were in place in United States schools in the early 1900's (Shoemaker, 2002). Some of the past efforts to simulate the responsibilities of parenthood include students parenting eggs, flour sacks, dolls, and potted plants. However, the students were able to enjoy taking care of the doll, egg, or plant without needing to get up for 2 a.m. feedings. Although students may have learned some of the responsibilities of parenting from these early simulations, the students could easily get by with not taking adequate care of their babies. Technological advances have continued to create more realistic learning opportunities. One of the more recent teaching tools is the brand of infant simulator known as *Baby Think It Over*. Using computer technology, the infant simulator, in the form of a life-like doll, requires attention from the student, such as feeding, rocking, burping, or diaper changing, and then saves and reports data on whether the student provided the necessary attention in an appropriate and timely manner. This study investigated the experiences of teens as they took home *Baby Think It Over* for a weekend.

The purpose of the study was to explore the experiences of teens who took home *Baby Think It Over*, an infant simulator, for a weekend and any changes in their perspectives toward teen parenting. The research questions for this study included: What happens when the participants take home the infant simulator? Does the infant simulator change their lifestyles while they are taking care of it, and in what ways? Does the infant simulator cause the participants to feel like parents, and in what ways? Does *Baby Think It Over* open communication between parents and teens on the responsibilities of parenting? What does being a parent mean to the participants? and how do the participants feel about being teen parents?

## Conceptual Theory

The premise for this study on infant simulators is grounded in experiential learning theory, which posits learning is based on the concrete experiences of the students (Dewey, 1916; Kolb, 1984; Steffes, 2004). In experiential learning, stimuli come not from the teacher or from a book, but from real life. It has been proposed that we start with the experience, rather than ending there. According to Dewey (1938), "Education, in order to accomplish its ends both for the individual learner and for society, must be based on experience which is always the actual life-experience of some individual" (p. 89).

According to Gokhale (1996), students remember almost 90% of something they have done themselves, even if it is a simulation, such as taking home *Baby Think It Over*. One of the reasons that concrete experience can be a valuable tool is that the experience often continues to affect the participant even after the experience is complete (Dewey, 1938). After people experience something, the memory of that experience and their reactions to it can affect their reaction to similar events in the future. This illustrates the potential for *Baby Think It Over* to influence students' decision-making regarding parenting as teenagers. The concrete experiences provided by an infant simulator create an experiential learning situation based on potential real life experiences.

## Literature Review

Family and Consumer Sciences educators, along with others, have been trying for years to find an experience that would enlighten teens about the responsibilities of parenthood. Parenting eggs and flour sacks were among the early types of simulations. Although the teen was required to physically protect the egg or flour sack to some extent, the egg or flour sack did not demand attention, nor did it wake the teen in the middle of the night. Students learned some of the responsibilities of parenting from these early simulations, but students could also easily get by with not taking adequate care of their "babies." A need arose for a simulator which demanded care and also recorded the care, or lack of care, given by the students.

Studies on the effectiveness of *Baby Think It Over* began in 1994 (Hillman, 2000), the same year that *Baby Think It Over* was first on the market. In general, the research found that the use of infant simulators has a positive effect in creating a more realistic view of parenting and the desire to not be a parent while a teen. Divine and Cobbs (2001), in their two-year longitudinal study, found that "the project was highly successful in meeting its goal of educating young adolescents about the responsibilities involved in infant care, and the possible implications of sexual intercourse" (p. 600). Out and Lafreniere (2001) found that, after the experience with *Baby Think It Over*, teens were "more likely to accurately assess their personal risk for an unplanned pregnancy," and were more likely to "acknowledge that failure to use contraceptives during intercourse significantly increases one's personal risk for becoming involved in an unplanned pregnancy" (p. 571). Strachan and Gorey (1997) determined that teens who took home *Baby Think It Over* ended up with "much more realistic notions about the responsibilities and demands involved in childrearing" (p. 171). Hillman completed one of the few longitudinal studies, finding that teens who had taken *Baby Think It Over* home "remained pregnant-free on average almost a year longer than the control group" (p. 112).

