Implementation of a Systematic Desensitization Program and Classroom Instruction to Reduce Communication Apprehension in Pharmacy Students

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Data from a national study of communication apprehension (CA) in pharmacy students indicate that the proportion of high CA students in many of our pharmacy schools is considerably higher than the general population average of one out of five people. High CA individuals will tend to avoid communication much of the time. Since projected new roles for pharmacies lean heavily on both communication ability and desire, having large numbers of high CA people going into practice may not be in the best interest of the profession. Systematic desensitization (SD) and cognitive restructuring (CR) are two methods that have been used to successfully "treat" CA. A formal SD and CR program, along with classroom instruction, was developed to alleviate the problem. Results indicate encouraging and substantial reductions in CA as a result of these interventions.

Previous studies have defined the concept and problems associated with communication apprehension (CA)(1-5). One out of five people in the population as a whole are severely communication apprehensive(3). Data from a national study of communication apprehension in pharmacy students indicate that the proportion of high CA students in many of our pharmacy schools is considerably higher. The high apprehensive will tend to avoid communication much of the time. Since projected new roles for pharmacists lean heavily on both communication ability and a desire to communicate, having large numbers of high apprehensives going into practice may not be in the best interest of the profession.

In response to pharmacy's projected new roles, many schools of pharmacy have instituted, or are planning communication courses. These courses are primarily skills oriented. Having good skills does not necessarily reduce communication apprehension. Since CA is cognitive (and often irrational), skills training will not help the problem of the high CA student. In fact, "forcing" a student to demonstrate communication skills in the classroom can make the problem of the high apprehensive worse rather than better(6). Therefore, a dilemma exists. Pharmacy students certainly need to acquire certain communication skills and competencies before they enter the practice setting, yet the high CA student may actually suffer from this type of training alone. A solution is to employ methods in a classroom setting that will reduce or alleviate much of the anxiety of the high CA student before or during skills training.

Systematic desensitization (SD) and cognitive restructuring (CR) have been used to treat other cognitive problems such as test anxiety, vaginismus, stress, and guilt(7-10). Since overcoming high CA requires either clinical or quasi-clinical methods(6), SD and CR have been used successfully to reduce communication apprehension(11-16).

Systematic desensitization involves a program of deep muscular relaxation paired with a communication apprehension hierarchy. The reason SD works is quite simple. As Goldberg points out, "Much of what we feel as anxiety is our reaction to body sensations caused by muscle tension and constricted blood flow...It is not possible for muscles to be both tense and relaxed at the same time...relaxation and tension are competing responses. Both can be learned, and the strength of one will inhibit the other as a response to a discrete set of stimuli."(9) Therefore, if a person can be taught to be cognitively aware of muscle tension, and relax muscles in the presence of anxiety producing stimuli, anxiety will be reduced as a result.

Cognitive restructuring, as well as SD, is based on learning theory. Cognitive restructuring involves getting people to realize that they have learned (been conditioned) to think negatively about themselves and teaching them to think positively. CR...
relies on making people aware of their own negative statements, behaviors, and cognitions and then asking those people to change these negative statements into positive ones (13). Finally CR also attempts to change a person’s cognition about the communication process.

A pharmacy communication course employing SD, CR and skills training was developed in the Fall of 1981 at West Virginia University (WVU) and further modified at Auburn University in 1982. This paper describes an account of that course and implementation procedures for the SD program. In addition, the impact of the course and the programs are presented.

METHODOLOGY

The subjects in this study included all students enrolled in the WVU School of Pharmacy’s required course entitled, “Professional Aspects of Pharmacy Practice.” It is a semester long (15 weeks), three credit hour course for second-year pharmacy students (fourth college year). A total of 60 students were enrolled. The class was divided in half alphabetically into Tuesday and Thursday sections. Each section was broken down further, later in the semester, when relaxation training and role-playing began. Each section was taught by the same instructor and met approximately two and one-half hours each week. Smaller sections were necessary to “personalize” the class. Students in each section were asked not to discuss the activities in their section with students in other sections. Attendance in the class was mandatory. Students were told that each unexcused absence would cost them a letter grade.

