

This article was downloaded by: [Alice Skenandore]

On: 10 April 2012, At: 09:50

Publisher: Routledge

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



## Journal of Family Social Work

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/wfsw20>

### Adolescent Pregnancy Prevention in a Rural Native American Community

Janet W. Hagen<sup>a</sup>, Alice H. Skenandore<sup>b</sup>, Beverly M. Scow<sup>b</sup>, Jennifer G. Schanen<sup>b</sup> & Frieda Hugo Clary<sup>b</sup>

<sup>a</sup> University of Wisconsin Oshkosh, Oshkosh, Wisconsin

<sup>b</sup> Wise Women Gathering Place, Green Bay, Wisconsin

Available online: 10 Feb 2012

To cite this article: Janet W. Hagen, Alice H. Skenandore, Beverly M. Scow, Jennifer G. Schanen & Frieda Hugo Clary (2012): Adolescent Pregnancy Prevention in a Rural Native American Community, *Journal of Family Social Work*, 15:1, 19-33

To link to this article: <http://dx.doi.org/10.1080/10522158.2012.640926>

PLEASE SCROLL DOWN FOR ARTICLE

Full terms and conditions of use: <http://www.tandfonline.com/page/terms-and-conditions>

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden.

The publisher does not give any warranty express or implied or make any representation that the contents will be complete or accurate or up to date. The accuracy of any instructions, formulae, and drug doses should be independently verified with primary sources. The publisher shall not be liable for any loss, actions, claims, proceedings, demand, or costs or damages whatsoever or howsoever caused arising directly or indirectly in connection with or arising out of the use of this material.

## **Adolescent Pregnancy Prevention in a Rural Native American Community**

JANET W. HAGEN

*University of Wisconsin Oshkosh, Oshkosh, Wisconsin*

ALICE H. SKENANDORE, BEVERLY M. SCOW, JENNIFER G.  
SCHANEN, and FRIEDA HUGO CLARY

*Wise Women Gathering Place, Green Bay, Wisconsin*

*Nationally, the United States has a higher rate of teen pregnancy than any other industrialized nation. Native American youth have a higher birth rate than the national rate. A full-year healthy relationship program, based on Native American teachings, traditions, and cultural norms, was delivered to all eighth-grade students at a rural tribal school and a new group of eighth graders every year for 5 years, to teach healthy relationships and encourage abstinence. This article summarizes the Discovery Dating curriculum and compares the participants in the healthy relationship program to the comparison group, at the end of 5 years, in regards of the number of pregnancies as well as self-reported sexual behavior. The comparison group comprises students in the same community who attended a public middle school, rather than the tribal middle school, but the same public high school. All students had a similar age, socioeconomic status, culture, and ethnicity. Students who received the healthy relationship program (treatment group) had fewer pregnancies than the students who did not receive the healthy relationship program (comparison group). Of those who reported that they were sexually active, the students who received the healthy relationship program (treatment group) reported higher condom use than the students who did not receive the healthy relationship program (comparison group).*

---

This research was supported in part by a grant from the Adolescent Family Life Abstinence Education Program, United States Department of Health and Human Services.

Address correspondence to Janet W. Hagen, Department of Human Services and Educational Leadership, College of Education and Human Services, University of Wisconsin Oshkosh, 800 Algoma Boulevard, Oshkosh, WI 54901. E-mail: hagen@uwosh.edu

*KEYWORDS* discovery dating, community-based abstinence culture (c-bac), primary prevention, adolescents, sexuality, Native American, community development, pregnancy prevention

Preventing teen pregnancy and birth continues to be an issue for public health officials, school personnel, and others concerned about adolescent health (Arnold, Smith, Harrison, & Springer, 2000), in spite of the fact that overall teen pregnancy and birth rates dropped from 1991 until just recently, when a 3% increase was reported between 2005 and 2006 (Stein, 2010). Even before the increase, the United States had a higher teen pregnancy rate than other industrialized nations (Alan Guttmacher Institute, 2004).

