This study sought to identify predictors of satisfaction with first sexual intercourse. A survey of 292 undergraduates at a large rural midwestern university revealed that the majority of respondents received inadequate sex education. Most of their school sex education covered reproduction and disease prevention, to the exclusion of human sexual response, expression and development, relationship skills, or communication. Important predictors of satisfaction with first intercourse included experiencing orgasm (p < .001), expecting intercourse to occur (p < .001), being in love with sexual partner (p < .001), discussing condoms and other birth control methods ahead of time (p < .05), and actually using condoms and other birth control methods (p < .05). Several predictors of satisfaction had a positive relationship with the level of sex education. Of men, 80% reported experiencing orgasm versus 24% of women, with men reporting greater overall satisfaction than women (p < .001). Implications for researchers and educators are discussed. (Contains a figure, 3 tables, and 36 references.)
Predictors of Satisfaction With First Intercourse: A New Perspective for Sexuality Education

by Debora L. Thomsen and I. Joyce Chang

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Abstract  

This study sought to identify predictors of satisfaction with first sexual intercourse. A survey of 292 Midwestern University undergraduates revealed that the majority of respondents received inadequate sex education. Most of their school sex education covered reproduction and disease prevention, to the exclusion of human sexual response, expression and development, relationship skills, or communication. Important predictors of satisfaction with first intercourse included experiencing orgasm (p <.001), expecting intercourse to occur (p <.001), previous masturbation experience (p <.001), being in love with sexual partner (p <.001), discussing condom and other birth control methods ahead of time (p <.05), and actually using condoms and other birth control methods (p <.05). Several predictors of satisfaction had a positive relationship with level of sex education. Eighty percent of men reported experiencing orgasm vs. 24% of women, with men reporting greater overall satisfaction than women (p <.001). The implications for researchers and educators are discussed.
The United States suffers from a plethora of sexual ills which are reflected in, among other indicators, the highest sexually transmitted disease (STD) infection, teen pregnancy, and divorce rates in the developed world.\textsuperscript{1-4} Despite small recent declines, teen pregnancy in the U.S. continues to be much higher than in other developed countries-- two times as high as England and or Canada, nine times as high as in the Netherlands and Japan.\textsuperscript{5} Sex education efforts have been so unsuccessful that more than one author has labeled Americans as being "sexually retarded."\textsuperscript{6} In a large study of teenage sexuality and adolescent pregnancy, American teens scored the lowest of five similarly developed industrialized countries (Canada, Sweden, France, England, and the Netherlands) on tests of knowledge and attitudes concerning sexuality and contraception.\textsuperscript{7} Sexuality and sexual behavior are regarded in the other five countries as normal aspects of life that are openly discussed and dealt with responsibly. School curricula (K-12) and societal attitudes focus on being in control through a combination of education and greater access to information and health services. As a result, all of the other five countries in the study have much lower adolescent pregnancy and STD rates than the United States.\textsuperscript{7,8}

In 1996, the National Institute of Medicine's Committee on Prevention and Control of STDs released a report entitled "The Hidden Epidemic." Part of the report compared the U.S. with the Scandinavian countries: While the committee found
comparable levels of sexual activity, there were much higher rates of STDs and unintended pregnancy in the U.S. The committee concluded that these differences may be attributed to the pragmatic, rather than the moralistic, approach to sexuality issues and universal access to health services in these European countries.2,3

This combination of education and pragmatism regarding being in control points up a marked difference between American and European societies. Although American culture encourages independence, at the same time it romanticizes the idea of being out of control. Soap operas and romantic novels are full of characters who are passionately overwhelmed and out of control of their emotions as well as their behavior. Song lyrics frequently romanticize this loss of control: hits from "Born to Run" and "Born to be Wild" in the 1970s to the more recent "Lunatic Love" and "Living La Vida Loca" connote a romantic and free spirited image that is appealing to young Americans.7 In her book, Swept Away, Carol Cassell describes how American women grow up believing that losing control of their emotions and sexual behavior while in the throes of passion is acceptable and even desirable.9 An unfortunate byproduct of this peculiarly unique American attitude, however, is the abdication of any responsibility for their behavior, and the disastrous teen pregnancy and STD rates that inevitably follow.