The CA levels of the students in the study were determined by the Personal Report of Communication Apprehension (PRCA) (see Appendix A), which is the most widely used measure of CA. The 24 item PRCA measures communication apprehension in four contexts: (i) group; (ii) meeting; (iii) dyadic; and (iv) public speaking. The population mean for the total score on the instrument (based on N = 10,000) is 65.6 with a standard deviation of 14.1. High CA is defined as a score of 79 and above or approximately one standard deviation above the mean. The PRCA has been demonstrated to have high reliability and validity (2,3). Internal reliability for this sample of pharmacy students was 0.92. Test-retest reliability in a previous study was 0.76, which indicated the stable enduring nature of CA (4).

The PRCA was administered in each section on the first day of class. All students completed the instrument. No explanation of the instrument or its purpose was given to the students. They were simply told that it would be explained to them at the end of the semester. At the end of the fifteen week semester, the same students filled out the PRCA again in order to estimate what effects, if any, the course had on reducing communication apprehension.

Table I. Course activity account

<table>
<thead>
<tr>
<th>Week(s)</th>
<th>First 90 minutes</th>
<th>Last 60 minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Fill out PRCA; Meyer-Briggs; Overview of Course; Read, discuss “Birth”; Meaning of words</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Student introductions</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Film, “What You Are Is Where you Were When”</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Barriers to pharmacy communication</td>
<td>Meyer-Briggs groups</td>
</tr>
<tr>
<td>5</td>
<td>Transactional analysis</td>
<td>Intro to SD program</td>
</tr>
<tr>
<td>6</td>
<td>Transcript. Intercourse story</td>
<td>SD training, Role playing</td>
</tr>
<tr>
<td>7</td>
<td>Discussion of books</td>
<td>SD training, role playing</td>
</tr>
<tr>
<td>8</td>
<td>Exam</td>
<td>SD training, role playing</td>
</tr>
<tr>
<td>9</td>
<td>Medical interview</td>
<td>SD training, role playing</td>
</tr>
<tr>
<td>10</td>
<td>Speech presentations</td>
<td>View, discuss video tapes</td>
</tr>
<tr>
<td>11-14</td>
<td>Speech presentations</td>
<td>Nonverbal communication</td>
</tr>
</tbody>
</table>

PRCA scores of greater than 60 but less than 79 (N = 24). Students in Subsection III had PRCA scores of 59 or less (N = 20). Students in Subsection I and II were required to enter into a systematic desensitization (SD) program consisting of deep muscular relaxation combined with a communication anxiety hierarchy. The procedure employed was that outlined by McCroskey (15).

Two Speech Communication PhD candidates and a professor in behavioral pharmacy were trained simultaneously to administer the SD program. One PhD candidate administered the SD program to the Tuesday Subsection I, the other PhD candidate worked with the Thursday Subsection I. The professor worked with both of the Subsection II groups.

The main course instructor took both Subsection III groups into videotaped role play situations (skills training) while the other subsections were in the SD program. All students in the SD program were told they could leave that program and enter into Subsection III where students were doing role plays at such a time as they would feel comfortable doing so.

WEEKLY COURSE ACTIVITIES AND CONTENT AREAS

Week I. During the first day of class, and before an overview of the course was given, the students completed the PRCA; followed by administration of the Meyer-Briggs Personality Inventory (17). After an introduction to the course was given, which included a discussion of communication apprehension, the students were asked to read a poem (Appendix B). Their reaction to the poem were sought. Students felt that the poem

Within the WVU pharmacy curriculum, communication skills are a component during the second professional year.

While this questionnaire is designed as a measure of the subjects' cognitive orientation toward communication and is not a measure of actual behavior, numerous studies have indicated the high association of the scores on the PRCA and actual communication behavior. It is particularly highly associated with amount of talk in which the individual is willing to produce and the likelihood of an individual withdrawing from or avoiding communication situations (2,3,17).