Statistics on national rates have been available for decades; however, teen pregnancy rates, sexual activity, and contraceptive use for Native Americans are not readily available. Native American teens make up a very small percentage of the overall youth population (National Campaign to Prevent Teen and Unplanned Pregnancy, 2010) in the calculation of reliable statistics from national surveys. However, the Bureau of Indian Affairs (BIA) has some statistics available based on the Youth Risk Behavior Survey, which was administered to high school students attending BIA-funded schools (Shaughnessy, Branum, & Everett-Jones, 2001). Compared to national rates, Native American youth are more likely to have engaged in sexual intercourse and to have lower contraceptive use than other youth. Further, the teen birth rate is higher (Shaughnessy et al. 2001). In one rural tribal community, 70% of the females were pregnant or had been pregnant before they graduated from high school (Wise Woman Gathering Place, 2002).

Nationally, the major impediments to reducing pregnancy rates in teens through pregnancy prevention programming are (1) the difficulty in translating the knowledge gained by teens in such programs to actual behavior change in the teen and (2) the development of evidence-based programs (Arnold et al., 2000).

In Native American communities, the task is much more difficult, given the historical oppression that included attempts at cultural annihilation.

Increasingly, the damage from that early abuse, loneliness and lack of love is being seen as a major factor in ills that plague tribes today, passed from one generation to the next and manifesting in high rates of poverty, substance abuse, domestic violence, depression and suicide. (King, 2008, p. 1).

From around 1891 through the early 1940s, an estimated 87% of all Native families were subjected to the separation and subsequent trauma of boarding schools (Adams, 1995; Child, 1999). In the boarding school era, children were generally not permitted to see their parents, relatives, or

friends for much of the 8 years they attended a boarding school. Even when children were allowed to go home for breaks, poverty often prevented their visits home, as many were unable to pay for the transportation home. Anything Indian, whether it was language, religion, dress, or “even outlook on life” was prohibited (Jones, Tilden, & Gaines-Stonker, 2008, p. 7). Punishment could be extreme for any violation, including withholding food, beating, and isolation. Speaking the Native language was particularly egregious and in one case, known to the lead author, a finger was cut off, one at a time, each time the 6-year-old girl spoke the language. Because she did not speak English, it took three fingers being cut off before the little girl finally understood she was not to speak her language. The graveyards of boarding schools are filled with the bodies of Native children who were neglected and abused (Adams, 1995; Child, 1999).

The boarding school era was followed by Native American child removal to adoptive and foster homes until the passage of the Indian Child Welfare Act of 1978, which finally put a stop to it. About one half of the Native American people alive today were not raised by parents or within their tribe because of these various practices (Cross, Mooradian, & Stutzky, 2006).

Although the boarding school movement and the infamous “kill the Indian, save the man” (Churchill, 2004) movement did not totally destroy Native American culture, it has had lasting effects on Native families and communities. Native American moral teachings and cultural traditions have been trivialized, outlawed, damaged, and concealed. The forced separation of family members, neglect, and abuse interrupted normal Native American family and community life and sabotaged the passing down of family values, norms, and the cultural support systems that defined and maintained family and community values. Without family and parenting models, subsequent generations have suffered.

Currently, there are widespread efforts to reestablish these teachings, traditions, and cultural norms—to heal families and communities (Deschenie, 2006). Reintroducing these values and cultural strengths is a critical foundation to the healthy relationship program developed in this study.

## DESCRIPTION OF THE PROGRAM

The Community Based Abstinence Culture (C-BAC) Program was a 5-year teen pregnancy prevention program designed to demonstrate the effectiveness of abstinence education and healthy relationship development in reducing teen pregnancy in a Native American community. The C-BAC program used Discovery Dating (Skenandore, 2002): the core healthy relationship development curriculum in a five-point program, along with principles of abstinence, refusal skills, relevance of Native culture, and a future vision of

careers. These five core curriculum components supported two primary objectives for students: (1) to learn how to make healthy decisions and (2) to learn how to implement those decisions. Further, it was the intent of the C-BAC Project to create a dynamic space where teens could individually and collectively transform their lives into a culture of meaningful, productive behaviors with healthy, positive beliefs and attitudes about themselves and their sexuality.

Discovery Dating was developed by a Native American Alice Skenandore of the La Courte Oreilles Chippewa Tribe. Discovery Dating emerged as part of the needs expressed in a women's circle that met on the Oneida Indians of Wisconsin reservation. It grew out of the cultural values of respect, self-determination, and a balance of interdependent life.