However, a few studies concluded that the infant simulator was not effective. Somers and Fahlman (2001) found that the infant simulator did not significantly change teens' attitudes toward parenting or avoiding teen sex. Tingle (2002) reported that, although the infant simulator

had support from parents and teachers, it did not have a statistically significant effect on students' attitudes.

Previous research on infant simulators has been mostly quantitative, while this paper focuses on research that was predominantly qualitative. The version of *Baby Think It Over* used in this study was the RealCare® *Baby Think It Over*, whereas prior studies focused on earlier versions of *Baby Think It Over*.

## Methods

### *Participants*

The participants were high school freshmen students enrolled in a comprehensive Family and Consumer Sciences course who wanted to take *Baby Think It Over* for a weekend, but had not taken *Baby Think It Over* home in any other class. All participants were Caucasian that represented varying socioeconomic backgrounds and were between the ages of 14 and 16. Ten participants were female and three were male. The method used to select participants was the typical sample method, in which a participant is "selected because it reflects the average person, situation, or instance of the phenomena of interest" (Merriam, 2001, p. 62). Names of ten females were selected at random from approximately 26 who expressed a desire to participate in the study. As there were only three males eligible and willing to participate, all three were included in the study.

### *Description of the Infant Simulator*

The RealCare® *Baby Think It Over*, also referred to by the manufacturer as *Baby*, is an approximately nine pound doll that has a computer in its torso. The instructor can set *Baby* to one of 15 different schedules. To create these schedules, real parents who had infants between the age of 8 days and 82 days recorded when and how long they cared for their babies. The schedules range from "easy" to "difficult." The Babies used in this research study were programmed using the random option. After programming *Baby's* number, schedule, number of days, and start time into the control box, the instructor holds the box up to a sensor on *Baby's* back and the information is transferred to *Baby* (BTIO Educational Products, Inc., 2001).

### *The Infant Simulator Procedure*

The students check in with *Baby*, when it first makes a crying sound. This is accomplished by putting an identification (ID) wristband next to a sensor on *Baby's* back. This ID is attached to the students' arm by a tamperproof bracelet. The program involved with this study allows the students to have a "babysitter" ID, which is not attached to his or her arm and which anyone can use. The computer in *Baby* differentiates between the two IDs and reports how often each was used. The instructor notes the use of the babysitter ID on the printout and points are deducted if used too frequently. After "checking in" with "Baby," the student must determine what care he or she must give by trying different care-giving activities, such as feeding, rocking, burping, or changing the diaper. If the appropriate care is given, the crying sound will stop and a cooing sound will be emitted at the end of the care session. *Baby* may also be in a "fussy" mode and will produce a softer cry for up to 15 minutes. If the diaper becomes unattached or if *Baby* is left in the wrong position (not on its back), *Baby* will make the crying sound until the problem is corrected. If the head is allowed to go back too far, if *Baby* is dropped or mishandled, or if *Baby* is shaken, *Baby* emits a loud, screaming cry that will last about a minute.

At the time of the study, the version of *Baby* used in this study cost around \$450 for the first *Baby* and supplies, and around \$350 for each additional *Baby*. Car seats, diaper bags, and clothing add about \$100 to the price of each *Baby*. There are also upkeep costs involved, such as replacing batteries and repairing or replacing Babies, care keys, and other accessories.

The students took home *Baby* for one weekend. To prepare for the experience, students watched a film on caring for *Baby* and were given written and verbal instructions. They spent between two and three class periods practicing with the infant simulators. During the class period, the instructor attached the tamperproof bracelet and ID onto the wrist of the student and provided the student with last-minute instructions. The student picked up *Baby* after school, usually on a Friday. The instructor programmed *Baby* to start about one hour after the student finished school for the day. Once the student became a parent, he or she had to take *Baby* everywhere for the designated time period, unless the student arranged for a babysitter. It was the instructor's policy that students could have a babysitter for up to one hour per day, with grade deductions if the amount of babysitting exceeded the limit. In addition to taking home *Baby*, the student was required to take the appropriate supplies, including a car seat and a diaper bag filled with the necessary diaper, bottle, and informational *Baby* binder, as well as miscellaneous items, such as clothing and blankets. After the weekend, the student brought *Baby* back to the instructor before school started in the morning.