It takes approximately one hour to train an individual to be qualified (or competent) in administering a systematic desensitization program.
was very strange and somewhat sadistic. When told the title of
the poem was "Birth," and the poem reread, their impression of
the poem was quite different. The purpose of this exercise was
to point out that words have no inherent meanings, and that
people and context give words meaning. Additional examples
discussion of this concept provided a beginning to the
cognitive restructuring process.

Week 2. The entire session was spent allowing the students to
to know each other better. The students were randomly
paired in dyads and asked to interact with each other. Each
student was asked to introduce the other to the class. They could
stay seated or stand, whichever was more comfortable for them.
Students could ask each other anything they wanted. However,
each student had to identify what made them happy, angry, sad,
and what they felt they could do better than most people.

The purpose of this session was to provide a dyadic inter-
action experience and personalize the class. Moreover, it forced
all students to make at least one positive statement about
themselves (cognitive restructuring). Students reported verbally
that they enjoyed the session. In fact, the overwhelming re-
sponse from the class was that it was unfortunate that they didn't
got to know each other better before this.

Week 3. The film, "What You Are Is Where You Were When" was shown(18). The film deals with the formation of
values. In particular, the film looks at what major events
affected the values of people from the age of 10 through 60,
when they were 10 years old. A discussion of the material in the
film followed. The major conclusion of the film and the dis-
cussion was that values impact considerably on the behavior and
communication of people. In addition, two people can have
diametrically opposed values, yet they can both be correct in
their views. Acceptance of this concept is part of the cognitive
restructuring process.

Week 4. The first ninety minutes of class were spent on a
discussion of barriers to effective communication in patient-
pharmacist, pharmacist-physician relations. Topics included
language barriers, jargon, ego battling, privacy, and so on.

The remaining time involved putting the students into
groups according to their Meyer-Briggs profiles, although the
students were unaware that the groups were not randomly
selected. The students were told that all of them needed a kidney
dialysis machine, but only one person per group would get it.

This exercise effectively demonstrated to the students that people
exercise was used to reinforce the notion that words
realistically do process information differently. It was stressed that
they really do process information differently. It was stressed that
there were right or wrong ways to resolve the problem with
which they were confronted.

Week 5. Transactional analysis (TA) was the topic of dis-
cussion for this week. The lecture focused on game playing,
manipulative behavior and the formation of the I'm Not OK—
You're OK life position(19). Crossed, complementary and
ulterior transactions were illustrated. The nonverbal behavior
that accompanied parent, adult and child ego states was also
demonstrated.

The purpose of teaching transactional analysis was to give the
students a tool to help them understand how to communicate
more effectively. They were told that TA was not at all a
complete explanation of human behavior. Emphasis was placed
on confronting game playing and identifying ego states.

The last hour was spent on an introduction to the systematic
desensitization program. All students were exposed to a ses-
sion of deep muscular relaxation paired with a few items on the
anxiety hierarchy. The reasons for introducing the SD program
were to all students to give them an idea what was involved. In
addition, there is a tendency for students to be somewhat
uncomfortable, and hence, "giggly" when they are exposed to
a very different technique as this. The initial session was to
help them get over this initial uncomfortable feeling. Moreover, it
was pointed out to all students that communication apprehen-
sion is not an affliction. It is not good or bad; it just is.
Therefore, skills training was not more important than anxiety
reduction, or vice versa.

Week 6. The students were asked to read a transcription of a
tape-recorded group discussion. They were asked to make sense
out of it, even though the transcript lacked punctuation. They
found this task somewhat difficult, but did manage. The tran-
script involved a conversation between an instructor and phar-
acy students about inappropriate prescribing. Communication
constant was ineffective in the transcript. This exercise was
employed to identify why it was ineffective and what could be
done to improve the situation. The class found the exercise to be
quite useful. This exercise took one hour.

In the next half hour, students were read a four sentence
story (see Appendix C). They were asked to respond to six
statements about the story as either true, false, or "?" if the
story did not provide the information asked. The story was
repeated after the initial reading. The responses to each state-
ment were quite varied, as predicted.

This exercise was used to reinforce the notion that words
have no inherent meaning. The students constructed their own
reality about the story from their values and past behavior.
Hence, the outcomes were different in responding to the six
statements. Again, this exercise employed the use of cognitive
restructuring.