## Background

Prior to C-BAC's development, pregnancy prevention programs were either not evaluated or not well evaluated. Kirby (1997), writing for the National Campaign to Prevent Teen Pregnancy, reported that programs either did not measure effectiveness or found little evidence of effectiveness in the long term. Over time, more rigorous studies began to appear. When C-BAC was developed, Kirby (2001) had just updated his review of the results of pregnancy prevention programs and found significant progress in evidence-based effectiveness of a variety of programs. From this evidence, a list of 10 characteristics was compiled that defined successful pregnancy prevention programs. To ensure the greatest likelihood of effectiveness, C-BAC was designed with an eye to the infusion of the ten characteristics. The following were considered most critical to developing a culturally relevant program: (1) provide basic, accurate information about the risks of teen sexual activity; (2) include activities that address social pressures; (3) provide examples of and practice with communication, negotiation, and refusal skills; (4) employ teaching methods designed to involve participants; (5) incorporate method appropriate to the culture of the students; (6) last a sufficient length of time; and (7) select teachers who believe in the program (Kirby, 2001, p. 6).

When applying for the Adolescent Family Living federal grant that was for abstinence-only programming, the authors considered Discovery Dating's ability to align with abstinence-only programming for several reasons. The Discovery Dating curriculum was based on developing healthy relationships with a clear method for decision making. Second, participating youth were eighth-grade students. Discovery Dating allowed a way to support youth in discerning and deciding personal values, while assessing social messaging that normalizes sexual activity as early as the eighth grade. Third, the authors believe that children have their own best interests at heart and, if given useful

information and skills in a supportive environment, will make healthy choices for themselves. Finally, abstinence aligned culturally with a return to preboarding school values of family commitment.

The C-BAC program was able to directly align its program with the eight elements of the definition of abstinence-only education as defined in Pub. L. No. 104-193: (1) the social, psychological, and health benefits of abstinence; (2) that abstinence from sexual activity outside marriage is the expected standard for all school-age children; (3) that commitment to abstinence from sexual activity as the only certain way to avoid out-of-wedlock pregnancy; (4) that mutually faithful monogamous relationships in the context of marriage is the expected standard of human sexual activity for all school-age children; (5) that sexual activity outside the context of marriage is likely to have harmful psychological and physical effects; (6) that bearing children out-of-wedlock is likely to have harmful consequences for the child, the child's parents, and society; (7) that youth are able to reject sexual advances and will understand of how alcohol and drug use increases vulnerability to sexual advances; and (8) of the importance of attaining self-sufficiency before engaging in sexual activity.

### Ecological Framework

The C-BAC program worked to affect participants' personal agency and self-efficacy (Zimmerman & Cleary, 2006). Personal agency is based on self-efficacy, or a person's belief in his or her ability to succeed in a particular situation (Zimmerman & Cleary, 2006). Personal agency is the subjective awareness that one is initiating, executing, and controlling one's own volitional actions in the world (Zimmerman & Cleary, 2006). C-BAC employed an ecological approach aligned with Bronfenbrenner's (1994) theory, affecting change by teaching and reinforcing messages at multiple layers in the social ecology: individuals, relationships, community, and society. Bronfenbrenner termed these layers "systems": microsystems, mesosystems, exosystems, and macrosystems. The layered impact of each level on C-BAC participants reinforced the messages of support for healthy relationships and the freedom of choice of sexual abstinence.

#### MICROSYSTEM IMPLEMENTATION

Bronfenbrenner (1994) emphasized the importance of microsystem implementations for sustainability of change. Therefore, the C-BAC program addressed several participant microsystems, including face-to-face interactions with participants in the classroom, in an after school club, at conferences, and in a summer camp.

In the classroom, healthy relationships education was presented twice weekly for one academic year to all eighth-grade students for five successive

years, 2002 through 2007. The core of the C-BAC program was Discovery Dating. Discovery Dating is a relationship development resource that provides participants with a well-organized structure for discerning character, behaviors, and values of a potential partner in a relationship (Skenandore, 2002). Discovery Dating provides simulated and real experiences based on observation of behaviors and stated values over time, comparison with their own values and patterns, and a method for decision making (Skenandore, 2002).