In general, in the United States we tend to give our children too little sex education, too late. We also tend to educate with a highly negative focus, using preachy scare tactics that are clearly ineffective with "invincible" pubescent and adolescent children. At the same time, little or nothing is said about the positive aspects of sexuality, or how to go about creating the circumstances in which to have
satisfying and healthy sexual experiences. Education efforts that focus on the many rewards of delayed, thoughtful, intentional sexual experience should be much more effective and motivating with young people. This study was designed to provide empirical research that would offer support for such a positive focus.

First intercourse is a milestone in human development. Many studies have linked this experience to future satisfaction with both sexuality and close relationships\textsuperscript{10} or have focussed on the negative correlates of early intercourse, such as alcohol use and poor parental monitoring.\textsuperscript{11} Many have looked at the likelihood of condom and other contraceptive use.\textsuperscript{12-14} Others have sought various psychopathologies to attribute early sexual intercourse to.\textsuperscript{15,16} But few studies have looked at what factors predict a positive experience of first intercourse, or what might be the healthiest age and circumstances in which to make one’s sexual debut.\textsuperscript{17,18}

The purpose of our study was to identify individual, familial, and educational predictors of satisfaction with first intercourse.

Method

Sample

Sample participants included 292 college students (60% women, 40% men) recruited from general education courses at a large rural Midwestern university. Fifty percent of the participants were freshman, 25% were sophomores, 12% were juniors and 15% were seniors. Ninety percent of all participants were between the ages of 17 and 23 years old (mean age=20.98). Whites made up 83% of the sample, followed by
African- Americans (7%) and Hispanics (2.4%). Two hundred and thirty-two students (80%) reported having been sexually active. The participation rate for the classes surveyed was 95%.

**Measures**

The survey instrument contained fifty multiple choice questions regarding several aspects of sexual experience. The major aspects were (a) the circumstances and characteristics of their first sexual intercourse experience, such as their age at the time, their emotional reaction, the level of commitment in the relationship, and the use of contraception; (b) the impact of the experience, such as aftereffects on their relationships and on their psychological and physical health; (c) satisfaction with their first sexual intercourse experience; (d) their most important sources of sex education prior to their first intercourse, (e) the amount of class time devoted to sex education during their elementary, middle, and high school years, (f) and demographic and educational background information. The Coital Reaction Scale developed by Schwartz\(^\text{19}\) was used as a measure of satisfaction with first intercourse. The Coital Reaction Scale is a set of seven-point Likert-scale items addressing the degree of thirteen potential emotional reactions: confusion, satisfaction, anxiety, guilt, romanticism, pleasure, regret, relief, exploitation, happiness, embarrassment, excitement, and fear. The negatively worded items were scored inversely, so that higher scores indicated greater satisfaction with the experience. Cronbach's alpha reliability was .89 for this sample.
The survey was given to volunteers during the first week of the semester in general education classes that included sexuality education in their teaching objectives. Participants were told that there were no right or wrong answers and that participation in the survey was voluntary, confidential, and anonymous. Due to the nature of the study, participants were instructed to spread out in the classroom by sitting in every other seat in every other row to ensure the complete privacy and confidentiality of their responses. The students were given approximately 20 minutes to complete the survey in the classroom setting.

The participants in this study self-reported a predominantly heterosexual orientation (93% exclusively heterosexual, 3% mostly heterosexual, 1% bisexual, 1% exclusively homosexual, and 1% unsure). Participants reported that friends were their most important source of sex education (28.5%), followed by sexual partners (20%), and parents (17.5%). The most important sources of sex education reported are shown in Table 1.

| INSERT TABLE 1 HERE |

The majority of our volunteers (53%) reported receiving no sex education at all during their elementary school years, while 24% reported having one or two class periods on the topic. In middle school (grades 6-8), 17% reported no sex education,
43% had 2-4 class periods devoted to sex education, and only 38% had 5 or more class periods or an entire sex education unit. Even less sex education was reported during the high school years: 14% reported receiving none, 30% had at least class periods devoted to sex education, and only 30% had 5 or more class periods or an entire sex education unit. An entire sex education course of one semester or longer was reported by only 2% at the middle school level, and 3% at the high school level.