During the last half hour, the groups were divided into their
subsections. Subsection I and II went into the SD program with
their instructors and Subsection III went into role-playing with
the course instructor. The last class hour of weeks 6 through 10
was handled in an identical manner.

The students involved in the role-playing sessions (low
CA's) were taken to a videotape studio where a mock pharmacy
was set up. Each of these students was required to do a role play
as either a patient, physician or a pharmacist. They were
videotaped and then the role play was constructively reviewed
by the class and instructor. Transactional analysis, assertiveness
training and other methods were incorporated into the role plays
and their evaluations. Individual attention and some coaching
was given to each student. An attempt was made to deal with each student's apprehension on an individual basis. The role plays done in Tuesday's Subsection III were different than those of Thursday's Subsection III. Later in the semester, each section would view the other's role plays. A sample role play and its objectives is shown in Appendix D.

Weeks 7 and 8. Three books were required reading for the course: (i) Your Errorneous Zones(20); (ii) I'm OK—You're OK(19); and (iii) When I Say No I Feel Guilty(21). These two weeks were used to discuss the 'philosophies' espoused in these books. As important as the content of these books was the vast differences among the students' opinions on the utilities of any given book. Students had especially strong and diverse reactions to Dyer's Your Errorneous Zones. It was important to emphasize to the students how their values affected their opinion of the book. It was also important to point out that all of them were equally 'correct' in their opinions.

When I Say No I Feel Guilty formed the foundation of assertiveness training. Many of the techniques taught were used in the role plays. All of the books and subsequent discussions gave the students tools they could use to prevent others from manipulating them in order to obtain "equality" in communication with others. They helped provide a feeling that they had a right to equality in communication.

Week 9. An open book, open note essay exam was given during the first ninety minutes. The remaining hour involved the SD program and role playing as mentioned previously.

Week 10. Students read an interview between a physician and a new patient. The physician was both condescending and manipulative. The patient was very nonassertive (see Appendix E). Techniques discussed in class and in the books were used to construct a more caring, empathetic communicative interaction between the patient and physician.

Weeks 11 through 15. Each student was required to present a talk to the students in their section. This assignment was described as the opening 5-10 minutes of a longer talk. Students could choose from a topic list provided by the instructor or have a topic of their own approved. In either case, students had to identify to what audience they would actually present the talk. For example, a talk on birth control to a PT A group might be quite different than the same topic given to high school students. Both the students (actual audience) and the instructor evaluated the presentations on a rating instrument. The instrument was given to the students at the beginning of the semester so they would know how they would be evaluated.

While some comments were made after each presentation, all students were required to see the instructor individually in order to find out their presentation score. In this manner, the instructor could privately discuss the presentation with the student in a calm, relaxed atmosphere.

For Weeks 11 through 14 the videotapes that the Thursday section made were shown to the Tuesday section (and vice versa) for the second half of the class. While many of the students did not physically participate in the role playing because they had not been in the SD program, this allowed them to observe and discuss some necessary communication skills. Admittedly, their lack of actual role playing participation was a weakness of the course in that high CA students did not receive this opportunity for practicing their communication skills. Time did not permit another arrangement. However, reducing communication apprehension was as important a course goal as skills training. In addition, the role playing group received additional skills training by viewing the other section's tapes. The last hour of Week 15 was spent on a formal lecture on nonverbal communication. Students also completed the PRCA post test.

During all phases of the course the students were constantly reminded by all instructors that what they were receiving were tools. In order to change their behavior and cognitions they needed to practice using these tools outside of the classroom. It was especially emphasized to the high and moderate CA groups that CA is learned and that the SD program and techniques had to be reinforced by them outside of the classroom.

The SD PROGRAM

Before pursuing a discussion of the results, a more complete explanation of the SD program is in order. To put a program into full operation, it is essential to first identify those individuals who need treatment. This can be done by using the PRCA. It is recommended that students with scores of 52-70 be included in one group and those with scores of 70 and above be included in another group. Because students will have to complete an anxiety hierarchy (see Appendix F), it will take students with higher CA scores longer. Therefore, it is not a good idea to have mixed groups. In the 52-70 group it has been found that it will take students two or three weeks (one 50 minute session per week) to complete the hierarchy and five or six weeks for the 70 and above group.