Key elements of Discovery Dating support personal agency through enhanced self-efficacy and self-regulation, as well as improved healthy relationship norms through development of decision making, discernment, building intentions, and skill sets (Skenandore, 2002). Key facilitation approaches are interactive activities, reflection opportunities, repetitious skill sets, and reinforcement of personal choices (Skenandore, 2002).

Portions of other curriculums were utilized within the microsystem. Lesson plans from the curriculum *Sex Can Wait* (Denny, Young, Rausch, & Spear, 2002) were used to strengthen self-esteem and decision making. From *Game Plan* (Phelps, 2001), activities that related to healthy relationship discussions, media literacy, and setting personal boundaries were used. Refusal skill education and role plays from the Native American HIV Prevention Curriculum, *Circle of Life* (Davis, 2005), were included. Additionally, lessons from the Search Institute's 40 Developmental Assets materials (Benson, Roehlkepartain, & Leffert, 1997) were used to enhance community connection and individual effort.

Cultural components were added at the microsystem level through Native American guest speakers, facilitators, and an additional cultural curriculum. Guest speakers shared stories of cultural traditions and values around relationships and marriage. Further, C-BAC facilitators were also Native people familiar with the community who interwove values and methods of culture in the C-BAC program. The curriculum, *Wiiokatatwin* ("the way to seek what is cherished but hidden") (Myers, 1998), is culturally based and helped students to correlate cultural background into personal development of healthy relationship decision making.

A weekly after-school club at the middle school reinforced messages of the classroom in a different area of the microsystem, in a more social and interactive setting. This interaction was continued as participants matured to a high school club as well. The clubs were modeled on the Wisconsin Abstinence Initiative for Youth (WAIY) program. WAIY was developed to reduce high-risk sexual behavior among Wisconsin teens (State of Wisconsin Department of Administration, 2003). Each year, all C-BAC eighth-grade youth attended the WAIY State Conference, adding the impact of joining with other youth from all over the state who were working on the same issues. Last, Native Dreams Camp, a 2-week summer camp experience, was held at the University of Wisconsin–Green Bay campus each summer. The

students learned about video production and then produced public service announcements (PSAs) about healthy relationships and abstinence.

#### MESOSYSTEM IMPLEMENTATION

Bronfenbrenner's (1994) mesosystem consists of the networking between two microsystems. The C-BAC program took great efforts to reach out to parents and mentors, thus linking participant's home and school microsystems. Many authors have found positive effects with parental involvement in school related issues and, overall, the positive effect of parental involvement extends beyond academics to abstinence education (Blake, Simkin, Ledsky, Perkins, & Calabrese, 2001; Fehrmann, Keith, & Reimers, 2001; Marcon, 1999; Oliver & Leeming, 1998). Lammers, Ireland, Resnick, and Blum (2000) found that the two primary influences on an adolescent's decision to postpone sexual intercourse were high parental expectations and believing that parents or other significant adults cared. It is clear that the home microsystem has a great impact on adolescent behaviors. Therefore, linking the home microsystem of parents and mentors to the school-based microsystem of C-BAC classes and clubs, thus creating mesosystem change, was very important to the authors.

The primary curriculum Discovery Dating has a strong mentor component. This mentor could be a parent or other significant adult in the life of the student. Family involvement was encouraged by letters home to parents three times yearly, with at least one letter including a photo of the student and a personalized statement about the student's accomplishments. Discovery Dating facilitators also made three personal contacts with all parents, at least one being a face-to-face contact to show and explain the Discovery Dating process. These in-person contacts were made wherever the parent was most comfortable, including at school, home, or another public location. Students made invitations to parents for a Mentor class day that had varied results in parental involvement. Most success was experienced with a before-school breakfast with interactive activities and a raffle to show parents the Discovery Dating process. The authors believed that C-BAC messages needed to be reinforced in several microsystems in order to have the greatest impact on behavior.

The students also created a play, "I Made a Choice to be Strong," that was performed for the community. There was a high attendance by family and community members. The issue of teen pregnancy and the messages of prevention through abstinence again reinforced the messages in classroom and with mentor relationships, by the approval and appreciation of community reflecting back to the youth participants.

Another opportunity to reinforce messaging was eighth-grade graduation. The eighth-grade graduation ceremony is a community event with parents and family members of all eighth-grade students in attendance. At

this community event, the Discovery Dating Facilitator thanked the students, parents and school, while summarizing the program and distributing Discovery Dating Certificates to all students.

