

In the eyes of the beholder: student interpretations of sexuality lessons

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This exploratory study examines student interpretations of pleasure and danger messages about sex in sexuality lesson plans. Scripting theory suggests that students do not simply hear and enact sexual scripts presented to them in sexuality education, but instead actively interpret, revise, weigh and attach meaning to these messages. We conducted a qualitative content analysis of student essays that responded to four sexuality education lesson plans. Our data show that, regardless of the content of the lessons, the interpretations of the pleasure and danger messages vary widely, with some students interpreting a lesson as completely danger-focused, others interpreting it as completely pleasure-focused and still others arguing its objectivity. We discuss several themes evident in the data that suggest reasons for this variation. We conclude that understanding the complex process of interpreting sex education messages is important to understanding how to make sex education maximally effective.

Introduction

School-based sex education is meant to provide students with foundational messages that will guide both their behavior and their interpretations of ‘appropriate’ sexual situations. Over the past 20 years, there has been heated debate over what these foundational messages should be, and specifically whether they should emphasize the risks of sexual activity or should focus on ensuring that teen sex (seen from this perspective as a ‘normal’ and pleasurable manifestation of adolescent maturation) is as safe and responsible as possible.

As a proponent of the latter opinion, the Sexuality Information and Education Council of the United States (SIECUS) advocates that sexuality curricula support the message that ‘sexuality is a joyful, integrative, and natural part of being human’ and that ‘individuals are responsible for their own sexual pleasure’ (National Guidelines Task Force, 1997, pp. 29 and 312, respectively). This argument is both philosophical and pragmatic. An analysis of the values in SIECUS documents concluded that the importance of sensory pleasure is one of the key philosophical

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values held by the organization (International Values Institute, 1990). Pragmatically, they argue that, by acknowledging the natural, healthy and pleasurable nature of sexuality, educational programs gain credibility with their target audience and therefore improve acceptance of prevention messages (Hacker, 1990).

Researchers who study adolescent sexuality also argue for the inclusion of pleasure in sexuality education messages. Allen (2001), for example, found that the teenagers she interviewed often did not act on the knowledge they had gained from sex education, in part because the school-based sex education ignores 'real' information about pleasures, intimacy, logistics and emotions related to sex. Others (Tolman, 1994a, b; Buzwell & Rosenthal, 1996) argue that unless one can articulate the sexual desires that they consent to act upon, they will not be able to articulate non-consent to unwanted sexual behaviors:

Indeed, it is difficult to imagine that an adolescent girl who does not know about the positive aspects of sexuality, or does not believe she has the right to a sexual voice, will be able to advocate very effectively for herself sexually, including the ability to 'just say no'. (Bay-Cheng, 2003)

Despite these arguments for the inclusion of pleasure, we can find no studies exploring the explicit inclusion of 'sex as pleasure' messages in sexuality education curricula, although there is research that focuses on or criticizes the danger messages in sexuality education (Kantor, 1992/1993; Allen, 2001; Bay-Cheng, 2003). Most of the research on sexuality curricula focuses on its effectiveness in changing attitudes, behavioral intentions and behavior (Kirby, *et al.*, 1994; Grunseot & Kippax, 1997; Haffner & Goldfarb, 1997; Kirby, 1999, 2000). In so doing, this research focuses on measuring effectiveness; that is, how closely students follow the sexual messages promoted by the curricula. The implicit assumption seems to be that if one just delivers the right messages in the right way, students will be convinced to follow these messages in their own interpersonal behavior. There are both theoretical and empirical reasons to believe, however, that it may not be as simple as this.