In general, administration of the SD program requires a small quiet room (per group), comfortable chairs, a tape recorder, and the relaxation tape. Small groups of individuals are optimal. The most essential ingredient in the administration of the systematic desensitization program is comfortable seating. Individuals are asked to relax, and these are individuals for whom relaxation is not easy. Thus, the more comfortable the seating, the easier it will be to relax the people.

The general procedure for operating the program is rather straightforward. Subjects should be seated in comfortable chairs and told by the trainer to lean back, close their eyes and relax. Room lights should be either dimmed or turned off. Because subjects must keep their eyes closed during the training session, individuals wearing hard contact lenses should be prepared to take them out.

Trainees should be told that whenever they feel tension once the relaxation tape has been played, they should indicate that tension by raising the index finger of their right hand. In this way, responses are kept confidential between trainer and trainee.

After the trainer is certain that this instruction is clear, the relaxation tape should be played. When it is completed, the tape recorder should be quietly unplugged, and the trainer should continue to give relaxation instructions similar to those on the tape.

The trainer should check to make sure all subjects are awake, even though their eyes are to remain closed. Tell the trainees that when their name is called, they should indicate that they hear it by raising the index finger of their right hand. Because a deep state of relaxation can be achieved, some subjects may fall asleep. If a trainee does not respond when their name is called, quietly and gently tap the trainee on his/her ankle or foot. Then give another minute of so of relaxation instructions.

It is now time to begin administration of the communication

Appendix F:" 


In the course developed at Auburn University, all students participated in role plays and other simulations after receiving the SD program.

Copies of the relaxation tape are available from the author at $5.00 per tape.

Make checks payable to Auburn University School of Pharmacy.
apprehension hierarchy. The first item on the hierarchy should be presented to the subjects by the trainer and then he should remain silent for a period of 15 seconds. If any trainee indicates anxiety during that 15 seconds, the trainer should ask all of the trainees to put the image of the anxiety stimulus out of their minds and concentrate on relaxation. He should continue to give relaxation instructions for a period of 15 to 30 seconds. After that time, he should again ask the subjects to visualize the anxiety stimulus. If the 15 second period elapses with no indication of anxiety from any trainee, the trainees should be asked to put the image out of their minds and go back to relaxing. The trainer again gives additional relaxation instructions for about 15 to 30 seconds. After that time the anxiety stimulus should again be administered with a pause of 30 seconds. If any trainee indicates anxiety during the 30 second period, the trainees should be asked to put the image out of their minds and go back to relaxing and receive more relaxation instructions. This procedure is continued until it is possible for all trainees in the group to visualize the anxiety stimulus for 15 seconds without indication of anxiety and for 30 seconds without indication of anxiety. When sequential 15 and 30 second intervals have been completed with no indication of anxiety, the trainer may then go on to the second anxiety stimulus in the communication apprehension hierarchy. This procedure is continued until the end of time for treatment at a given setting or until the hierarchy is completed.

Sessions should last no more than 50 minutes to an hour. Including the time used in listening to the relaxation tape. As the time for completion nears, the trainer should go down the hierarchy to the last stimulus which the trainees successfully completed with no anxiety indication. This stimulus should be presented for a 60 second pause by the trainer. If no trainee indicates anxiety during this period, treatment may be terminated with the assurance that all subjects will leave the treatment session in a low state of arousal. If any trainee indicates anxiety during this period, the trainer should move back to still a less anxiety provoking stimulus that has been successfully completed and administer it for a 60 second period.