#### EXOSYSTEM IMPLEMENTATION

Bronfenbrenner (1994) defined the exosystem as a linkage between two microsystems, at least one of which does not directly contain the developing person. In the case of C-BAC, it was within the exosystem that the program was created.

The development of the Discovery Dating curriculum and C-BAC program, as well as the federal funding to support the project, were managed by a community-based, nonprofit organization. The microsystem of this nonprofit organization (not containing participants) networked with the schools, homes, and other microsystems, (containing C-BAC participants) to create an exosystem. The school devoted several hours each week for a full academic year for C-BAC. The ability to develop the C-BAC program so fully, with such a high dosage, was only possible because of the respect and long-term relationship the nonprofit organization had within the community, including the schools. Further, the Native facilitators who implemented the program were invested in and committed to their community and the principles of C-BAC, creating linkages between the nonprofit organization microsystem and the larger community system.

#### MACROSYSTEM IMPLEMENTATION

Bronfenbrenner (1994) used the macrosystem to describe the overall framework for the culture or subculture. C-BAC worked to affect the community as a whole at the macrosystem by involving community members in the implementation, holding community events, and airing PSAs. Community members were often invited to C-BAC classes to serve as cultural speakers, mentors, or participate with students with whom they were involved. In this way, C-BAC affected an array of individual community members, creating a ripple effect to other community members and affecting the community subculture.

Community events allowed C-BAC to showcase messaging to the larger community. These events included the aforementioned "I Made a Choice to be Strong" play, mentor breakfasts, and eighth-grade graduation ceremonies. A final community-level interaction occurred at the C-BAC 5 Year End Event, which invited all students and their families to a dinner. A skit was performed demonstrating how a parent can make expectations about abstinence clear to his or her child, and the importance of doing these expectations clearly known. Evaluation data and results were reported, family raffle prizes distributed, and appreciation expressed to all participants, parents, and community.

Tribal leaders and elders participated and spoke words of reinforcement and support to the gathering.

Last, a local television station agreed to air the PSAs produced at Native Dreams Summer Camp for 3 months after the youth produced them; however, the PSAs were televised frequently for the next 5 years. The PSAs aired on television imparted a societal influence due to their broad reach.

### Program Delivery

Students who were enrolled in the eighth grade at a rural tribal school between the years 2002 and 2007 were invited to participate in the C-BAC program. Consent for participation in the program and the evaluation was secured from parents/guardians prior to the inception of the program. All students elected to participate over the 5-year program Institutional Review Board approval from the University of Wisconsin Oshkosh Human Subjects Board was received for each year of programming and for the evaluation method.

The C-BAC program was delivered for the full school year, 2 times each week for 2 hours each session for a total dosage of 72 hours. The program was delivered by two trained facilitators in the eighth-grade tribal school classroom, the classroom teacher was also present. In addition, some students participated in the C-BAC after school programming with an average of 40% participating for varying periods each year. Each summer, an average of 70% of the students participated in a 2-week summer camp with 80 hours of C-BAC programming.

### Research Questions

1. Was there a difference in key self-reported sexual behaviors between the youth who participated in the Community Based Abstinence Culture project and those who did not?
2. Was there a statistically significant difference in the number of pregnancies between the youth who participated in the Community Based Abstinence Culture project and those who did not?

## METHOD

### C-BAC Participants

Over the 5-year grant period 157 eighth-grade students participated in the C-BAC project. The students, boys and girls, were aged 12 to 14. All C-BAC participants attended a rural tribal school; 93% reported their ethnicity as Native American.

## Comparison Group

There were two middle schools in the rural tribal community: a tribal middle school and a public middle school. Only the students in the tribal middle school received the C-BAC programming. Because there was only one high school, a public high school, students from the tribal and the public middle school attended the public high school. The comparison group was students who attended the public high school who did not attend the tribal middle school. The comparison group was similar demographically to the C-BAC group; 90% reported their ethnicity as Native American.