Participants were asked about the major emphases of the school sex education they had received. Reproduction, birth control, and anatomy were the most heavily covered topics (61%), followed by STDs and their prevention (27%). In stark contrast, other critical topics such as sexual response, expression, development, relationship skills, and communication received very little attention in their formal sex education: Only 4% of the participants reported an emphasis on any of these topics.

Among the participants who had already experienced their sexual debut at the time of the survey, 75% reported that their first sexual partner was someone they were dating. Forty-nine percent reported expecting sexual intercourse to occur when it did. Sixty-one percent used a condom, 28% used other birth control methods, and 24% were under the influence of drugs or alcohol at the time. The most commonly reported age for first intercourse among the sexually active participants was 16, with 73% of them having their first intercourse at ages 15, 16, 17, or 18 and 16% being older than 18. The most common partner age was slightly older, 17, with 53% being 16, 17, or 18 at the time, and 31% being older than 18.

Predictors of satisfaction with the experience of first intercourse were explored. A significant gender difference was observed. Men reported greater satisfaction (as
measured by the Coital Reaction Scale\textsuperscript{19}) with first intercourse than the women did (t=3.57, p<.001). Orgasm during their first intercourse experience was reported by 80% of the men but only 24% of the women. However, men estimated that 61% of their partners had experienced orgasm, while the women much more accurately estimated that 86% of their partners had experienced orgasm.

Several factors were found to be important predictors of satisfaction with the first intercourse experience. Table 2 shows t test results, beginning with the strongest predictor.

\smallskip
\begin{center}
\textbf{INSERT TABLE 2 HERE}
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Among the important predictors of satisfaction shown in Table 2, several factors also have positive relationships with the level of sex education. Table 3 illustrates the relationship between level of sex education and factors predicting satisfaction with first intercourse.

\smallskip
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\textbf{INSERT TABLE 3 HERE}
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There was also a strong positive relationship between receiving more sex education and the likelihood of planning/discussing intercourse ahead of time and using contraception (t=2.38, p<.01). People who had received middle school and high school sex education were significantly more likely to discuss the use of condom with
their partner \( (t=3.31 \ p<.001; \ t=3.90 \ p<.001) \). Those who experienced orgasm with their first intercourse were more likely to have had more sex education in high school \( (t=2.11 \ p<.05) \). The participant’s age at the time was positively correlated with satisfaction \( (r=.30 \ p<.001) \), as well as their partner’s age at the time \( (r=.39 \ p<.001) \), indicating that the older they were at their sexual debut, the more positive and satisfying their experience was.

Another interesting significant finding was the positive correlation of sexual satisfaction in both sexes with the level of commitment in the relationship \( (r=.41, \ p<.001) \). Separate items indicated this as well: 1) being in love was predictive of satisfaction with first sexual intercourse \( (t=3.73, \ p<.001) \), 2) a longer length of the relationship correlated with satisfaction with first sexual intercourse \( (r=.16, \ p<.05) \), and 3) whether the relationship continued afterward correlated with satisfaction with first sexual intercourse \( (r=.38, \ p<.001) \).
Discussion

As shown in Fig. 1, the results of the current study indicated an indirect relationship between satisfaction with first intercourse and level of sex education. Students who had a higher level of sex education were more likely to be logistically and psychologically prepared for the event ahead of time. Subsequently, the more prepared students were, the higher their satisfaction level with their first intercourse experience was (see Fig. 1).

Preparation for sexual debut should include much more than how to prevent pregnancy and disease. It should also foster an understanding of human sexual response, relationship dynamics, and the ability to communicate about sex. Sexual debut is much more than the occasion of first physical sexual intercourse; it is also an occasion of potential social and emotional importance that requires that both partners possess communication and decision-making skills. Unfortunately, most current formal sex education strictly emphasizes disease and pregnancy prevention, while ignoring the importance of sexual response, communication and expression.

In their own estimation, our participants overwhelmingly rated their social network--friends, sexual partners, and parents, in that order--as their most important sources of sex education (66%), far ahead of any impact that their school sex education had. While 16% did rank either college, high school, or middle school sex
education as their most important source, elementary school level sex education was not reported as the most important source for anyone in our study. Sex education reformers have repeatedly found that the most effective sex education occurs well before puberty, as it does in European countries. While parents may be fulfilling this function in a minority of families (17.5% in this sample) sex education is apparently most often coming from the participants' peer group, in classic blind-leading-the-blind fashion.

