6. TOOLS FOR CLINICAL DIAGNOSIS AND TREATMENT

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The effects of exposure to different sources of sexual information on sexual behavior: Comparing a "sex-expert system" to other educational material

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Sexpert, an expert computer program designed to counsel couples on their sexual relationships, was evaluated. Eighty-one heterosexual couples were assigned to one of three experimental manipulations (Sexpert, video, and self-help book) or a control condition. Daily sexual behavior monitoring forms and structured retrospective reports served as measures of baseline and post-manipulation behavior. Daily monitoring of sexual behavior failed to show significant changes occurring after the manipulations. However, retrospective data concerning the postmanipulation period show that compared with the control, the Sexpert, video, and book manipulations had a significant positive impact on couples' sexual behavior, communication, and learning about sexuality. Sexpert, video, and book were similarly evaluated, except that Sexpert was evaluated as more engaging. In addition, subjects retrospectively reported positive changes in communication, relationship satisfaction, and sexual behavior during the baseline period. This suggests that daily behavioral monitoring is intrusive and may confound the variables measured by it.

As the role of computers in society grows, their applicability in the area of clinical psychology and psychiatry is receiving increasing attention (Bloom, 1992; Colby, Gould, & Aronson, 1989; Plutchik & Karasu, 1991). In general, computer-assisted psychotherapy applications seem well suited to cognitive-behavioral interventions (Holbrook, 1988; Lawrence, 1986). Sex therapy is well-suited to the application of computer-assisted interventions, since it is a relatively well-defined area usually treated by cognitive-behavioral techniques (often with the aid of self-help books and videos). This paper describes an expert system called Sexpert and evaluates its potential to positively influence sexual functioning.

Sexpert

Sexpert is an expert system designed for direct use by couples who want information or advice about their sexual behavior and relationship. The system directs multiple choice, yes/no, or quantitative questions to either or both individuals throughout a session. Sexpert prefers dealing with couples, as would a sex therapist, although it interacts with individuals as well. After introducing itself, Sexpert gathers background information about the couple; if a sexual dysfunction exists, Sexpert investigates the underlying historical antecedents and potential cognitive misconceptions about sexuality. Regardless of dysfunction, Sexpert does an extensive investigation of the couple's regular sexual repertoire (e.g., initiation, foreplay, intercourse positions, "afterplay," etc.) and of the nonsexual aspects of the relationship. Throughout, Sexpert presents feedback and gives the couple opportunities to learn about different aspects of sexual behavior. In the case of dysfunction, Sexpert proposes a treatment plan and guides couples on a step-by-step implementation of this plan (Binik, Servan-Schreiber, Freiwald, & Hall, 1988; Servan-Schreiber & Binik, 1989).

Sexpert's design emphasizes a social-motivational approach to effective human-computer interaction in per-

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sonal advice situations. This approach suggests that a computer system must act according to user expectations of normal social discourse in advice-giving situations in order to be considered user friendly. Among the characteristics built into Sexpert that we believe to be crucial for personal advice systems are the following: (1) simulation of the process of dialogue, (2) presentation of accurate feedback in natural language, (3) provision of both immediate and continuous feedback, (4) ability to shift focus on the basis of users' answers, (5) ability to monitor when the system may lack adequate knowledge and to inform the user accordingly, (6) ability of the user to change previous answers and expect that the system will react appropriately, and (7) ability of the user to ask the system why it has concluded something and to receive an answer. To the best of our knowledge, there are no other functioning counseling systems that have addressed all of these issues.

Perhaps the most fundamental of the above-mentioned characteristics is the simulation of normal dialogue. Sexpert avoids the two current extremes of human-computer interaction in clinical situations. One extreme is illustrated by computerized psychological testing and interpretation that consists of a long series of questions followed by several pages of feedback. The other extreme is characterized by the disjointed interrogation of many expert systems that jump from one topic to another without consideration for the users' expectations. Sexpert uses a hierarchical structure of "dialogue plans" to capture the common logic of conversation (see Binik et al., 1988, and Servan-Schreiber & Binik, 1989, for a more detailed discussion).