## Data Collection

At the end of the 5-year period a survey was given to all students at the public high school. The survey consisted of questions regarding the behavioral criteria that serve as benchmarks for the effectiveness of teen pregnancy prevention programs. The survey was pilot tested but did not have reliability and validity testing. The questions included whether the youth had had sexual intercourse, age at first intercourse, partner's age at first intercourse, whether first intercourse was planned, whether alcohol or drugs were used at first intercourse, number of partners, whether intercourse was forced, contraceptive use, and whether they were "glad" they started having sex.

The online survey was completed by all participants in the high school computer lab. To collect the data anonymously, code numbers were provided that identified the student as either a C-BAC participant or in the comparison group. Code numbers written on slips of paper and were physically handed to the students. Once the students were given the code number and entered it, the code number was destroyed. This allowed for complete anonymity with a concurrent ability to determine the results as C-BAC or comparison.

All students in the high school who attended on one of 3 days of testing completed the survey. Graduating seniors were not included because by the time permission for this evaluation was obtained; graduating seniors were no longer attending school.

## Pregnancy Statistic Collection

The tribal health center is the primary medical facility for the community. The center was given a list of names of C-BAC participants and a list of students in the high school who did not receive the C-BAC program. The center then reported the number of pregnancies in each group, anonymously.

## RESULTS AND DISCUSSION

Of the 157 students who completed the C-BAC program, 63 completed the behavioral survey, with 133 students in the comparison group. The comparison group consisted of the public high school students who did not receive C-BAC. The tribal health center provided the numbers of pregnancies for 157 C-BAC participants and 136 students in the comparison group.

## Behavioral Survey

Only 66.7% of the C-BAC participants reported having had sexual intercourse, compared to 73.7% of the comparison group (see Table 1). The C-BAC participants were less likely than their peers in the community to initiate sex before they graduated from high school. Because of uneven cell sizes and missing data, no further statistical computations were performed on the survey responses.

Eleven and nine-tenths percent of C-BAC participants reporting having sex with someone with 2 years or more age difference, compared to 19.1% of the comparison group. In the prevention community, it is thought that adolescents who are two or more years older than their partner are more likely to encourage sexual activity with the younger partner. Although by no means conclusive, this information seems to indicate that those who initiated sex were more likely to do so with an older partner, or to encourage a younger partner. This is further substantiated by the disparity between C-BAC participants and the comparison group in terms of being “talked into”

**TABLE 1** Self-Reported Sexual Behavior

	C-BAC ( <i>n</i> = 63) %	Not C-BAC ( <i>n</i> = 133) %
Q1. Students who reported having had sex	66.7	74.2
Q2. Students who reported a first partner relative age of 2 years or more older or younger	11.9	19.1
Q3. Reported being		
I planned it.	7.1	13.1
I didn't plan it but I wanted to do it.	81.0	57.6
I didn't want to do it but he or she convinced me.	9.5	27.3
I was forced into it.	2.4	2.0
Q4. Students who reported using a condom during most recent sexual experience	71.4	59.4
Q5. Feelings about initial sexual experience		
I wish I would have waited.	28.6	29.2
I'm glad I started.	31.0	30.2
In some ways, both.	40.5	39.6

*Note.* C-BAC = Community-Based Abstinence Culture. All figures are percentages.

intercourse. Only 9.5% of the C-BAC group agreed that “I didn’t want to but he or she convinced me,” compared to 27.3% of the comparison group.

In terms of planning ahead, 81% of C-BAC group reported that, with regards to initiation of sexual activity, they “didn’t plan it but wanted to do it,” compared to only 57% of the comparison group. It is encouraging that outcomes from program based on healthy decision making resulted in an important difference in contraceptive use. Seventy-one and four-tenths percent of the C-BAC participants reported using a condom during their most recent sexual experience, compared to 59.4% of the comparison group. The difference in contraceptive use is a critical finding.

The C-BAC program was administered under a federal abstinence education grant that prohibited the facilitators from speaking about condoms or other contraceptive measures; however, those youth who chose to have sex also chose to use contraception. A major concern raised regarding abstinence education has been that teens who do decide to have sex will not use contraception. In this study, C-BAC teens, all of whom were given abstinence-only education, chose to use contraception more often than the comparison group.