Treatments should be continued for a preset number of sessions, such as 5 to 7. This will normally permit the completion of the anxiety hierarchy by all trainees. At this point the trainees should be asked again to complete the PRCA. Those individuals with scores 60 or below should be considered cured and should be removed from treatment. Those individuals who still report moderate to high levels of communication apprehension should be formed in new groups and treatments should continue for another 5 to 7 sessions. At that time, the individual again should be asked to complete the PRCA. By this point, almost all trainees will have overcome their communication apprehension. However, some individuals do not respond to systematic desensitization. This small number (probably less than 5 percent) might be encouraged to seek professional assistance from a psychologist.

Although the research indicates that the effects of systematic desensitization are maintained for extended periods of time, if the program is an ongoing one, it would be useful to reinforce the effects of systematic desensitization on communication apprehension for those individuals who have been identified as cured by giving them single session treatments at 3 to 6 month intervals for the following year or two.

DETERMINING THE EFFECTS OF THE PROGRAM

Any program that involves the outlay of time or money by a school or business should be subjected to a systematic program evaluation. A program of systematic desensitization for communication apprehension should be no exception. Although there is no reason to believe that a program implemented in the manner discussed above would not be extremely successful, it still should be put to the test.

There are at least three ways of evaluating a program of systematic desensitization for communication apprehension that seem to be appropriate. The first method is analogous to the procedures which have been employed in the research on systematic desensitization. This procedure involves administration of the PRCA to people who have been treated and to people who have not been treated but who, on earlier tests, indicated that they were in need of treatment. Not everyone who is offered treatment accepts it. Thus, in any school or business there will be people who have volunteered for treatment who are in other ways comparable. If the scores on the PRCA are not substantially lower for those who receive treatment than those who have not, this would indicate that the treatment has been unsuccessful.

But systematic desensitization for communication apprehension is not merely designed to lower anxiety scores on the PRCA. Presumably, if communication apprehension is reduced, there should be other behavioral manifestations. In the school environment observations by the students' instructors could be usefully employed as an evaluation tool. In short, their instructors can simply be asked whether or not they have observed any difference in the behaviors of these people. In the business atmosphere, ratings by superiors or more district measures of productivity can serve as a useful evaluation tool.

RESULTS

As pointed out earlier, any student in Subsection I or II who felt that the SD program was not helping or had helped enough was permitted to join Subsection III. After three weeks of the SD program, some students did move to Subsection III. However, only students in Subsection II (PRCA scores greater than 60, but less than 79) did so (N=8). Fourteen more Subsection II students dropped out after the fourth week when the hierarchy was completed. Two students returned for a fifth week. All students in Subsection I remained for the full six weeks.

Table II. Mean communication levels before and after exposure to course

<table>
<thead>
<tr>
<th>Mean (N)</th>
<th>Before</th>
<th>After</th>
<th>Δ</th>
<th>Student's Wilcoxon t*</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students</td>
<td>69.15(60)</td>
<td>58.12(60)</td>
<td>11.03</td>
<td>5.46</td>
</tr>
<tr>
<td>Group</td>
<td>89.06(16)</td>
<td>70.25(16)</td>
<td>18.81</td>
<td>7.24</td>
</tr>
</tbody>
</table>

*p < 0.001. 
*p < 0.0001. 
*p < 0.0002. 
*p < 0.0005.

Table II reports both "Before" and "After" mean PRCA scores for all students and the high CA group. The obtained range was 42-114. Since PRCA scores of 79 and above are considered high CA, 27 percent (16 out of 60) of the students in this study were classified as high CA. One out of four students was severely communication apprehensive before exposure to the course, and presumably would have become a high CA pharmacist if not treated. This proportion is in the normal range for pharmacy students, but higher than the general population portion of one out of five.

The student's t-test based upon paired dependent obser-
vations was used to determine if exposure to the course significantly reduced CA in all students and in the high CA group based upon the students' change scores. A reduction in CA would result in lower PRCA scores. Table II illustrates that exposure to the course did, indeed, reduce CA significantly for all students and for the high CA group alone. Since the PRCA scores are based on data collected from Likert scales, a non-parametric test also was used to analyze the data. The Wilcoxon Sign Rank procedure was felt to be appropriate since non-parametric procedures are not sensitive to outliers in the data. These results, like that of the student's t-test, also indicate that exposure to the course produced significant reductions in communication apprehension (See Table II).