The consensus among experts is that when sex education programs have failed, it is because 1) they emphasized the biological over the emotional aspects of sex, and thus did not prepare adolescents for making decisions about sexual involvements; 2) they came too late, and thus did not reach students before they became sexually active; and 3) because they focussed primarily on changing students' knowledge rather than their behavior, and thus did not directly affect patterns of sexual activity or contraceptive use. The school sex education reported by the participants in this study possessed all three of the above shortcomings: 1) it had a disproportionate emphasis on biology, virtually ignoring emotions, communication, and decision making; 2) it did not reach a large percentage of students before they became sexually active; and 3) the emphasis was on knowledge rather than behavior. This third problem is especially insidious: all the knowledge in the world about what a condom is and all the very good reasons about why you should use one is useless if the student hasn't learned the communication skills needed to negotiate safer sex with a real live partner.

The prominent gender differences found in this study in satisfaction with first
sexual intercourse parallel the findings of countless other studies.\textsuperscript{11,26-30} Clearly, simply being a male increases the likelihood of a positive first sexual intercourse experience. Many of the variables contributing to this gender difference have been identified—males have far greater experience with masturbation, less complex relationship expectations, etc.\textsuperscript{26,27}

The most infamous firing in sex education history occurred when then-Surgeon General Jocelyn Elders, actually publicly suggested that masturbation should be part of any responsible school sex education.\textsuperscript{31} Given the findings of the strong link between masturbation and more satisfying first intercourse, the present research supports Dr. Elders' recommendation. To the present researchers, it would seem highly appropriate and helpful for students' sexual development and well-being to include this information as a standard component of sex education curricula.

In analyzing one of the above gender differences, the present study found that prior experience with masturbation was the strongest single predictor of orgasm and emotional satisfaction with first intercourse (\(p<.001\)). This strong correlation suggests that responsible sex education should include greater emphasis on the topic of masturbation not only as a safe alternative to intercourse but as a helpful preparation for it.

The relationship found between level of school sex education and satisfaction with first sexual intercourse, as measured in this study, was an indirect but significant one. Four of the top eight variables predicting satisfaction with first intercourse were found to be significantly more likely to occur with higher levels of sex education (Table 3). The fact that those with the most education were the most likely to plan ahead, to
discuss birth control, and to discuss and actually use condoms during their first intercourse lends credence and support to our hypotheses, as well as to the potential positive impacts of school sex education.

One of the most challenging methodological tasks of the current study was the measure of the students' level of sex education. Clearly looking only at the quantity of time devoted to school sex education each year and which areas were emphasized are imperfect measures; we had no means of assessing the quality of the school sex education received by our subjects. How to measure both the quantity and the quality of the sex education remains a considerable challenge.

Our finding of the multiple advantages of a later sexual debut may seem like common sense to parents and grandparents, but it is a message that young people need to hear with some of the specific, tangible benefits of postponing sexual activity. The finding that a person is more likely to experience orgasm, to prevent STD and pregnancy, and to understand their own sexual responses better (via masturbation experience) with each year of further maturation is a critically important one. Our data clearly supported our hypothesis regarding the advantages of delaying sexual debut at least a year or two beyond the norm.

Another finding that may seem to fall into the common sense category was that our participants found higher satisfaction when they were involved in committed relationships. While this validates past research once again, greater emphasis of this concept in the sex education curriculum might not only increase its effectiveness, but serve as a stabilizing factor in students' lives. Long-term committed relationships offer immeasurable benefits to the health and well-being of the
individuals involved, to their communities, and to our entire society. 32

Future analysis of qualitative data collected at the time of this survey may shed further light on the advantages of being older for the initiation of sexual activity. This was a preliminary study, which raised many questions and opened several avenues of interest. Further research using a modified questionnaire and a larger number of subjects will follow.

These findings have substantial implications for sex researchers and sexuality educators who wish to promote healthy sexuality by changing both attitudes and behavior. There is a lot that American sex educators could learn from the many western European nations that have successfully implemented sex education throughout the K-12 curriculum.237 One study that is a classic example of the difference in the results of European pragmatism and American dogmatism found that while Swedish and American students become sexually active at comparable ages, the Americans feel more guilt and shame about it, while the Swedish students are far more consistent in their use of condoms as well as other birth control methods.19 (With, of course, the Americans consequently experiencing far more unintended pregnancy and sexually transmitted disease.) Our present American attitudes and educational methods seem be much more successful at instilling sexual guilt, while European attitudes and educational methods excel at instilling sexual responsibility. Isn't there a lesson to be learned here?