The role of interpretation

Over 30 years ago, sociologists John Gagnon and William Simon (1973) introduced scripting theory to the field of sex research. All sexual behavior is culturally produced, they argued, and is structured through the use of 'scripts': cultural notions that define 'what is to be done with this or that person, in this or that circumstance, at this or that time, and what feelings and motives are appropriate to the event' (Gagnon, 1990, p. 6). According to scripting theory, sexual scripts exist at three levels: cultural, interpersonal and intrapsychic. Scripting theory emphasizes that although cultural scenarios instill cultural values, people are not robots culturally programmed to behave in specific ways sexually. Rather, individuals actively interpret, revise, weigh, consider, accept, reject and attach meaning to scripts. This intrapsychic process affects how actors use scripts in interpersonal interaction with others. '... [T]here is no direct interface between culture and interaction; these effects are entirely mediated by mental life (or the intrapsychic)'

(Gagnon, 1980, p. 10). Scripting theory thus simultaneously explains how actors coordinate and engage in sexual activity, and why there is a diversity of sexual desires and expression in a given culture (i.e. not everyone interprets, revises or uses sexual scripts in the same ways) (Gagnon & Simon, 1973). Scripting theory has been widely accepted by sex researchers, and has been used extensively both explicitly and implicitly in sex research and in applied work on sexuality (see Gagnon, 1990).

In regards to sexuality education, scripting theory suggests that students will interpret sexual scripts contained in sexuality curricula in a variety of ways; not everyone will attach the same meanings to the scripts, and nor will everyone revise, weigh, accept or reject the messages uniformly. This idea is corroborated in Cultural Studies, where it is widely recognized that multiple interpretations can be made of any single text. 'All texts are subject to multiple readings depending on the perspective and subject position of the reader' (Kellner, 1995, p. 10). Bobo (1995) further argues that whenever a person encounters a text, 'she/he does not leave her/his histories, whether social, cultural, economic, racial or sexual at the door' (p. 55).

Empirical research also indicates that not all students interpret curricula messages in the same way. Psychological and communication research suggests that psychological factors such as personal relevance and self-perception influence how individuals interpret health education messages (Lieberman & Chaiken, 1992; Morris & Swann, 1996; Kreuter & Holt, 2001). For example, in studies of student interpretations of alcohol prevention messages, high school students rate those messages most similar to their own beliefs and experiences as more relevant to their lives, and thus as more effective messages (Parker, 1998; Andsager *et al.*, 2002). Similarly, studies (Allen, 2001; Langille *et al.*, 2001) have found that student evaluations of sexuality education curricula vary depending on how relevant they find the information to their own immediate situation.

Despite the theoretical and empirical suggestions that multiple interpretations could be made of a message about sexuality, an extensive review of the literature found no examinations of how students interpret messages contained in sexuality education. Seeking to address this gap in the literature, we asked: Do students perceive pleasure and danger messages within these lesson plans, and are there variations in perceptions of pleasure and danger? If so, what kinds of patterns can be found in students' interpretations of these messages? To explore these research questions, we conducted a qualitative content analysis of students' writing on four sexuality education lesson plans.

Methods

The lesson plans

In 1998, SIECUS published an annotated bibliography of 'commercially available curricula that represent effective approaches to teaching about sexuality-related topics,' as reviewed by 11 SEICUS staff (SIECUS, 1998). We used this bibliography to select the curricula because we expected that, given the value SEICUS places on acknowledging sexual pleasure, the recommended curricula would contain some

pleasure messages. From this list, we purchased all of the curricula aimed at 9th–12th graders in public schools. We then reviewed these 16 curricula, seeking lessons plans that exhibited a range of covert and overt pleasure and danger messages. We selected four lesson plans that we thought would help reveal how students interpret sexual scripts in sex education lessons. These lessons covered a range of topics: abstinence, sexual decision-making and condom use. They were ‘Sexual Decision-Making: Weighing the Options’ (Advocates for Youth, 1995); ‘So What’s an Abstinence Anyway?’ (Bashe & Terrell, 1995); ‘Countering Barriers to Using Condoms’ and ‘Overcoming Embarrassment about Buying Condoms’ (St Lawrence, 1998a, b).

Data collection procedures

In the spring and fall semesters of 2001, we collected exploratory qualitative data from students enrolled in our sexuality classes. In each class, students analyzed the four sexuality education lesson plans using the same type of coding that sociologists use in conducting qualitative content analyses. The assignment asked students to read through the lesson plan once, and then code the lessons by underlining or highlighting ‘every word, phrase, sentence or paragraph that you interpret’ as falling into one of the designated categories. These categories included:

- *Pleasure*: The word, phrase, sentence or paragraph relates to a physical, sexual, emotional, psychological or social state of pleasure.
- *Danger*: The word, phrase, sentence, or paragraph relates to a physical, sexual, emotional, psychological or social state of danger.

