his/her behavioral system and modify behavior in a manner which enhances communication

- 11. develop personal goals for more effective interpersonal communication
- 12. adopt a workable model of communication for making communication effective in the pharmacy setting

Specific Course Requirements

- Students will be expected to participate in class exercises designed to help achieve course objectives. While it is difficult to give specific grade value to such class participation, it will be a significant factor in the assessment of student performance.
- 2. Each student will select a topic and prepare a paper which examines the relationship of a pharmaceutical product to communication behaviors of individuals. Other options could also be possible.
- Other assignments and quizzes will be included as a "daily work" grade.
- 4. There will be at least two and possibly three major tests. While each will be assigned a grade, the total points earned for all of the major tests will be combined for determining the "test grade."
- 5. The approximate value of each area to be evaluated: (*i*) the paper, 0.25; (*ii*) major tests, 0.25; (*iii*) class participation, 0.25; and (*iv*) assignments and quizzes, 0.25.

Course Outline

- I. Introduction to Communication.
 - A. The word is not the thing; the map is not the territory.
 - B. Basic assumptions of communication.
 - C. Models of communication.
- II. The Persons in Interpersonal Communication.

- A. Physical attributes of the individual which affect communication.
 - 1. Perception-cognition.
 - 2. Physical states and variables.
- B. Psychological attributes of the individual which affec communication.
 - 1. Needs and drives.
 - 2. Motivation.
 - 3. Empathy.
 - 4. Attitudes.
 - 5. Bias and prejudice.
 - 6. Assertiveness.
- C. Social-psychological factors in communication.
 - 1. The group and the individual.
 - 2. Roles as modifiers of behavior.
 - 3. Communication and transactional theory.
- D. Concerns specific to the health professional in interpersonal communication.
 - 1. The terminally ill and dying.
 - Communication effects produced by the use and misuse of OTC and prescription products and other chemical substances.
- E. The pharmacist communicates with the public: public relations.
- III. Setting and other environmental and cultural factors which affec communication.
 - A. Space and communication.
 - B. Time variables and communication.
 - C. Value systems and communication.
 - D. The interview.
 - E. Ethnic and cultural variable in communication.

Reducing Communication Apprehension: Is There a Better Way?

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Several approaches for reducing communication apprehension (CA) are examined for effectiveness. Results indicate that systematic desensitization (SD) alone was the most effective method. If high CA pharmacy students are to be exposed to a communication course or skills experiences, it is highly recommended that the SD program be provided before or at the very beginning of the communication course.

Over the past five years increasing attention has been focused on the problem of high communication apprehension (CA) in pharmacy students and approaches designed to help them overcome the problem(1-4). The conceptualization of communication apprehension is relatively new to pharmacy, however, research in the area of speech communication has been going on for well over 15 years. In that field various forms of communication courses, skills training, and behavior therapies have been employed to help reduce CA. While a variety of

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approaches have been developed to help students, the approach that has received the most attention and which has been incorporated in the most on-going programs (in and out of pharmacy) is systematic desensitization (SD). The purpose of this paper is to review available research on the effectiveness of the SD approach alone and when combined with other factors such as a communication course and skills training. In addition, suggestions will be made in order to maximize the positive impact of an SD program.

Since CA is the fear or anxiety associated with either real or anticipated communication with another person or persons(5), it is conceptualized as a cognitively experienced phenomenon which may or may not have observable behavioral manifestations in a given case. In short, CA represents the way a person feels about communication, not how they communicate. Nevertheless, CA is seen as having serious behavioral implications. In particular, people with high CA are more likely to avoid or withdraw from communicative contact when that option is available. It is important to distinguish communication apprehension from the constructs of reticence and shyness. Reticence, as currently conceived, is concerned with people who are ineffective communicators because they lack adequate communication skills(6). Shyness is seen as the tendency to talk less than the norm, which may result from high CA, reticence, or other causal factors(7). This paper will focus exclusively on CA. People with high CA may be reticent and/or shy. However, many people who are reticent and/or shy do not experience high CA.