Development Environment

When we began considering the development of Sexpert, there was no software development environment available that suited our requirements. Rule-based production system technology provided the best avenue for the diagnostic decision making part of the project; however, none of the available development shells at the time allowed us sufficient control over the flow of dialogue. Therefore, we designed a development environment called EXP, which has the following characteristics: It operates under MS-DOS, OS/2, Macintosh, VAX/VMS, UNIX (on Sun and Prime stations), and supports a full window and menu oriented interface with MS-DOS. The main control strategy of the inference engine is backward chaining, with forward chaining also available. Data are represented as attribute-value pairs with the following data types: numbers, yes/no, text of any length, checklist (single- and multivalued). Flexible validation of user inputs is also supported. EXP provides the ability to exit and resume consultations at any time and to store an unlimited number of sessions for review, modification, and knowledge-base testing. To facilitate knowledge-base development, EXP provides comprehensive error analysis in the compilation stage, multilevel trace, "why" capability, display of rules and parameters at run time, full log capability, change of previous answers, and dynamic goal specification. All texts in the knowledge base can

be dynamically controlled, allowing for complete and intelligent control over dialog. Full support of certainty factors in rules and for mathematical expressions using values of parameters is provided. Run-time versions are available in French or English; their content can be translated without modifying the knowledge base, and reports in one language can be generated from a consultation in the other language. EXP produces reports on screen or in files.¹

Sample dialogue

The following portion of a couple-Sexpert interaction illustrates some of Sexpert's dialogue capabilities. This excerpt begins with Sexpert's providing some feedback to a couple on the basis of previous questions concerning their views on the most important elements in sex.

If I've understood correctly, the two of you seem to disagree on what the important elements are in sex. Adam, you feel that sex is primarily a physical act and that what you do during sex or the physical pleasure that you get is crucial. On the other hand, Eve, you feel that sex is primarily an expression of love or caring. Both of these are legitimate views. Since you, Eve, are dissatisfied with your current sex life, it would seem that your needs are not currently being met. Perhaps I can pinpoint some areas for improvement. Eve, who usually initiates sex?

- 1: You always initiate (100%)
- 2: You usually initiate (75% or more)
- 3: You each initiate about equally often (about 50% of time)
- 4: Adam usually initiates (75% or more)
- 5: Adam always initiates (100%)

Answer: 4

Adam, do you agree with Eve about who usually initiates sex?

Answer: Y

Adam, who would you LIKE to initiate sexual activities?

- 1: You more often
- 2: You like it as it is now
- 3: Eve more often

Answer: 3

And you, Eve, who would you LIKE to initiate sexual activities?

- 1: Adam more often
- 2: You like it as it is now
- 3: You more often

Answer: 2

Eve, would you like to have sex with Adam:

- 1: less frequently
- 2: as frequently as you do now (about 10 times a month)
- 3: more frequently

Answer: 1

Adam, are you pleased with the way Eve lets you know she would like to have sex?

- 1: it's fine
- 2: there is room for improvement
- 3: you would like it to change

Answer: 2

Eve, are you pleased with the way Adam lets you know he would like to have sex?

- 1: it's fine

- 2: there is room for improvement
 - 3: you would like it to change
- Answer: 3

Adam, when you make sexual advances, how does Eve usually respond?

- 1: accepts with pleasure
 - 2: accepts reluctantly
 - 3: often refuses at first but then gives in
 - 4: refuses or ignores me
- Answer: 2

Eve, when you make sexual advances, how does Adam usually respond?

- 1: accepts with pleasure
 - 2: accepts reluctantly
 - 3: often refuses at first but then gives in
 - 4: refuses or ignores me
- Answer: 1

Adam, would you like to have sex with Eve:

- 1: less frequently
 - 2: as frequently as you do now (about 10 times a month)
 - 3: more frequently
- Answer: 3

You don't agree on an ideal frequency of making love. Eve, you would like to have sex less frequently than you do now, while you, Adam, would like to make love more frequently. I wonder whether you should attempt to change your frequency of lovemaking without first trying to improve the quality. I'll try to give you some feedback about this in a minute.

With respect to your pattern of initiation, there seems to be some discrepancy between the two of you in terms of who you feel should have the responsibility for initiating sex. You, Eve, are happy with the situation as it is now, whereas you, Adam, would like Eve to initiate more. Adam, you would like to have sex more often than you do now. However, you seem to be waiting for Eve to initiate it. Perhaps your desire to have her initiate sex more often is a wish that she would take a more active role in your lovemaking. I'm guessing now, but I wonder if this reflects a need for reassurance that she is interested in you, and that she enjoys sex with you.