This particular program had 10 infant simulators, and checked out about nine each week, keeping one *Baby* on reserve in case there were technical problems. As there were a total of over 100 students enrolled in various sections of the course, the entire process of students taking home *Baby* took about two months. The research took place over the course of one semester.

### ***Individual Interviews***

Following the three-interview series framework (Seidman, 1998), the researcher interviewed the participants before, immediately after, and approximately two weeks after their weekend experience with *Baby Think It Over*. Questions asked during the first interview focused on the participants' current opinions on parenting and teen parenting and their prediction of what lifestyle changes may occur during their weekend with *Baby Think It Over*. Questions asked during the second interview focused on what happened during the weekend, if and how their lifestyle changed during the weekend, and how the participants felt about being "parents" for the weekend. Questions asked during the third interview focused on the memories they had from the weekend with *Baby Think It Over*, current opinions on parenting and teen parenting, and their opinion of the *Baby Think It Over* simulation.

In addition to interview questions, affect cards were used to prompt thoughts and opinions in each of the interviews. Words were written on index cards and handed to the participants with the instruction that they could comment on what each word brought to mind. They were allowed to go back to a card later or to skip a card if they had no comment. The affect cards included the words: angry, success, emotional, confused, strong belief, stress, look forward to, sad, failure, important to me, frustrated, responsibility, and happy. In each of the three interviews, the participants were asked to think of the words in a different context. During the first interview, they were asked what the word brought to mind when they thought of themselves right now. During the second interview, they were asked what the word brought to mind in relation to their weekend with *Baby*. During the third interview, they were asked what the word brought to mind when thinking of their lives as possible teen parents. Twelve

participants completed all three interviews. The interview questions and affect cards had been piloted with a group of slightly older students during the previous semester.

### ***Journal Entries***

The participants were additionally asked to journal how they felt being a parent to *Baby* on conversations with friends, parents, and others about *Baby*; and on any memorable events that occurred with *Baby*. Ten participants provided their journal to the researcher for review.

### ***Data Analysis***

*The Ethnograph v5.0* software program was used to code qualitative data gathered through the interviews and journals. Each interview and journal entry was analyzed for main ideas, which were developed into codes. Using *The Ethnograph*, the researcher noted how many times each code was used and how each code was used, then eliminated or changed codes rarely used and combined some specific codes into larger, more general codes. Code words were examined, including possible relationships between and among codes. The codes were sorted into emerging patterns and categories. The categories were then developed into themes.

## **Findings**

Analysis of the interviews and journal entries revealed potential answers to the research questions. Pseudonyms are used in place of the participants' actual names.

### **Does taking care of an infant simulator change the participants' lifestyles while they are taking care of it, and if so in what ways?**

Participants listed many changes in their lives during the weekend that each had *Baby Think It Over*. Among the changes were a lack of sleep, not spending time with friends, and added responsibilities. Furthermore, most participants identified either waking at night or the lack of sleep as the thing they disliked the most about *Baby Think It Over*. In describing her experience, one participant, Lilly, said, "It was so tiring, it's not even funny." After getting up in the middle of the night, the participants often had trouble dealing with the rest of the day. Desiree agreed, saying, "[The worst part was] waking up at night. It was horrible. It's something I don't do. I have to sleep like fourteen hours, or I'm grouchy."