RESEARCH ON SYSTEMATIC DESENSITIZATION

Systematic desensitization (SD) is a behavior therapy which has been employed successfully to help people overcome a wide variety of phobic and neurotic anxieties(3). It is not a method developed specifically to deal with CA. Rather, its use with communication-based fear is simply one of many applications of the therapeutic method. The method has been tested worldwide in clinical and laboratory settings and found to consistently have strong positive results both immediately and in the long term.²

The first major study employing SD for the reduction of communication-related anxiety was reported by Paul(8,9). He found SD to be highly effective in overcoming speech anxiety both in the short term and over a two year follow-up period. It was significantly superior to traditional insight therapy, a placebo treatment, and a control condition in which subjects took a public speaking course.

McCroskey applied the SD approach to the field of communication in two studies. In the first study it was determined that SD was effective in helping students overcome CA and that the method could be employed by nonpsychologists with minimal training in its use(10). In the second study, the largest study yet reported to test the impact of SD, it was determined that SD could be implemented successfully on a very large scale and was, therefore, capable of use in virtually any communication program(11). Berger and others then successfully applied SD in the field of pharmacy communications(3).

On the basis of these studies, which have been replicated several times subsequently, it can be concluded that SD is a highly effective method of helping individuals overcome high CA. What is not clear from these individual studies is what are the circumstances under which SD is most effective in reducing CA. In other words, are there elements in programs which enhance or detract from the effectiveness of SD when applied to CA?

SD AND OTHER COMPONENTS

In programs that have been implemented to help students overcome high CA, various combinations of three components are common. These are SD, communication courses, and skills experience. No individual study has examined in a systematic fashion the individual and combined effects of these components. Generally, it was assumed that the best program would involve all three components and that each would make a unique positive contribution. As later demonstrated, this assumption, while reasonable on the surface, does not appear to be valid. In order to examine this assumption and examine the value of each component, nine studies which have employed a common dependent variable, change scores on the Personal Report of Communication Apprehension (PRCA)(1-3,12,13), have been selected.³

The PRCA is the most commonly employed measure of CA in research involving this construct. It has a variety of forms, all of which correlate among themselves about 0.90. For the purpose of this paper, the older form, the PRCA-20, was used as a base line. Studies which employed newer forms had scores that were transformed to mathematical equivalence with scores on the PRCA-20. A summary of the results of all studies examined is presented in Table I.

Several points should be made about the studies presented in Table I.⁴ For example, "Nichols, 1969" is seen under both the "SD Only" category and the "Course Only" category. All of the information presented on "Nichols, 1969" concerns a required undergraduate communication course. The 19 students listed under "SD Only" were high CA students who received SD at the very beginning of the course (as pointed out later in the text). The 19 students listed under "Course Only" were 19

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² Systematic Desensitization is a behavior therapy based on a counterconditioning model. It is composed of two major parts. The first focuses on teaching the individual to recognize tension in all of the various muscle groups in the body and to relax that tension. In the second part the individual is exposed to stimuli that prior to treatment would generate tension for that person. These stimuli are presented in order from the least tension producing to the most tension producing. Before moving to the next higher tension producing stimulus the individual must be able to visualize the present stimulus while completely relaxing. Treatment normally consists of one hour sessions. Most individuals can complete the program in 5-7 sessions.

³ The validity and reliability of the PRCA have been well established. The internal reliability in over 300 studies has consistently been above 0.90. Test-retest reliabilities have been above 0.80. (For discussions of the validity of the instrument in its various forms, see references 2-5, 7).

⁴ The specific details of the procedures for each of these studies will not be discussed fully here since the designs of the studies were highly similar. Typically the following elements were present: (i) Subjects were initially screened on the PRCA; (ii) Those scoring more than one standard deviation above the mean were invited to request treatment. In most cases the mean employed was the mean of published normative populations, in others the mean of the group sampled; (iii) Both treatment and control groups were formed by randomly assigning subjects who volunteered for treatment. Those in the control group were "wait-list" controls; that is, they were provided treatment after completion of the study. In some instances control groups were selected from subjects eligible for treatment who did not volunteer. In studies where both wait-list volunteer controls and nonvolunteer controls were employed, no differences among the control groups were found. The use of volunteer subjects in this type of research is mandated by both ethical considerations and by the fact that requiring individuals to subject themselves to behavior therapy treatment outside the experimental environment is almost universally rejected; (iv) Subjects were provided treatment for one hour per week for 5-7 weeks. An exception was in the Nichols study where treatment was provided in a single week; (v) Subjects again completed the PRCA after treatment. In some studies the PRCA was again administered later to determine retention effects. Results of such tests have indicated lasting effects, but these are not the focus of this analysis. It should be noted that the subjects in these studies were predominatly college students. Other studies, which have produced similar effects, have included elementary or secondary students and adult non-students.