Even though there is no right or wrong way to initiate sex, everyone has his own likes and dislikes. Unfortunately, neither of you is satisfied with the way the other initiates. Although both of you may believe that you are initiating sex the way your partner would like, something is wrong somewhere. The enthusiasm with which you, Adam, respond to Eve's sexual advances, despite the fact that you would like some changes made in how sex is initiated, is a sign of real interest in Eve and can only be a strength in your relationship. This is especially true since you are not entirely pleased with the pattern of who currently initiates sex. However, Eve, in light of the fact that you would like some changes made, your reluctance to respond sexually is also understandable. It is possible that if Adam changed the way he initiates sex your response would also change.

Completed Empirical Work

Our first evaluations of Sexpert were unstructured, yet they encouraged us to test our positive impressions in a more formal manner (Binik et al., 1988). We hypothesized that for such an expert system to be successful, it

must ultimately possess two characteristics: the ability to impress users sufficiently with its quality so that their attitudes shift positively in its favor and the ability to induce users to change their behavior. In the first study focusing on attitudes toward computerized sexual information (Binik, Westbury, & Servan-Schreiber, 1989), individuals simulating a sexual problem interacted for about 20 min with the introductory and diagnostic modules of Sexpert. The results showed significantly positive shifts in attitude toward computerized sex therapy in those subjects who interacted with Sexpert but not in subjects in either of two control groups. Subjects who had interacted with Sexpert saw a computerized sex therapist as significantly more "human-like," "sensitive," "warm," and "perceptive" than they had prior to their interaction.

In a recently completed experiment (Binik, Meana, & Sand, 1992), we attempted to show that Sexpert would not only modify attitudes but also change behavior. We recruited nondysfunctional, sexually active couples to interact with Sexpert. Couples monitored their sexual behavior daily for 2 weeks before being randomly assigned to either interaction with Sexpert or one of two control conditions. Couples in the Sexpert group retrospectively reported more changes in their sexual behavior and communication about sex than did couples in the control groups.

The major purposes of this study were to investigate whether interaction with Sexpert would bring about change in sexual behavior or communication about sexuality and to compare behavior changes with those resulting from other available self-help technologies such as videos or books.

METHOD

Subjects

Subject recruitment. One hundred fifty-one individuals responded to on-campus notices and to advertisements in university and local newspapers. We sought sexually active heterosexual couples who had been cohabiting for at least 12 months and who were fluent in English. A current, planned, or recent pregnancy, medication with potential sexual side effects, previous personal contact with an investigator, prior participation in a similar study, or any planned lifestyle disruptions resulted in exclusion from the study. Of the 118 couples who met the foregoing criteria, 85 appeared for the first session, and 81 completed the study and were paid for their participation.

Subject characteristics. The subjects ranged in age from 18 to 51 years ($M = 25.9$, $SD = 6.3$). Couples had been living together (69%) or married (31%) for between 1 and 13 years ($M = 2.22$, $SD = 2.07$). The couples had been sexually active with each other for one to 15 years ($M = 3.2$, $SD = 2.3$). Fifty-eight percent of the subjects were university students, and 56% had some experience using computers. There were no group differences on any of the background variables, except that significantly fewer women in the book condition were computer users [$\chi^2(3, N = 162) = 9.88$, $p < .05$].

Materials

Background questionnaire. This questionnaire included a series of brief questions concerning age, sex, occupation, computer experience, and the couples' sexual history.

Daily sexual behavior monitoring form. This monitoring instrument is an extensive adaptation of Libman, Fichten, Binik, and Brender's (1988) work. The daily sexual behavior monitoring (DSBM) form solicited the following kinds of quantitative information from each subject: (1) frequency of intercourse, nonintercourse (including foreplay and initiation) sexual activity, orgasm, and discussion about sex; and (2) Likert-type scale ratings comparing current with "usual" levels on quality of discussion about sex, level of desire for sex, typicality of manner of initiation, level of arousal during sex, typicality of manner of ending sex, and level of satisfaction with sex. The DSBM also solicited qualitative (open-ended) explanatory responses for (1) occasions when the aforementioned Likert-type ratings differed from the "usual"; (2) responses to the questions, how was sexual activity initiated, what foreplay activities were engaged in, what intercourse positions were used, and how was sexual activity ended; and (3) who initiated sexual activity and who terminated sexual activity (man, woman, or both).² The qualitative responses concerning initiation, foreplay, nonintercourse sexual activity, and intercourse were coded into the following two categories: foreplay activities (including nonintercourse sex and initiation) and intercourse activities.