Additionally, we demonstrated the process of coding on a lesson plan not used in their assignment. In all, students received about 50 minutes of training in coding.

The students’ coding was *not* itself used as data, but rather served as the basis for their written responses to five open-ended questions, which they submitted with the coded lesson plans attached. In all, each student turned in six to eight written pages, and took one-and-a-half to two pages to respond to the following questions for each lesson:

1. In what ways does the lesson portray sex as pleasurable?
2. In what ways does the lesson portray sex as dangerous?
3. Overall which messages are strongest—pleasure or danger messages? Explain.
4. What strategies do the authors use to get these messages across? Explain, using examples.
5. Based on what you’ve read in this lesson and the messages it gives, would you guess that this lesson is from a comprehensive, abstinence-based, or abstinence-only curriculum?

The papers were graded and returned to students. To ensure voluntary participation and confidentiality, the following procedures were approved by our

university's Institutional Review Board: students were instructed to only put their names on a removable cover page; after returning the papers, students were given the option of submitting their papers (with the cover page removed) for use in this study; students were assured that neither participation in the study nor lack of it would affect any part of their course grade; papers and consent forms were collected by the researcher who did not teach that class (i.e. Dr Ellingson collected the papers from Dr Gordon's classes and vice versa); and an envelope was circulated in class and students were instructed to add either their papers and signed consent forms or blank consent forms so that all students were inserting something into the envelope.

Fifty-four students submitted their assignments for this study. Twenty-five were in Dr Gordon's Sociology of Sexuality class during spring 2001. This is a lower-division general education course; 68% of the enrolled students were freshmen. Sixteen percent of the students were majors in the behavioral and social sciences, 16% in communication and education, 35% were undeclared and the remaining one-third of the majors spread across the humanities, agriculture, business, nursing, engineering and computer science. Twenty-eight of the students submitting papers were enrolled in Dr Ellingson's Sexuality Education: Concepts and Issues class during spring 2001 and fall 2001. Forty-two percent of these students were seniors, 33% were juniors and 25% were sophomores. The students enrolled in Dr Ellingson's classes were majoring in health (79%), communications and education (16%), or nursing (5%). Thus, one-third of the participants were less than one year older than the intended curricular audience and the remainder ranged from one to four years older than typical high-school-aged students. One limitation of this study is that college students may interpret these messages differently to high school students and the findings are therefore not generalizable to the latter. As an exploratory study of message interpretation, however, our purpose was to examine the *process* of message interpretation in the context of sexuality education—not to generalize or identify causal factors that may influence different interpretations. Furthermore, recruiting college students rather than high school students for the project served our purpose by allowing us to engage students who were better candidates for training in coding for qualitative content analysis of the lessons, as well as to bypass the need for parental consent for participation. Additionally, by reading the lesson plans for themselves rather than being taught the lessons in a high school classroom, our students made their interpretations free from the complications of peer influence, classroom dynamics and a teacher's verbal and non-verbal indications of their own personal beliefs and biases. The utility of conducting content analysis of sexuality educational materials alone versus studying receipt of messages in the more multifactorial classroom environment was recognized by Trudell and Whatley (1992) in their analysis of sexuality education materials. We thought this an ideal starting point for exploratory research of the basic process of interpretation; additional complications may be investigated once more is known about intrapsychic processing of sexual scripts.

Analysis

To investigate how students interpret messages in sexuality education lessons, we conducted a qualitative content analysis of the students' submitted papers. We each started by reading through students' papers, coding and recording each student's main points for each lesson, and developing a running list of emergent themes. We then compared our lists and discussed them. From this, we developed leads about the most common themes, and about patterns in the language and imagery used by students. We made several more passes through the data, each time testing our leads and looking for negative cases. We tallied how often these themes appeared for each lesson plan, and also coded responses for each lesson to the question: 'Overall which messages are the strongest—pleasure or danger messages? Explain.' We compared our coding, and then discussed any cases on which we differed. For these cases, we read through the rest of the student's writing on this lesson plan for clarification and discussed their responses until we came to agreement.¹ One initial concern was answered early in our analysis: were there differences in interpretation across our two classes (possibly influenced by discipline, age of student or teaching style)? We independently found no distinct differences or patterns between course enrollments.