Type of program/study	N	Pretest	Posttest	Change	Change index
SD Only					
Nichols, 1969	19	73.0	50.9	22.1	0.417
McCroskey & Richmond, 1982	10	79.9	51.1	28.8	0.481
SD Plus Course	 				
McCroskey, 1972	470	*	*	14.5	*
Ertle, 1969	32	73.0	57.3	15.7	0.296
Sheehan, 1971	14	79.2	63.0	16.2	0.274
Berger, et al., 1982	16	74.2	58.6	15.6	0.288
SD Plus Course & Skills					
Sheehan, 1971	54	79.0	62.1	16.9	0.286
Goss, et al., 1978	17	*	*	15.9	
Berger, 1982	12	72.1	57.6	14.5	0.278
Course & Skills					
Berger & McCroskey, 1982	16	80.2	70.1	10.1	0.168
Course Only					
Nichols, 1969	19	72.9	67.7	5.2	0.098
McCroskey, 1972	71	*	*	-1.0	*
Goss, et al., 1978	17	*	*	7.8	*
Sheehan, 1971	12	77.9	69.7	8.2	0.142

Table I. Impact of treatment programs

* Not available in published report.

other high CA students who were part of the same course and served as a control group, receiving no SD. The difference in change indices are dramatic. The same situation existed for the "McCroskey, 1972" study listed under "SD Plus Course" and "Course Only." Here we see change scores of 14.5 and -1.0, respectively. Similarly, the same arrangements were made in the "Sheehan, 1971" study and the "Goss, *et al.*, 1978" study. Control group conditions existed across comparable students and vastly different change indices were seen depending upon the interventions used.

It should also be pointed out that in all of the "Berger" studies (Berger, *et al.*, 1982," "Berger, 1982," etc.), the course instructor was the same and all of the students were second professional year pharmacy students in a required pharmacy communication course. Despite the same instructor, and comparable pharmacy students, different change indices occurred with different interventions.

SD ONLY

Only two studies have examined the impact of SD when no other component was involved. In the first of these, Nichols administered SD to subjects in a laboratory environment in an intensive, one week program⁵. Although the subjects in the study were undergraduate students enrolled in a required communication course, since the study was conducted at the very beginning of the semester, the course could have had only minimal impact on the outcome.

To estimate the effectiveness of the program, an index of possible change was computed. To compute this change index, the observed mean change was divided by the distance from the pretest mean to the lowest score possible on the measure. While it is not expected that every subject will report absolutely no CA after exposure to the program, this method provides an index for comparing effectiveness across independent studies.⁶ The change index for the Nichols Study was 0.417.⁷ An additional indication of the effectiveness of the program in this study was the fact that the posttest score for the subjects was substantially below the cutoff level of scores indicating high CA. In short, this program was highly effective.

The only other study which involved a program with SD alone was recently completed by McCroskey and Richmond⁸. In this study, subjects were invited to participate and charged a fee (\$30) to join the program. The subjects were not taking a communication course. The program was administered in the evening in a clinical setting, and the age range was 16-65 years. The change index in this study was 0.481. All but one of the subjects dropped from high to moderate CA. Interestingly, the one subject that remained high was most anxious about dyadic communication and least anxious about public speaking.

In summary, the two studies which employed SD only yielded very positive results in reducing CA. Their average change index is 0.449. It should be noted that even though the trainees and subjects were different in each study, the change indices were very similar.

SD PLUS COURSE

Four studies have tested the impact of SD when administered while the subjects (undergraduate students) were taking a regular communication course. In the studies, the high CA students did not participate in any type of skills training. They simply attended lectures in addition to receiving an SD program. By far, the largest of these four studies was reported by Mc-Croskey(11). Because pretest and posttest means are not reported, no change index could be computed. However, the mean change score obtained in that study was 14.5.

The three remaining studies all found a slightly greater shift. The study reported by Ertle⁹ produced an index of 0.296, that reported by Sheehan ¹⁰ produced an index of 0.274 and the more recent study by Berger, Baldwin, McCroskey and Richmond(3) produced an index of 0.288. The average possible change index

⁵ Nichols, J. G., Doctoral dissertation, Michigan State University (1969).

⁶ High CA individuals were examined in the study. For the PRCA-20, a score of 70 or above is considered high CA.