Besides the change in amount of sleep during the weekend with *Baby Think It Over*, many participants had other changes in their normal nighttime routine. Desiree slept downstairs to be closer to her brother so he could take care of *Baby* if she did not hear it. Erica slept in the living room so that it would be easier for her mom to hear *Baby* if it started crying and Erica did not wake up. Paul slept in the living room so that *Baby's* cry would echo and be louder. Haley slept downstairs so *Baby* would not wake up her dad. Most of the participants kept *Baby* on the floor in its car seat, but Jenny held her *Baby* like a doll beside her in bed during the first night. Other changes in their lifestyles had to do with activities they would normally be involved in during a weekend. Desiree said, "I didn't get to do all the stuff like I'd normally do, like I didn't get to go hang with my friends. ... And I didn't get to sleep at all." Desiree added later, "I even skipped the football game for that little *Baby*. It was horrible." Lilly said, "I couldn't sleep over at a friend's house because they'd rather not have the *Baby* around." Paul said he missed a birthday party because he had *Baby Think It Over*. Wendy did not go to church or open gym with her *Baby*. Ross said, "I didn't really hang out with friends this weekend 'cause I had it, and that'd just be way too hard." Another change in the weekend was the additional responsibility.

Wendy said the biggest change was “having to pay more attention to the Baby and not as much everything else.” Haley said, “I had more responsibilities with the Baby because I didn’t want to get a bad grade. So I wanted to make sure that I was up and around it all the time.”

The participants’ lifestyles definitely changed during their weekend with *Baby Think It Over*. As long as the participants were attempting to take proper care of *Baby*, their weekend was quite different from normal. The participants reported a variety of changes such as not being able to go out as much, sleeping in different locations, not getting as much sleep, changes in eating patterns, not being able to shower when they wanted to, and an increased sense of responsibility. The most obvious change to the participants was the different sleep patterns and the lack of sleep.

### **Does taking care of an infant simulator cause them to feel like parents, and if so in what ways?**

Almost every participant stated that, at some time during the weekend with *Baby Think It Over*, he or she felt like a parent. Many of the participants named their *Baby*, possibly causing them to treat their *Baby* more like a real baby than a computerized one. To many of the participants, the feeling of being a parent created an overwhelming sense of responsibility. Many stated that it felt strange to be responsible for something else, when they frequently were not responsible enough to take care of themselves. For some, it seemed impossible to escape that feeling of responsibility during the weekend with *Baby Think It Over*. Desiree said, “I felt like a parent, because it, like, it wouldn’t go away. This whole weekend, like you couldn’t just like say, ‘Go away.’ You didn’t have like a time, where like the baby’s parents could come get it or something.” Some of the participants seemed to enjoy feeling like a parent during the weekend, and it almost seemed like they were children playing house. Nathan said, “It felt really different, I didn’t feel like a teenager, I felt like I was grown up, ‘cause I was there for it when it needed something.” Paul became emotionally attached to *Baby Think It Over*, and said, “It feels kind of like you own something... You have to care for something more than anything else.”

Others were not so sure they liked the feeling of being a parent. Zarah said, “I felt a little bit like a parent, but I feel like I didn’t want to be a parent.... I don’t know, kind of stressful, just having to worry about someone else all the time instead of just yourself.” Lilly showed less attachment toward *Baby Think It Over*, and did not feel as much like a parent as the others reported. Lilly said, “No, I didn’t really feel like a parent. I don’t know. Sort of, sort of not. It’s kind of weird saying that, because you’re taking care of a doll. But it sort of did.”

During their weekend with *Baby Think It Over*, the participants experienced what it may be like to be a parent. Although the participants admitted there would be many differences if it had been a real baby, all of them felt like a parent toward *Baby Think It Over* for at least part of the time. Even though *Baby Think It Over* itself was not realistic to them, they felt that the experience was fairly realistic.

### **Does taking care of an infant simulator open communication between parents and teens on the responsibilities of parenting?**

According to the participants, they did not communicate much about teen parenting with their parents during their weekend with *Baby Think It Over*. They also reported that they did not talk much about teen parenting with their parents after they brought *Baby Think It Over* back to school. However, during the interviews it was discovered that some informal conversations may

have taken place. Parents asked their teens questions such as, “Now do you understand how hard it would be to be a teen parent?” and made statements such as, “Now you know what I went through when you were little.” In her journal, Wendy wrote a typical comment, “My mom thinks it’s a good experience and makes you think about what if this *Baby* was real and you would have to take care of it the rest of your life.”