Results

Students showed a tremendous amount of variation in their interpretations of three of the four lesson plans. For 'Overcoming Embarrassment about Buying Condoms,' over one-half of the students thought that the pleasure messages predominated, while one-third of the students thought danger messages were stronger (see Table 1). For 'Countering the Barriers,' there was even more variation. While just over one-half of the students interpreted the danger messages as stronger, 37% said that the pleasure messages were stronger, while 12% viewed the messages as evenly distributed or completely unbiased. 'Weighing the Options' also yielded a variety of interpretations: although over one-half of the students thought that danger

Table 1. Percentages of students interpreting the type of message predominating in the lesson plan

Lesson Plan	Pleasure	Danger	Pleasure and danger messages are equally represented, or neutral messages predominate
'Overcoming Embarrassment About Buying Condoms' ($n=33$) ^a	58	33	9
'Countering Barriers to Using Condoms' ($n=51$)	37	51	12
'Weighing the Options' ($n=47$)	34	53	29
'So What's an Abstinence Anyway?' ($n=48$)	4	90	6

^aThe lower n is due to the fact that lesson plan was not included in the assignment in Dr Ellingson's fall 2001 class.

messages were strongest, almost one-half of the respondents disagreed with this, with nearly one-third saying that pleasure and danger messages were equally distributed or neutral. The 'So What's an Abstinence Anyway?' lesson had the least variation in interpretation: 90% of the students determined that the danger messages were most dominant. Even in this case, however, the remaining 10% of participants were split between pleasure and equal/unbiased messages.

These findings indicate that, regardless of the content of the messages in sex education lessons, interpretations of those messages are not monolithic. Presented with the exact same material, students varied greatly in the understandings and meanings they attached to this material. For example, in regards to 'So What's an Abstinence Anyway?' one participant said, 'Overall, the stronger message toward sex was danger. It wasn't even close. I had a hard time trying to find something in this article that portrays sex as pleasurable.' Contrast this with the participant who, in regards to the same lesson, maintained:

In this article, the pleasure messages are strongest. The overall message of the article is that sex is pleasurable, other things involved with sex are pleasurable, and you can abstain and still enjoy yourself ... there weren't many dangerous/negative messages at all, even when talking about not abstaining from sex.

These two students read the same lesson, and yet their interpretations of the danger and pleasure messages could not have been more divergent.

The interpretations made by students did not simply fall into two extremes, with some students seeing only pleasure and others seeing only danger in the lessons. Rather, there was a full range of interpretation. The responses to 'Weighing the Options' in Table 2, for example, included those that viewed the lesson as focusing completely on danger or completely on pleasure, but also those that viewed it as focusing slightly more on danger messages, as focusing slightly more on pleasure messages, and as completely neutral.

As these examples show, the students' interpretations of the lesson plans can be more nuanced than just whether pleasure or danger scripts predominate. Individual students assigned greater weight to some messages over others, and there was substantial variation in the aspects of the lesson plan that drew students' attention. Additionally, students were attuned to the subtleties of the lesson to different degrees. For example, in 'Weighing the Options,' although reasons for both having and waiting to have intercourse were discussed, some students noticed that the illustration of a balance scale was subtly tipped toward the 'reasons to wait' side of the scale. Other students, however, did not pick up on this, and were therefore more likely to claim that the lesson was 'totally unbiased.'

Students also differed on what they thought the authors' strategy was to convey their intended message. For example, one participant interpreted that in 'Overcoming Barriers to Using Condoms':

The authors use comfort words that make the reader feel good and confident about buying condoms ... They say that a person can choose to do certain things, and it's their right as a person to be able to choose.