Within the limitations of the instrumentation, the outcomes of this study are very positive. Questions 1 through 4, in particular, indicate an increased level of self-determination by C-BAC participants; however, there is clearly still much work to be done. Sadly, both groups report that similar numbers of students were “forced into” their first sexual experience. Additionally, the groups were remarkably similar in their feelings about having decided to have sex. Of those students who reported having had sex, only about 30% who had reported being “glad I started.” About 30% wished “I would have waited,” and another 40% wished “in some ways, both.” In other words, nearly three fourths of the teens who had sex expressed at least some regret. Strikingly, the numbers were very similar in both groups.

### Pregnancy Statistics

The names of the 157 students who completed the C-BAC program were provided to the tribal health care center. Additionally, the 136 names of the public high school students who were the comparison group were given to the same tribal health care center. In the C-BAC group five pregnancies were reported out of 157 participants. In the comparison group 32 pregnancies were reported out of 136 comparison group members (see Table 2). A chi-square test was performed to assess whether there was a difference in the number of pregnancies between the C-BAC participants and the comparison group. The results were significant  $\chi^2(1, N=293) = 27.338, p > 0.001$ .

The greatly reduced number of pregnancies between the two groups is heartening. However, more exploration of the results of this multilayered approach would have been useful for further development of the curriculum.

**TABLE 2** Tribal Health Center Report, Ages 13–19

	C-BAC ( <i>n</i> = 157) <i>N</i>	Not C-BAC ( <i>n</i> = 136) <i>N</i>
Number of pregnancies reported	5	32
Percent of pregnancies	3.2	24.2
Pregnancies per thousand	32.5	242

*Note.* C-BAC = Community-Based Abstinence Culture.

Confidentiality and anonymity concerns prevented further exploration of the characteristics of those teens that became pregnant and those teens that did not. Further, we did not have access to information about the boys in either the C-BAC or comparison group who would have impregnated the teen girls. Nonetheless the difference in pregnancies is striking.

## CONCLUSION

These results indicate a high level of promise of the impact of a culturally based multilayered approach to support healthy relationships, reduce pregnancies, and increase responsible sexual behavior in this Native American community. The next steps are to clarify which aspects were key in achieving the results. Was it the culturally based approach that is the foundation of Discovery Dating? Was it the impact of supporting a common message with mentors, community events, and societal-level PSAs? Was it the impact of trained facilitators from the community who believe not only in the message but also in each student? Was it the high level of dosage?

Clearly, human behavior is rarely unidimensional and the results point to a combination of all these factors as the ideal. These promising results indicate a need to further explore Discovery Dating and the long-term impact of this approach as well as whether the results can be replicated in other, Native American, and non-Native communities.

## REFERENCES

- Adams, D. W. (1995). *Education for extinction: American Indians and the boarding school experience, 1875–1928*. Lawrence, KS: University Press of Kansas.
- Alan Guttmacher Institute. (2004). *U.S. teenage pregnancy statistics: Overall trends, trends by race and ethnicity and state-by-state information*. Washington, DC: Author.
- Arnold, E. M., Smith, T. E., Harrison, D. F., & Springer, D. W. (2000). Adolescents' knowledge and beliefs about pregnancy: The impact of "ENABL." *Adolescence*, 35(139), 485–498.
- Benson, P. L., Roehlkepartain, J. L., & Leffert, N. (1997). *Developmental assets for children*. Minneapolis, MN: Search Institute.