Baseline retrospective questionnaire. The baseline retrospective questionnaire (BRQ) generated categorical data by requiring the subjects to indicate whether or not daily monitoring of their sexual behavior had had an effect on communication about sex, initiation, desire for sex, arousal during sex, foreplay, intercourse, nonintercourse sex, and satisfaction with sex. The subjects were also asked if they thought the daily monitoring had any positive or negative effects on their relationship. The subjects who responded "yes" to any of these questions were required to elaborate on the effects through qualitative explanations. These qualitative responses were coded by one rater into five response categories: (1) couples' communication was enhanced or increased, (2) information or concepts learned, (3) manipulation or monitoring was engaging, (4) sexual behavior improved, and (5) satisfaction with the relationship increased.

Postmanipulation retrospective questionnaire. The postmanipulation retrospective questionnaire (PRQ) generated categorical data by asking the subjects whether or not they thought the experimental manipulation had affected the nature, length, frequency, and/or enjoyment of the same aspects of their sexual behavior about which they were asked in the BRQ. In addition, the subjects were asked if they would recommend the manipulation that they experienced as a source of information with respect to sexual activities. Affirmative responses to any of these questions required the subjects to provide additional qualitative explanation. Qualitative PRQ responses were coded with the same categories as those used in the BRQ data. However, two raters were employed to code the PRQ qualitative data (average interrater agreement = 88%).

Experimental Manipulations

The introductory and repertoire sections of Sexpert were used for the Sexpert condition. The main topics covered by these modules included initiation, foreplay activities, intercourse frequency, "afterplay," and so forth. The self-help video, *Falling in love again* (Barbach, 1990) was selected for the video condition. It was designed to help couples discuss some typical kinds of relationship, communication, and sexual behavior issues. Couples in the book condition were provided with the following four chapters of *Couple sexual awareness: Building sexual happiness* (McCarthy & McCarthy, 1990): (1) Non-demand pleasuring, (2) Sexual variations: When does experimentation become kinky?, (3) Equality between the sexes, and (4) Guidelines for your marital and sexual relationship. Couples in the control condition were provided with crossword puzzles (Metz, 1987) to complete.

Procedure

The couples were initially screened on the phone by the first author to confirm that they indeed met subject selection criteria for inclusion in the study. The couples were assigned on a successive rotating basis to one of three experimental conditions or to the control condition, resulting in three groups of 20 couples and one group of 21 couples (the Sexpert condition). During Session 1, the experiment was explained, and the couples signed a consent form. Afterward, they separately filled out the background questionnaires and were given the 14 DSBM forms to take home. In Session 2, which was 2 weeks later, the couples returned their completed DSBM forms and then filled out the BRQ. Next, the couples spent an average of 50 min interacting with Sexpert, reading the book material, watching the video, or doing crossword puzzles together. There were no significant differences in the duration of any of these manipulations. Afterward, each subject was sent home with another set of 14 DSBM forms. Two weeks later, the subjects returned to the lab with their second set of DSBM forms and completed the PRQ. The couples were then debriefed and paid for their participation.

RESULTS

Data Reduction

Separate analyses of the males' and the females' data sets did not produce different results, so the data were combined and reported here as couples' scores. The DSBM data were analyzed by collapsing data gathered during the first 2 weeks into a set of baseline period measures. The 2 weeks of postmanipulation DSBM data were also collapsed into an identical set of measures.

Covariate Selection

A correlational analysis of the background variables with the sexual-behavior-dependent measures was carried out. Background variables for the two sexes were first combined into single measures of each couple's characteristics (e.g., average age of each couple) and then entered into the correlational analysis. A significant correlation between a background and a sexual behavior dependent measure ($p < .05$) that occurred in both baseline and postmanipulation periods led to the inclusion of that background variable in the appropriate analysis. Only two variables met the aforementioned criteria and were included in the appropriate subsequent analyses. The frequency of foreplay activities was negatively correlated with both the length of the sexual relationship and the couples' degree of entry into the work force.

Baseline Sexual Behavior

During the baseline period, the couples discussed the sexual aspects of their relationship an average of 2.45 times per week. Women initiated sexual activity 28% of the time, men 41%, and both simultaneously 31% of the time. Per week, couples engaged in sexual intercourse 2.30 times, in nonintercourse sex 1.41 times, and each individual experienced 3.05 orgasms. The couples reported engaging in 14.88 different foreplay activities and 4.12 different intercourse positions per week.