Table 2. Range of student interpretations to 'Weighing the Options'

Interpretation	Student quote
Completely danger-focused	'They also make sex sound risky and bad. The lesson plan makes it seem that there are so many reasons why you should wait, and there are really no good reasons for a person to have intercourse while still in school.'
Slightly danger-focused	'It attempts to show students that sexual intercourse can both be physically, emotionally, and psychologically pleasurable and conversely it can also be dangerous. Again, the choice is left up to the student and is only slightly biased toward danger messages in an attempt to try to convince teenagers not to have sexual intercourse. It is a well-balanced lesson in that for every positive or pleasurable point, there is a compelling negative or dangerous one.'
Neutral	'The facts, both positive and negative, were listed and discussed. No right nor wrong was implied ... The decision to have sex is left up to the individual with no pressure to refrain from sex or to have sex. Guidance was provided to help the student make an informed decision that is right for him.'
Slightly pleasure-focused	'I feel that the pleasure messages are stronger than the danger messages are in this particular [lesson]. I think that the main reason for this is the fact that the danger messages are 'hidden' in the reasons for waiting to have intercourse. Some people may have trouble picking them out, but they are still there. As for the pleasure messages, there are plenty of them spread throughout the lesson.'
Completely pleasure-focused	'Overall, the positive or pleasure messages are strongest. This lesson teaches that sex is good, when you are comfortable about it and become aware of how to protect yourself. It does not 'push' sex on students. It gives the message that sex is a natural thing in life that can be pleasurable, as long as you have the tools to make it pleasurable.'

This differed dramatically from the perception of a student who, in discussing author strategies of the same lesson, responded:

Basically, they use traditional scare tactics to get the message across. Mentioning AIDS/HIV, pregnancy, and other STD's gets the reader's attention and most likely points out how important the issue seems when these consequences are brought up. Another tactic is associating the issue with negative vibes. Towards the end of the lesson plan, the authors talk about the successful condom-buying mission and they say you should be happy for 'pulling this [buying condoms] off,' which implies that it is hard to do or that it is dangerous.

Thus students not only keyed in to different messages within the lesson, but they also made different assumptions about what the author *wanted* them to get out of the lesson, and the author's strategies for ensuring this.

In addition to showing the diversity of interpretations, our analysis also revealed several common themes related to participants' interpretations. These themes are:

identification with adolescent recipient; equating abstinence with danger messages; perceived religious connotations; and personal beliefs about adolescent sexuality.

Identification with adolescent recipient

Our data show evidence that student interpretations of the lessons were affected by whether the student empathized with the sexually active teens or sexually abstinent teens at which the lesson was aimed. Students identifying with sexually abstinent teens seemed to perceive more pleasure messages in the abstinence-focused ‘So What’s an Abstinence Anyway?’ lesson. For example:

I think this gives students a reason to feel good about them if they abstain from sex because many students feel like they are different because they aren’t having sex. It gives them a boost of self-esteem ... The students then put words or phrases into the ball that they believe would help for abstinence to work. This part of the lesson is great because it reaffirms the student’s self-esteem and lets them know that by abstaining they have all of these wonderful and strong qualities included in their personality.

Here, the participant is putting herself (or himself) in the place of the teen who is not sexually active, and projected not only the abstinent teens’ emotional reactions, but their emotional needs as well. In contrast, students who identified with sexually active teens responded with all the vehemence of a student whose own sexual activities were being criticized by the lesson:

The lesson plan had many remarks as being dangerous. Some of the remarks were condescending. If you aren’t abstinent, then you’re going to have negative consequences. The message I got was that it is abstinence or fear for your life ... The words ‘don’t’ and ‘not’ appear throughout the lesson plan, giving the feeling of ‘don’t do this, don’t do that’ ... the finger is constantly being pointed at the young adult. It is preaching to the children, not discussing so much.

Equating abstinence with danger messages

We found substantial evidence that many students automatically associated abstinence with danger messages, to the point that, if a lesson was abstinence-focused, they believed that no explanation beyond this was needed to explain their determination that danger messages predominated in the lesson. For example:

The strongest message by far is that abstinence is the best way to go. This would then make danger the overall message. The lesson promotes not having sex, which then teaches kids that sex must be bad or dangerous if they don’t want them to have it.