⁷ The lowest possible score on the PRCA-20 is 20. To compute this change index, the observed mean change (see Table I) of 22.1 is divided by the pretest mean minus 20 (73.0-20) to give 0.417.

⁸ McCroskey, J. C., and Richmond, V. P., Unpublished research, We. Virginia University, (1982).

⁹ Ertle, C. D., Doctoral dissertation, Michigan State University (1969).

¹⁰ Sheehan, A. M., Masters thesis, Illinois State University (1971).

for these three studies is 0.286. These results indicate administering SD along with a regular communication course is less effective than SD alone. Adding the course component reduces the impact of SD by approximately 34 percent.

The consistency of the change index for these three studies is particularly important since the courses involved in the three studies were very different. One was an elective public speaking class, one a required communication theory class, and one was a required fundamentals class. These results suggest that including any communication course may be expected to reduce the positive impact of an SD program.

SD PLUS COURSE AND SKILLS

Three studies have involved all three components—SD, a communication course, and skills experience. The study by Goss, Thompson, and Olds(14) although not reporting pretest and posttest means, observed change scores of half way in between. This study, however, is particularly important because the results indicated significant behavioral change as well as change on the self-report scales as a result of the program.

The other two studies which included all three components demonstrated extremely similar effects. In the Sheehan study¹⁰ the change index was 0.286. In the Berger study¹¹ the change index was 0.278. The average change index for these two studies was 0.282. This index is virtually identical with that for the studies employing SD and a course but no skills experience. Thus, it appears that adding a skills component makes no contribution beyond that produced by SD alone or in conjunction with a communication course. Including all three components is less effective than SD alone.

COURSE AND SKILLS

One study has been reported which examines the effects of the course and skills components in the absence of an SD program. In the Berger and McCroskey study(2) the course was specifically designed to help students lower their CA. Students were exposed to a variety of skills experiences. The change index was 0.168. The index indicates that use of these components is only slightly more than half as effective as SD with a course or SD with both a course and skills experience. In addition, it is only about a third as effective as SD alone.

COURSE ONLY

No studies have been specifically designed to study the impact of only a course or skills on reducing CA. However, in four studies subjects in a no-treatment control group were in communication courses, thus the impact of this component alone can be examined.

In the largest of these studies, the impact of the course was negative in an absolute sense(11). The average change score across the four studies was 5.1, which is less than 20 percent of the average shift for SD alone. The change index in the studies, where it could be computed, also reflected the weak impact of the course component alone. For the Nichols study⁵, the change index was 0.098 and for the Sheehan Study¹⁰, it was 0.142. The average for these two studies was 0.120. These results indicate the course or SD with a course and skills experience and only about one fourth as effective as SD alone.

¹¹ Berger, Bruce A., Unpublished research, Auburn University (1982).

CONCLUSIONS

The consistency of the findings of this research permits fairly clear conclusions. In studies where the subjects receiving SD and the control subjects were a part of the same course, the type of intervention produced a different change index. This was true in control group situations and where the instructor was the same across interventions. Within a type of intervention (SD only, SD plus course, etc.), very similar change indices are seen even though subjects and instructors were different.

The use of SD alone is a better way of helping individuals overcome high communication apprehension. Communication courses, with or without skills experiences, make only a marginally positive contribution to reducing CA. When combined with SD, such courses have a much larger impact, but a much smaller impact than SD alone.

While the above conclusions are justified by the data reviewed, several qualifications are in order so that conclusions are not overly generalized. First, the ineffectiveness of communication courses and skills experiences noted above applies only to the problem of reducing high CA. Clearly, these components are not very useful for this purpose. This does not infer that courses in communication are not useful for building a better understanding of communication or that skills experiences are not useful for improving the communication skills of students. We probably should not expect communication courses and skills experiences to help reduce high CA. This is consistent with past research and it is not the primary purpose of such instruction. It would be nice if they helped with the CA problem, but it appears that they do not.

Each of the components examined has a legitimate and important place in a communication education program. However, not all students have the same needs, thus not all should be exposed to the same type of instruction. What all pharmacy educators can learn from this survey of research is that for those students identified by the PRCA as high CA, SD should be provided. Moreover, it should be provided before any other component for maximal success. Since this may not be totally practical in some cases, the SD program should be provided at the very beginning of a communication course and/or skills program. Research by Furio indicates that an SD program can be accomplished effectively in less than three weeks with a total of six contact hours.^{12,13}

For those students without high CA, the SD component is not relevant. For those students with deficient skills, skills experiences should be provided. A large majority of pharmacy students are neither high in CA nor reticent (skill deficient). For these students regular courses in communication are appropriate.