Approximately 60% of the couples reported that the daily monitoring had a positive effect on their communication about sex and on their relationship. Approximately 20% of the couples reported that the daily monitoring affected their level of desire for sex and their enjoyment of intercourse. Approximately 10% of the couples reported an effect on arousal, enjoyment of foreplay (including initiation and nonintercourse sex), and satisfaction with sex. Overall, 44% of the couples reported improvements in some aspect of their sexual behavior due to daily monitoring. Ten percent of the couples reported that the daily monitoring had a negative effect on their relationship. Only 17% of the couples reported that they enjoyed filling out the DSBM.

Behavioral Effects of the Experimental Manipulations

Sexual behavior as measured by the DSBM did not change as a function of the experimental manipulations. This was confirmed by a set of group $\times$ time repeated measures analyses of variance (ANOVAs) with time (baseline and postmanipulation) as the repeated measure. However, the categorical PRQ data shown in Table 1 reveal significant differences between the control and the three other manipulations in the following areas: communication, foreplay, reports of a positive effect on the sexual relationship, and recommendation of the manipulation as a source of information about sexuality. There were no significant differences between the three experimental groups on these variables.

Examination of the subjects' open-ended responses strongly suggested that the effects of the experimental manipulations were positive. In fact, only 10 individuals

(8% of all study participants) reported negative effects caused by the experimental manipulations. Overall, compared with the control group, a significantly greater number of couples in the experimental groups retrospectively reported better communication, learning more about sexuality, positive behavior change, and more satisfaction with their relationship (Table 2). There were no significant effects differentiating the Sexpert, video, and book conditions except that significantly more couples reported being entertained or having fun with Sexpert than with the other manipulations [$\chi^2(3, N = 81) = 13.45, p < .005$].

Time Effects

There were significant time effects (decreases) in the group $\times$ time repeated measures ANOVAs reported above, for the following variables: frequency of communication about sex, frequency of intercourse and foreplay, and number of intercourse and foreplay activities (Table 3).

DISCUSSION

In summary, the data presented in this paper support the hypothesis that Sexpert has positive effects on the sexual behavior and communication of couples. The data also demonstrate the equally positive effects of the self-help video and book on these variables. The daily monitoring data did not reveal any significant changes occurring as a result of the experimental manipulations but did reveal a significant decline in communication and in the overall frequency and absolute number of sexual behaviors engaged in over time. However, the postmanipulation retrospective data show that, as compared with the control condition, a significant number of the couples in the experimental groups reported positive effects on couples' sexual behavior (especially foreplay activities), communication, feelings about the relationship, and learning about sexuality. There were generally no significant differences on any outcome variables between the effects of Sexpert, the video, and the book, except that Sexpert was reported as being significantly more engaging than any of the other manipulations. This last result has positive implications for the relative ability of Sexpert to maintain the interest and, perhaps, motivation of persons interested in changing their sexual behavior.

The discrepancy between the daily monitoring and the retrospective data can best be understood by taking a closer look at the effects of daily self-monitoring in this study. We believe that the most likely explanation for the discrepancy is that this monitoring led to an increase in communication frequency and sexual behaviors in the baseline period. This interpretation is supported by the baseline retrospective data, in which couples reported increases in communication, relationship satisfaction, and sexual behavior, as compared with the time before the study began (couples attributed these changes to filling out the daily sexual monitoring form). The unexpected effects of self-monitoring on sexual behavior resulted in a baseline measure affected by the measurement instru-

Table 1
The Number of Individuals Reporting Sexual Behavior Effects
in the Experimental and Control Groups
(Categorical Postmanipulation Retrospective Data)

Variable	Experimental (<i>n</i> = 122)	Control (<i>n</i> = 40)	χ^2 (1, <i>N</i> = 162)
Communication	65	1	32.20*
Desire	17	2	2.33
Arousal during sex	8	0	2.76
Foreplay	48	0	22.36*
Intercourse	13	0	4.63
Sexual satisfaction	14	0	5.02
Positive effect on sex	85	0	58.63*
Negative effect on sex	10	0	3.49
Recommend manipulation	77	0	48.12*

* $p < .005$ using Bonferroni correction.

Table 2
The Number of Couples Reporting Sexual Behavior Effects
in the Experimental and Control Groups
(Coded Postmanipulation Retrospective Data)

Variable	Experimental (<i>n</i> = 61)	Control (<i>n</i> = 20)	χ^2 (1, <i>N</i> = 81)
Better communication	39	2	12.64*
Learned facts	30	0	13.35*
Positive behavior change	37	0	14.11*
More satisfying relationship	31	1	7.91*

* $p < .005$ using Bonferroni correction.