Similarly, another respondent indicated that abstinence is, by definition, about danger: ‘The lesson portrays sex as dangerous and clearly has the stronger messages, because if sex was not dangerous, do you really think abstinence would exist?’ Participants also interpreted a lack of abstinence messages to indicate a pleasure-focus. For example, one student succinctly explained: ‘The pleasure messages are strongest because the curriculum never even mentions abstinence.’ Again, we see the

assumption that, by definition, abstinence is a danger message. We also see the reverse:

... the lesson completely advocates condom use and does not offer abstinence as an argument or alternative, which means there is no negative view of sex, and that sex is an acceptable and healthy behavior for people to engage in as long as they are safe.

This tendency to equate abstinence with danger, and lack of abstinence messages with pleasure, may account for some of the evaluations of a lesson as completely danger-focused or pleasure-focused. If students expect any discussion of abstinence to necessarily focus solely on the dangers of sexual behavior, they may only perceive what they expect to find, and not attend to messages that run counter to this expectation.

Implied religious connotations

Two of the lesson plans briefly mentioned religion. ‘So What’s an Abstinence Anyway?’ discussed some of the ways to make abstinence work. They stressed, ‘Don’t leave your abstinence at home, or in your health class, or in your church, synagogue or mosque. Keep it with you at all times. ... Abstinence won’t work if you don’t use it.’ ‘Weighing the Options’ listed as their first reason for waiting to have intercourse ‘to follow religious beliefs or personal family values.’ Although both of these references to religion were very brief, and not specifically advocating a particular religious stance, a few respondents reacted vehemently to any mention of religion in sexuality education: ‘Although it [‘So What’s an Abstinence Anyway?’] does mention that sex can be good under the right circumstances (marriage), any other way would be degrading to oneself, and they even have the nerve to mention church!’ Several students interpreted any discussion of abstinence as closely linked to religion, and they read these lessons through that lens, using religious metaphors and imagery:

It [‘So What’s an Abstinence Anyway?’] compares abstaining to all other things in life one may abstain from, which could stereotype and group individuals as *simmers* if they happen not to abstain from some of these shortfalls, as referred by the instructor ... Especially in the discussion questions when it asks the question of ‘lessons learned’ as to say that any prior thought of sexual action should be erased and *confessed as a sin*. (Emphasis added)

One student combined these two responses, invoking God and then criticizing the lesson for having done so (authors’ note: there is no mention of God in this lesson plan):

In ‘God’s’ eyes this [intimacy in non-sexual ways] is also seen as moral conduct, so it may coincide with their [the authors’] belief system. It is the only way to completely protect oneself from STDs and pregnancy, a fact that should be stressed more than religion.

Students also sometimes made references to the lessons ‘preaching’ abstinence, showing further the links students make between a pro-abstinence position and religion.

Personal beliefs about adolescent sexuality

We also found evidence that students' interpretations of the messages within the lesson plans were affected by the students' personal beliefs about premarital sex. For example, in the following quote, the student weighed the author's message against the student's own belief about sex:

Definitely the pleasure side is stronger because *they are right*. It is kind of funny because when you think about the reasons not to wear a condom, they use negative and danger scripts, yet they use them against the people they are eventually trying to get into bed with. The pleasure scripts are more numerous because they apply to everything. All the reasons are good, such as healthy, safe and feels good; they all have much more believable reasons, *and truth to back them up*. (Emphasis added)

Others judged the potency of the message based on their own beliefs: 'Another positive script that I noticed was "Girls who carry condoms are smart." They *are* smart! They are looking out for their health and their partner's health; a very powerful, positive message' (original emphasis). Although students who evaluated the authors' messages against their own beliefs were most likely to do so when they were positively evaluating lessons that were supportive of teen sexuality, a few did find similar support for their own belief in the importance of abstinence:

Some positive messages were that 'abstinence doesn't have to mean the lack of love, intimacy, romance, sensuality, or eroticism.' It doesn't! Plenty of activities can provide intimacy and closeness between two people: candlelit dinners, sunset walks on the beach, etc.