Many participants said their parents thought taking home *Baby Think It Over* was a good idea, and their parents encouraged them to take it home. However, they also often had trouble in stating why their parents thought it was a good idea. Parents may be attempting in subtle ways to encourage their teens to wait for sex and children until they are married. The teens may not consciously pick up on these more subtle remarks, but may pick them up on a more subconscious level. Other parents may not talk to their teens about sex because they are uncomfortable with the topic, yet they may encourage their sons and daughters to take home *Baby*.

### **What does being a parent mean to the participants?**

All participants mentioned the word “responsibility” when discussing being a parent. Teens believe that being a parent means caring for something more than they care for themselves. Although they mentioned financial responsibility, teens may not realize the full extent of that financial responsibility. The participants also said that being a parent means setting rules for children to keep them safe.

Taking home *Baby Think It Over* did not seem to affect the participants’ desires to become parents in the future. Some participants said they wanted to wait even longer before they had children, but no one declared that he or she decided against ever having children. One participant who did not like infants to begin with said she was more inclined to adopt an older child, as she was not sure if she would enjoy taking care of an infant.

### **How do the participants feel about being teen parents?**

Both before and after taking home *Baby Think It Over*, the participants indicated that becoming a parent at their age would not be a good idea. They were aware that it may be difficult to consider a baby’s needs before considering their own. They were also aware that being a parent on their own could be more difficult than sharing the responsibilities with a partner. The participants were mostly concerned with the effects parenting would have on their time, relationships, grades, and sleep. All of the participants stated that their grades would probably go down if they were to become a parent at this time.

The participants felt that being a teen parent would mean limited interactions with their peers. Participants talked about not being able to do as many activities with their friends, difficulties in talking on the phone with their friends, and having friends tell them they did not want them around during their weekend with *Baby Think It Over*. Ross summed it up in his journal with, “Its way harder to do stuff with friends when you have a kid at this young of an age.” The participants did not like being secluded from their friends during the weekend. Lilly said, “I thought it [Baby] was pretty cool, but, like, not spending time with your friends and that, that’s just, oh, I didn’t like it.” Most of the participants felt that, if they had a real baby as a teen, it would even further limit their interactions with their friends. Desiree said, “I wouldn’t have friends.... ‘Cause I’m fourteen and nobody wants to drag around a baby when they’re fourteen.” Janessa said, “Some of [the relationships] might [change]. I mean, some of them more than others. I guess that’s where you know where your true friends are.”

When talking about other teens who are pregnant or parenting, the participants expressed that the lives of teen parents are difficult. They realize that the teen parent has more responsibilities and is not able to interact with his or her friends as much. Some of the participants also seem to admire teen parents for their maturation and for having the strength to deal with this difficult life. This admiration may end up being a way for teens, if they do become teen parents, to set themselves apart from others and possibly see themselves as an inspiration to others. Some participants stated that, if they were to become teen parents, a positive aspect would be relaying their experiences to other teens to encourage them not to become teen parents.

The participants were uncomfortable thinking about their own lives as teen parents, especially when asked of their possible thoughts and actions and parents reactions. They were much more comfortable talking about their current lives than talking about the potential consequences their own teen pregnancy would possibly create.

Jenny wrote in her journal, "I think that [*Baby Think It Over*] is a wonderful tool to teach teens not to want babies." All of the participants did not want to be teen parents before they took home *Baby Think It Over*. The bigger question is whether *Baby Think It Over* will cause teens to rethink the actions that may lead them to teen pregnancy. The assistant principal of the school commented that teens have recreational sex, not procreational sex, meaning that most teens that have sex are not having sex to intentionally create a child. Instead, they are having sex for enjoyment, out of curiosity, or for other reasons.