Table 3
The Frequency of Behaviors Across Groups, From
the Baseline to the Postmanipulation Period
(Daily Sexual Behavior Monitoring Data)

Variable	Baseline	Postmanipulation	F (df 1,77)
Communications about sex	4.89	3.46	36.8†
Frequency of foreplay activities	2.82	2.20	8.5*
Number of foreplay activities	14.88	11.90	18.3†
Frequency of intercourse	4.61	3.86	9.5*
Number of intercourse positions	4.12	3.11	13.5†

Note—All variables reported in terms of events per week. * $p < .005$. † $p < .0001$.

ment. Consequently, the experimental manipulations were superimposed on this measurement artifact, making it very difficult to detect changes caused by the experimental manipulations.

This suggests that the daily self-monitoring impacted on sexual behavior and communication about sex in an important way. Recently, other investigators engaged in the monitoring of daily events have emphasized the potential intrusiveness of daily behavioral monitoring and how it may confound the dependent variables to be measured (e.g., Tennen, Suls, & Affleck, 1991). The current study suggests that the use of comprehensive structured retrospective questionnaires may be preferable to the use of a daily monitoring form, especially since the time effects we observed suggest a diminishing willingness or ability of subjects to fill out a daily sexual behavior monitoring form.

One might be tempted to argue that the lack of change in the daily monitoring variables was the result of choosing experimental manipulations that were ineffective as sources of information. However, this argument would not easily account for the many significant retrospective differences found between the control and experimental conditions. A definitive description of expert-systems' relative superiority over other forms of self-help will ultimately depend on our ability to better measure behavior in nonintrusive, yet quantitative, ways.

REFERENCES

- BARBACH, L. (Director) (1990). *Falling in love again* [Video]. Los Angeles: Venus Group.
- BINIK, Y. M., MEANA, M., & SAND, N. (1993). *Interaction with a sex-expert system changes attitudes and may modify sexual behavior*. Manuscript submitted for publication.
- BINIK, Y. M., SERVAN-SCHREIBER, D., FREIWALD, S., & HALL, K. S. (1988). Intelligent computer-based assessment and psychotherapy: An expert system for sexual dysfunction. *Journal of Nervous & Mental Disease*, 178, 387-400.
- BINIK, Y. M., WESTBURY, C. F., & SERVAN-SCHREIBER, D. (1989). Interaction with a "sex-expert" system enhances attitudes towards computerized sex therapy. *Behavior Research & Therapy*, 27, 303-306.
- BLOOM, B. L. (1992). Computer assisted psychological intervention: A review and commentary. *Clinical Psychology Review*, 12, 169-198.
- COLBY, K. M., GOULD, R. L., & ARONSON, G. (1989). Some pros and cons of computer-assisted psychotherapy. *Journal of Nervous & Mental Disease*, 177(2), 105-108.
- HOLBROOK, T. (1988). Computer technology and behavior therapy: A modern marriage. *Computers in Human Services*, 3, 89-109.
- LAWRENCE, G. H. (1986). Using computers for the treatment of psychological problems. *Computers in Human Behavior*, 2, 43-62.
- LIBMAN, E., FICHTEN, C., BINIK, Y., & BRENDER, W. (1988). Jewish General Hospital sexual self-monitoring form. In C. M. Davis, W. L. Yarber, & S. L. Davis (Eds.), *Sexuality related measures: A compendium* (pp. 132-134). Lake Mills, IA: Graphic Publishing.
- MCCARTHY, B., & MCCARTHY, C. (1990). *Couple sexual awareness: Building sexual happiness*. New York: Carroll & Graf.
- METZ, K. (1987). *The best crossword puzzles: Vol. 2*. New York: Basic Books.
- PLUTCHIK, R., & KARASU, T. B. (1991). Computers in psychotherapy: An overview. *Computers in Human Behavior*, 7, 33-44.
- SERVAN-SCHREIBER, D., & BINIK, Y. M. (1989). Extending the intelligent tutoring system paradigm: Sex therapy as intelligent tutoring. *Computers in Human Behavior*, 5, 241-259.
- TENNEN, H., SULS, J., & AFFLECK, G. (1991). Personality and daily experience: The promise and the challenge. *Journal of Personality*, 59, 313-337.

NOTES

1. For additional information about EXP, please contact Simon Freiwald, Artifin Inc., 6570 Duncan, Montréal, Québec, Canada H4B 1E9.
2. For a copy of the DSBM form, please contact Y. Binik.