Frequently, the respondents flatly rejected both the overt messages and implicit assumptions they believed the authors were communicating. Sometimes this involved refuting what they interpreted as the author's overall message, as when a respondent wrote:

Throughout the lesson the message that they are trying to tell the students that sex is a very harmful and risky thing to engage in, just as if you were going to start doing some drug that you could get addicted to or ruin your health. It sends the message that sex is bad and it is like using a scare tactic. People should get in touch with sexuality so they don't get the idea that sex is something wrong or taboo and ask questions to which they would hopefully get the correct and full answers to. If people wait, they won't know what their dislikes and likes are. They just need to make the right educated decisions.

Other times, the students refuted very specific points within the lesson:

The author also mentioned 'intercourse as a teenager' in a very negative way that made it seem dangerous, like it is more dangerous for a teenager than it would be for an adult. Just because you are a teenager doesn't really make you more susceptible to getting pregnant or getting a disease. It is lack of education that makes you more susceptible, not age.

Both cases indicate that, although students read danger messages, they can be critical of these messages, which may in turn affect their interpretations of them.

Discussion

This exploratory study suggests that students do not simply internalize the sexual scripts they receive. Rather, they process and interpret that information and there is

a wide variety of interpretations that can be made of the same messages. This is predicted by scripting theory's notion that scripts are not just passively absorbed, but actively interpreted and revised (Gagnon & Simon, 1973). In the applied field, however, when the desired outcomes of sexuality education are not met unanimously—some students accept while others reject the educational messages—other factors are often blamed: a sense of invulnerability, low self-esteem, peer pressure, lack of role models and alternatives, unstable family situation, and so on. This study suggests another possible factor influencing diversity in outcomes from the same curriculum: variations in interpretation of the educational messages. We are surprised at the lack of literature on this issue and the extent to which this process of interpretation is overlooked when it comes to creating, using and evaluating sex education curricula.² Limitations of this study should be noted. As an exploratory, qualitative study, the results are not generalizable to all college or high school students. In addition, there may be differences in message interpretation when the lesson plans are delivered by a classroom teacher as opposed to reading and interpreting the lessons using a coding scheme for a classroom assignment.

Our findings suggest that the process of interpreting messages in sexuality curricula is complex and needs further study. Is the range of interpretations that high school students make of sexuality education as large as the range demonstrated by our data? What social and personal factors affect the interpretations that students make? Ashcraft (2003) asserts that interpretations of messages about sexuality may be 'shaped by a person's location among competing discourses of gender, race, class, sexual orientation and youth,' (p. 42), to which we would also add religion. Schmidt and McKirnan (1992) found that the level of erotophobia among students affected how much they learned about sexually transmitted diseases. Other research dealing with teacher and student evaluations of sex education programs suggest other possible factors that may affect student interpretation: student maturity, shyness and values (Herold & Benson, 1979); and expectations, school norms and relationship with the teacher (Forrest *et al.*, 2002). Additionally, research shows that beliefs, knowledge and gender affect the interpretations students make of alcohol prevention messages (Parker, 1998; Andsager *et al.*, 2002), while reader identification and real-life experiences affect the interpretations young adult men make of pornographic stories (Hardy, 2004). Additionally Kirby's (2000) review of current sexuality curricula reports that some curricula are more effective for high-risk youth, and others for lower-risk youth. Further research should investigate how these and other factors influence the interpretations students make of sex education messages.

If it is indeed found that high school students make a range of interpretations of sex education messages, then the process of assigning meaning to messages needs to be taken into account when designing, adopting and implementing sexuality curricula. If high school students make widely divergent interpretations of the same messages and lessons, as our college students did, no one curriculum may work for all students. Some students may interpret sexuality education messages in a way that renders any discussion of abstinence completely ineffective, while others may be

more likely to respond positively to abstinence messages. We also suggest that the strategies used to convey those messages may need to vary to be maximally effective.

Notes

1. In the rare event that we could not agree whether the student thought that the pleasure or danger messages prevailed, or the student's answer was too ambiguous for either of us to determine, we threw out the case as unusable.
2. For an exception, see Trudell and Whatley (1992), which, although not studying students' interpretations of messages, acknowledges that each viewer or recipient assigns unique meaning to any message.

Sexuality lesson plans

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