It should be noted that 12 out of the 16 (75 percent) high CA students ended up with PRCA scores below 80 at the end of the course. In addition, the mean score for the group was well below the mean for the whole class, indicating that the high CA group alone. It should also be noted that mean PRCA scores for students in Subsection II dropped significantly (P < 0.005). The average change for this group was 7.3 units. PRCA scores for students in Subsection III dropped 11 units (P < 0.001). Therefore, low CA students (Subsection III), who were not as apprehensive in the first place benefited from skills training. Many students in the moderate group (Subsection III) received SD training and skills training. Therefore, their change scores may be a result of both. Many individuals in the moderate group would benefit from skills training. This is not necessarily true of high CA students. In fact, a follow-up study of pharmacy students at Auburn University School of Pharmacy, high CA students received skills training in addition to the SD program. Their change scores were identical to those of the West Virginia University high CA pharmacy students. Therefore, it does not appear that skills training added to the reduction of the high CA students attained. This does not mean that the high CA student did not acquire additional skills. Since low CA students did benefit from skills training, this certainly indicates the predictive ability of the instrument.

CONCLUSIONS AND IMPLICATIONS

Communication apprehension is a very real problem. High CA people, if left untreated, could become tomorrow's pharmacists with severe CA, posing a problem for the profession.

Systematic desensitization, in conjunction with classroom instruction, cognitive modification and assertiveness training of the type outlined above, appears to be an effective method of reducing CA. The techniques employed in this study can be learned easily by instructors in colleges of pharmacy. This study demonstrated that a communication course based on these approaches could be developed to reduce communication apprehension in pharmacy students. All of these results are particularly pleasing in that optimal individual attention could not be given to each student, as the class sizes were still relatively large.

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References


APPENDIX A. PERSONAL REPORT OF COMMUNICATION APPREHENSION

Directions: Please indicate in the space provided the degree to which each statement applies to you by marking whether you: 1) Strongly Agree, 2) Agree, 3) Are Undecided, 4) Disagree, or 5) Strongly Disagree with each statement. There are no right or wrong answers. Many of the statements are quite similar to other statements. Do not be concerned about this. Work quickly, just record your first impression.

1. I dislike participating in group discussions.
2. Generally, I am comfortable while participating in a group discussion.
3. I am tense and nervous while participating in group discussions.
4. I like to get involved in group discussions.
5. Engaging in a group discussion with new people makes me tense and nervous.
6. I am calm and relaxed while participating in group discussions.
7. Generally, I am nervous when I have to participate in a meeting.
8. Usually I am calm and relaxed while participating in meetings.
9. I am very calm and relaxed when I am called upon to express an opinion at a meeting.
10. I am afraid to express myself at meetings.
11. Communicating at meetings usually makes me uncomfortable.
12. I am very relaxed when answering questions at a meeting.
13. While participating in an interview with a new acquaintance, I feel very nervous.
14. I have no fear of speaking up in conversations.
15. Ordinarily, I am very tense and nervous in conversations.
While conversing with a new acquaintance, I feel very relaxed. Ordinarily, I am very calm and relaxed in conversations.

While giving a speech I get so nervous, I forget facts I really know.

A business man had just turned off the lights in the store when a man appeared and demanded money. The owner opened the cash register. The contents of the cash register were scooped up, and the man ran away. A member of the police force was notified promptly.

APPENDIX B.

"BIRTH"

Floating in darkness,
For what seemed like an eternity,
I am thrown upon a world
Of such light and intensity
That my head spins
And terror shakes my body.

I am suspended,
The whole world turned upside down,
Hanging on by something that totally controls my destiny.

Then a violent eruption.

Pain pierces through my entire body,
I scream in pain to make
The world aware of my presence.

I look around,
And instead of compassion,
I see smiles spread across the faces
Of those that witnessed the torture I have just gone through.

Could it be?
Are these creatures really that sick?
Is it pleasurable for them see my anguish?
This must be a terribly sadistic world.
It is this that I shall learn first and remember always.

APPENDIX C.