- Blake, S. M., Simkin, L., Ledsky, R., Perkins, C., & Calabrese, J. M. (2001). Effects of a parent-child communications intervention on young adolescents' risk for early onset of sexual intercourse. *Family Planning Perspectives, 33*, 52–61.
- Bronfenbrenner, U. (1994). Five ecological models of human development. In *International Encyclopedia of Education, Vol. 3*, (2nd ed.). Oxford, England: Elsevier.
- Child, B. J. (1999). *Boarding school seasons: American Indian families, 1900–1940*. Lincoln, NE: University of Nebraska Press.
- Churchill, W. (2004). *Kill the Indian, save the man*. San Francisco, CA: City Lights.
- Circle of Life. (2002). *Circle of Life: HIV/AIDS and STD prevention curriculum: Wellness education for American Indians and Alaska Natives middle school students*. Washington, DC: Orbis Associates.
- Cross, S. L., Mooradian, J. K., & Stutzky, G. R. (2006). Across generations: Culture, history, and policy in the social ecology of American Indian grandparents parenting their grandchildren. *Journal of Family Social Work, 10*(4), 81–101.
- Davis, S. (2005). *Circle of Life: A Native American HIV prevention curriculum*. Albuquerque, NM: University of New Mexico Press.
- Denny, G., Young, M., Rausch, S., & Spear, C. (2002). An evaluation of an abstinence education curriculum series: Sex can wait. *American Journal of Health Behavior, 26*(5), 366–377.
- Deschenie, T. (2006). Historical trauma: Holocaust victims, American Indians recovering from abuses of the past. *Tribal College Journal, 17*, 9–11.
- Fehrmann, P. G., Keith, T. Z., & Reimers, T. M. (2001). Home influences on school learning: direct and indirect effects of parental involvement on high school grades. *Journal of Educational Research, 80*(6), 330–337.
- Jones, B. J., Tilden, M., & Gaines-Stoner, K. (2008). *Indian Child Welfare Act handbook: A Legal guide to the custody and adoption of Native American children*. Chicago, IL: American Bar Association.
- King, M. (2008, November 9). Tribes confront painful legacy of Indian boarding schools. *The Seattle Times*, Retrieved from [http://seattletimes.nwsources.com/html/localnews/2004161238\\_boardingschool03m.html](http://seattletimes.nwsources.com/html/localnews/2004161238_boardingschool03m.html)
- Kirby, D. (1997). *No easy answers: Research findings on programs to reduce teen pregnancy*. Washington, DC: National Campaign to Prevent Teen Pregnancy.
- Kirby, D. (2001). *Emerging answers: Research findings on programs to reduce teen pregnancy*. Washington, DC: National Campaign to Prevent Teen Pregnancy.
- Lammers, C., Ireland, M., Resnick, M., & Blum, R. (2000). Influences on adolescents' decision to postpone onset of sexual intercourse: A survival analysis of virginity among youths aged 13 to 18 years. *Journal of Adolescent Health, 26*, 42–48.
- Marcon, R. A. (1999). Positive relationships between parent school involvement and public school inner-city preschoolers' development and academic performance. *School Psychology Review, 28*, 395–413.
- Myers, M. (1998). *Witzokatatwin (The way to seek what is cherished but hidden)*. Cass Lake, MN: Network for Native Futures.
- National Campaign to Prevent Teen and Unplanned Pregnancy. (2010). *Fast facts: Teen sexual behavior and contraceptive use: Data from the Youth Risk Behavior Survey, 2009*. Retrieved from [www.thenationalcampaign.org](http://www.thenationalcampaign.org)

- Oliver, D. P., & Leeming, F. C. (1998). Studying parental involvement in school-based education: lessons learned. *Family Planning Perspectives, 30*(3), 143–148.
- Phelps, S. (2001). *A.C. Green's Game Plan abstinence program*. Golf, IL: Project Reality.
- Public Law 104-193, Title IX, Sec. 912. *Abstinence education*. Retrieved from [www.acf.hhs.gov](http://www.acf.hhs.gov)
- Shaughnessy, L, Branum, C., & Everett-Jones, S. (2001). *Youth risk behavior survey of high school students attending Bureau funded schools, 2001*. Bureau of Indian Affairs, Office of Indian Education Programs, Washington, DC. (ERIC No. ED459056)
- Skenandore, A. (2002). *Discovery Dating*. Green Bay, WI: Wise Woman Gathering Place.
- State of Wisconsin Department of Administration. (2003). *Wisconsin Abstinence Initiative for Youth*. Madison, WI: Author.
- Stein, R. (2010, January 26). Rise in teenage pregnancy rate spurs new debate on arresting it. *Washington Post*. Retrieved from <http://www.washingtonpost.com/wpdyn/content/article/2010/01/25/AR2010012503957.html>
- Wise Woman Gathering Place. (2002). *Wise Woman Gathering Place Community-Based Abstinence Culture Project (C-BAC) Department of Health and Human Services Adolescent Family Life Grant Application*. Green Bay, WI: Author.
- Zimmerman, B. J., & Cleary, T. J. (2006). Adolescents' development of personal agency. In T. Urda & F. Pajares (Eds.), *Self-efficacy beliefs of adolescents* (pp. 45–69). Charlotte, NC: Information Age Publishing.