Clearly, quality, relevant sex education-- given all the way through the school years (K-12)-- has the potential to promote healthier and happier sexual relationships (and therefore, healthier and happier people) in this country. Sex education in this
country has focussed too much on the physical, too much on the negative. We owe it to our young people to teach them the importance of the emotional and relational aspects of human sexuality as well, to teach them that healthy, meaningful relationships provide the optimal setting not only for safer sex and orgasmic satisfaction, but for achieving emotional satisfaction and fulfillment in their sexual experiences as well. These positive benefits deserve to be seen as significant and as urgent as the need to reduce our STD infection and teen pregnancy rates.

Of course, effective, comprehensive sex education would help to achieve both of these goals. The abstinence-based-only programs that have swept our nation in recent years have proven woefully ineffective\textsuperscript{33-36}; we owe it to our young people to balance the "just say no" approach with some sensible information on how and when youths will know it's the right time to say "yes."
References


11. Small SA, Luster T. “Adolescent Sexual Activity.” *J Marriage and the*


21. Piott P. Sexual health education does lead to safer sexual behavior.


31. Rosellini L. Jocelyn Elders is master of her domain. U.S. News and World


Table 1: Most Important Source of Sex Education

<table>
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<tr>
<th>Most important source of sex education:</th>
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<tbody>
<tr>
<td>Friends</td>
<td>28.5%</td>
</tr>
<tr>
<td>Sexual partners</td>
<td>20.3%</td>
</tr>
<tr>
<td>Parents</td>
<td>17.5%</td>
</tr>
<tr>
<td>Books/magazines</td>
<td>9.3%</td>
</tr>
<tr>
<td>College sex education instruction</td>
<td>6.5%</td>
</tr>
<tr>
<td>High school sex education instruction</td>
<td>6.2%</td>
</tr>
<tr>
<td>TV/Movies</td>
<td>5.8%</td>
</tr>
<tr>
<td>Middle school sex education instruction</td>
<td>3.4%</td>
</tr>
<tr>
<td>Siblings</td>
<td>2.1%</td>
</tr>
<tr>
<td>Church; religious organizations</td>
<td>0.3%</td>
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Table 2: Predictors of Satisfaction With First Intercourse

<table>
<thead>
<tr>
<th>Variable</th>
<th>t</th>
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<tbody>
<tr>
<td>Orgasm during 1st intercourse</td>
<td>8.38***</td>
</tr>
<tr>
<td>Expected to occur</td>
<td>5.87***</td>
</tr>
<tr>
<td>Previous Masturbation Experience</td>
<td>4.23***</td>
</tr>
<tr>
<td>In Love with the Partner</td>
<td>3.73***</td>
</tr>
<tr>
<td>Discussed condom use before sex</td>
<td>2.85*</td>
</tr>
<tr>
<td>Birth control use</td>
<td>2.82**</td>
</tr>
<tr>
<td>Condom use</td>
<td>2.69*</td>
</tr>
<tr>
<td>Discussed birth control before sex</td>
<td>2.05*</td>
</tr>
</tbody>
</table>

*p<.05, **p<.01, ***p<.001
Table 3: Relationships between Level of Sex Education and Factors Predicting Satisfaction with First Intercourse

<table>
<thead>
<tr>
<th>Variable</th>
<th>Level of Sex Education t value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expected to Occur</td>
<td>4.24 ***</td>
</tr>
<tr>
<td>Discussed Birth Control Before Sex</td>
<td>2.85 **</td>
</tr>
<tr>
<td>Discussed Condom Use Before Sex</td>
<td>3.87 **</td>
</tr>
<tr>
<td>Condom Use</td>
<td>2.47 *</td>
</tr>
</tbody>
</table>

Note: * p<.05, ** p<.01, *** p<.001
Figure 1: Relationship between Sex Education and Satisfaction with first intercourse

↑ Sex Education ↦ ↑ Preparation ↦ ↑ Satisfaction with first Intercourse
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