To summarize, the participants reported a variety of changes during their weekend with the infant simulator, such as not being able to go out as much, sleeping in different locations, not getting as much sleep, changes in eating patterns, not being able to shower when they wanted to, and an increased sense of responsibility. During their weekend with *Baby Think It Over*, the participants experienced what it may be like to be a parent. Although the participants admitted there would be many differences if it had been a real baby, all of them reported feeling like a "parent" toward *Baby Think It Over* for at least part of the weekend. According to the participants, they did not communicate much about teen parenting with their parents during or after their weekend with *Baby Think It Over*. Responsibility was the main objective when they thought about being parents. Both before and after taking home *Baby Think It Over*, the participants indicated that becoming a parent at their age would not be a good idea. The participants were mostly concerned with the effects parenting would have on their time, relationships, grades, and sleep.

### **Conclusions**

The participants did not want to become teen parents before taking home *Baby Think It Over*. This attitude was affirmed during their weekend experience. They realized how difficult it would be as a teen parent, and stated that it would be even harder than they originally thought. Although they expressed pride in their accomplishment of successfully being a teen parent for the weekend, they were put off by the thought of actually becoming one after their weekend. They also gained new knowledge in how to care for an infant, including the costs and time involved.

The participants' experiences with *Baby Think It Over* reinforced their plans to wait to have children. Participants saw it as a good experience and did not regret taking it home. Many viewed it as an experiment or a safe way of experiencing teen parenting. Although they did not necessarily enjoy their weekend with *Baby*, if they had it to do over again, they would make the same choice of taking home *Baby* for the weekend. They also felt it is important for others to



take home *Baby Think It Over*. Teens understand that being a parent during this time would be difficult. Most of them do not desire to become parents, but may end up as parents as an unanticipated result of their actions. The participants said that taking home *Baby Think It Over* caused them to realize for sure how difficult it would be.

In several ways, this study coincides with the results of other studies of *Baby Think It Over* or other similar infant simulators (Koontz, 1999; Out & Lafreniere, 2001; Somers & Fahlman, 2001; Tingle, 2002). As in the other studies, the age at which the teens want to become parents did not change as a result of the *Baby Think It Over* experience. This is because they already wanted to wait until they were in their twenties to become parents. Like many of the other studies, this one reinforces that *Baby Think It Over* creates a more realistic view of parenting and the desire to not become a parent while a teen.

The data gathered during this study give several implications for the implementation of infant simulation programs such as *Baby Think It Over*. Ninth grade is an appropriate grade to take home *Baby Think It Over* for the weekend. Taking home *Baby Think It Over* for at least a weekend rather than over one weeknight creates more challenges and results in teens needing to make accommodations for interacting with friends and dealing with the public.

There are several implications for further study. Longitudinal studies are needed to determine whether students who take home infant simulators are less likely to become pregnant as teens. It may be interesting to utilize an approach that includes significant parent involvement. Additional research should encompass a more comprehensive approach to the issue, rather than only focusing on taking home the infant simulator, including education on such factors as financial responsibility, space requirements, time requirements, and infant health concerns. "It is important to remember that each year a new set of teens arrives on the scene, meaning that efforts to prevent teen pregnancy must be constantly renewed" (Kirby, 2001, p. 4). With a new group of students each year, it is important to continue to evaluate the effectiveness of the *Baby Think It Over* program and to investigate the students' views of their experiences when they take it home.

People need to keep in mind that teens are receiving messages about sex from a wide variety of sources. During their weekend with *Baby Think It Over*, the participants were subjected to bad looks from adults who thought the teens were carrying real babies. On the other hand, they are growing up in a culture in which many are embarrassed to remain abstinent. National teen pregnancy rates have fallen during the past 15 years. This decline started shortly before the 1994 introduction of *Baby Think It Over*. An increased focus on preventing teen pregnancy including federal funding for teen pregnancy prevention programs and practical experiences with infant simulators such as *Baby Think It Over* may have played a part in this decline. It is impossible to identify any one factor that caused the change, however, a program that helps teens reinforce their views on teen parenting by encouraging them to make the choice to abstain or use protection is beneficial. Furstenberg (2003) states, "We do not have to convince teens that having children early in life is undesirable—most think so before they have sex; we only have to make it easier and more attractive to avoid this outcome" (p. 36).