The major task educators face is to identify the needs of our students and provide the appropriate instruction to meet these needs. For the 20 percent of our nation's pharmacy students that are high CA(4), SD is a better way of helping reduce CA, and hence is an essential part of communication training.

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¹² Furio, Brian, Masters thesis, Auburn University (1982).

¹³ Furio's results replicate those obtained by Nichols. Both used a massedtraining approach as opposed to spreading treatment over 5-7 weeks. In follow-up analysis, Nichols found the effects of massed training to be sustained even though the subjects were exposed to a course including skills training after treatment.

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Pharmaceutical Education and Pharmacy Practice in the Philippines

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The pharmacy curriculum in all Philippine colleges of pharmacy has been five years in length since the mid-1950s and there have been no major revisions since its inception. Candidates for licensure must pass an examination which is both theoretical and practical; and must complete a 960 hour internship. The undergraduate curriculums do not include courses identifiable as biopharmaceutics and pharmacokinetics; nor are there courses which are preparatory for, or components of, clinical pharmacy. Pharmaceutical education and pharmacy practice are exclusively product oriented. The profession of pharmacy in the Philippines is virtually a woman's occupation.

In the Philippines primary school education is six years and secondary school is four years in length. The pharmacy curriculum is a five year program and all colleges of pharmacy offer the entire five years of schooling. Although the minimum program in the United States is also five years, most U.S. colleges of pharmacy offer only the three or four year professional portion of the program. The one or two preprofessional years are completed by the student elsewhere prior to entering pharmacy college. The five year program in the Philippines was initiated in the mid-fifties, whereas in the U.S. the minimum five year program became mandatory in 1960.

THE COUNCIL OF PHARMACEUTICAL EDUCATION

Pharmaceutical education in the Philippines is under the purview of the Council of Pharmaceutical Education, a governmental agency composed of the Secretary of Education as Chairman, the Undersecretary of Health Services, the Food and Drug Administrator, the Chairman of the Board of Pharmacy, the Dean of the University of the Philippines College of Pharmacy, a dean of a private college of pharmacy selected by the constituent colleges represented, and a representative of a national pharmaceutical organization in the Philippines appropriately selected by the organizations represented. It is the function of the Council to promulgate rules and regulations affecting pharmaceutical education in the Philippines. The rules and regulations are implemented by the Department of Education, the Board of Pharmacy, the national pharmaceutical associations, and several other organizations. The Council accredits those colleges of pharmacy which are private institutions. It also approves community pharmacies, hospital pharmacies, and manufacturing pharmacy laboratories which serve as apprenticeship sites for pharmacy students and pharmacy graduates who are complying with the experiential requirement for taking the licensure examination. The Counc meets at least once a month to transact its business. Pha: maceutical education and professional pharmacy practice als are under the purview of the Ministry of Health which include the Food and Drug Administration (FDA) and the Office (Health Education and Personnel Training (OHEPT), the Minitry of Education and Culture, and the Professional Regulation Commission.

At the present time there are 14 accredited colleges (pharmacy in the Philippines and two new colleges of pharmac which are pending accreditation. One college is public, th University of the Philippines College of Pharmacy. The remainder are private of which a number are denominational. The Philippine Association of Colleges of Pharmacy is comprised the deans of the accredited colleges of pharmacy. Its chic concern is the standardization of pharmacy education in Phi ippine colleges of pharmacy. The University of the Philippine is the only government funded institution. It is autonomous an does not come under the purview of the Council of Phamaceutical Education.

THE BOARD OF PHARMACY AND THE LICENSURE PROCESS

The Philippine Board of Pharmacy has a number of function which are very similar to those of state boards of pharmacy i the U.S. They include, but are not limited to : (i) examinin applicants for licensure as pharmacists; (ii) issuing certificate of registration; (iii) reprimanding pharmacists; suspending of revoking licenses on the basis of a formal administrative investigation tigation conducted by the Board; (iv) promulgating rules an regulations for the enforcement of the Food, Drug, and Cos metic Act; and (v) assuring that only quality personnel ar