### References

- BTIO Educational Products, Inc. (2001). *RealCare® baby program manual*. Eau Claire, WI: Author.
- Dewey, J. (1916). *Democracy and education*. New York: The Free Press.
- Dewey, J. (1938). *Experience and education*. New York: Touchstone.

- Divine, J. H., & Cobbs, G. (2001). The effects of infant simulators on early adolescents. *Adolescence*, 36(143), 593-600. Retrieved November 9, 2002 from Gale Group database
- Furstenberg, F. F. (2003). Teenage childbearing as a public issue and private concern. *Annual Review of Sociology*, 29, 23-39. Retrieved March 4, 2004 from InfoTrac OneFile database.
- Gokhale, A. (1996). Effectiveness of computer simulation for enhancing higher order thinking. *Journal of Industrial Teacher Education*, 33(4). Retrieved March 4, 2004 from <http://scholar.lib.vt.edu/ejournals/JITE/>.
- Guttmacher Institute. (2010). *U.S teen pregnancies, births, and abortions: national and state trends and trends by race and ethnicity*. Retrieved February 26, 2010, from <http://www.guttmacher.org/pubs/USTPtrends.pdf>
- Hillman, C. B. (2000). The effectiveness of an infant simulator as a deterrent to teen pregnancy among middle school students. (Doctoral dissertation, University of North Texas, 2000). *Dissertation Abstracts International*, 62(07), 2398A. (UMI No. AAT 3019188).
- Kirby, D. (2001). *Emerging answers: Research findings on programs to reduce teen pregnancy (summary)*. Washington, DC: National Campaign to Prevent Teen Pregnancy.
- Kolb, D. (1984). *Experiential learning: Experiences as the source of learning and development*. Englewood Cliffs, NJ: Prentice Hall.
- Koontz, N. (1999). High school freshmen parenting attitudes before and after “Baby Think It Over”. *The Health Education Monograph Series*, 16(3), 10-14.
- Merriam, S. B. (2001). *Qualitative research and case study applications in education*. San Francisco, CA: Jossey-Bass.
- Out, J. W., & Lafreniere, K. D. (2001). *Baby Think It Over: Using role play to prevent teen pregnancy*. *Adolescence*, 36(143), 571-582.
- Seidman, I. (1998). *Interviewing as qualitative research: A guide for researchers in education and the social sciences* (2<sup>nd</sup> ed.). New York: Teacher’s College Press.
- Shoemaker, L. I. (2002) *If not you, then who? An historical perspective on the effectiveness of school-related programs in the prevention of teen pregnancy*. Unpublished doctoral dissertation. University of Tennessee-Knoxville.
- Singh, S., & Darroch, J. E. (1998). Adolescent pregnancy and childbearing: Levels and trends in developed countries. *Family Planning Perspectives*, 32(1), 14–23.
- Somers, C. L., & Fahlman, M. M. (2001). Effectiveness of “Baby Think It Over” teen pregnancy prevention program. *The Journal of School Health*, 71(5), 188-195.
- Steffes, J. S. (2004). Creative powerful learning environments go beyond the classroom. *Change*. 36(3), 46-50. Retrieved July 11, 2004, from EBSCOhost database.
- Strachan, W., & Gorey, K. M. (1997). Infant simulator lifespace intervention: Pilot investigation of an adolescent pregnancy prevention program. *Child and Adolescent Social Work Journal*, 14(3), 171-180.

The National Campaign to Prevent Teen and Unplanned Pregnancy. (2008). *Briefly: Unplanned pregnancy in the United States*. Retrieved October 27, 2008, from <http://www.thenationalcampaign.org/default.aspx>.

Tingle, L. R. (2002). Evaluation of the North Carolina “*Baby Think It Over*” project. *Journal of School Health*, 72(5), 178-183.

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