INFERENCE

A business man had just turned off the lights in the store when a man appeared and demanded money. The owner opened the cash register. The contents of the cash register were scooped up, and the man ran away. A member of the police force was notified promptly.

1. A man appeared after the owner had turned off his store lights (T)
2. The robber was a man. (T)
3. The man did not demand money. (F)
4. The owner opened the cash register. (T)
5. After the man who demanded the money scooped up the contents of the cash register, he ran away. (T)
6. While the cash register contained money, the story does not state how much. (T)

Special features:
a) better educated, higher IQ group
b) some awareness that the subject involves communications
c) not emotionally involved in the story
d) only four sentences
e) told explicitly, repeated, copied, etc.

APPENDIX D.

B.C. Problem

Female Patient
You have just finished your last month of Demulen and started your period on day 5 of your cycle. You are to start a new prescription for Ovral. Your gynecologist has switched you because he says that the Ovral is longer dosed and you don’t need as much of those hormones in your system. A few friends have told you that if you are going to switch that it probably would be a good idea to use a spermicide foam. You go to the pharmacy and get a package of Emko foam from the shelf. You walk up to the pharmacist and say to him, “Do I need to use this?”

Don’t tell the pharmacist who recommended the use of the foam unless he asks.

The Pharmacist will start the conversation...

APPENDIX E. MEDICAL INTERVIEW

Imagine the following hypothetical situation: On the advice of a co-worker, Josephine Wilcox has decided to consult Dr. Smith. Both Josephine and Dr. Smith are new to the area and to date have not met
each other. Josephine plans to make a decision, based on what happens
the first time she meets Dr. Smith, as to whether or not she will
continue seeing Dr. Smith. She also hopes to get some help for a
medical problem(s) she has.

Dr. Smith's patients are screened briefly by his nurse. The nurse has
indicated the following on Josephine's new patient file: Josephine
Wilcox, married, age 33, college professor, weight 145, height 5'4'',
BP 110/90, no known health problems. Stated reason for consulting
MD: wants a reducing diet.

Further imagine that in advance of the scheduled office visit both
Josephine and the doctor are having the following thoughts in
anticipation.

Josephine: Darn, I wish this appointment were over! Normally I feel
pretty intelligent and in control of things. But not so in a
doctor's office. . .there I really feel uncomfortable. Logically
I know a doctor is no different than anyone else, but at
the gut level I still react like the doctor is really superior to
me. I do hope this doctor is understanding, not only about
my weight, but everything. I'm not sure I can tell him what
my problem really is. . .we'll just have to wait and see.

Doctor: (looks at Josephine). . .Hmm. . .I hope you eat break-
lfast. Oh yes. . .I hope you eat breakfast.

Josephine: Uh, no. I guess not. Thanks doctor. . .I'll see you in two
weeks.

The Actual Encounter

Doctor: Hello. . .you're Josephine Wilcox?
Josephine: Nods "yes."
Doctor: Please sit down and make yourself comfortable and don't
look so nervous. I won't bite. . .(smiles as he says this).
I'm Dr. Smith and I'm very pleased to meet you, Josephine.

Josephine: Thank you, doctor.
Doctor: (Consults chart) Hmm. . .(very serious tone of voice) You
want to lose weight?

Josephine: Yes, very much.
Doctor: Why? (without waiting for an answer) So you can look
better for your husband, I suppose.
Josephine: Well, that's part of it, sure.

Doctor: You know, Josephine, there is generally only one way to
lose weight. . .eat less and/or exercise more. You look as
though you exercise. . .is that right?
Josephine: Oh, yes, I do.
Doctor: Glad to hear that! I wish more of my patients did. You
realize that junk food will have to go if you're really serious
about losing weight don't you?
Josephine: Yeah, but really doctor, I don't eat many junk foods.

Doctor: You know, Josephine, not that I don't believe you, but
almost everybody who comes in here for weight control
tells me that. . .I'm always suspicious of people who say
they don't eat many junk foods. Junk foods are just too
available and too convenient for most of us to.

Josephine: Well, maybe you're right, but I don't eat very much
and I can't understand why I'm not losing weight. May
and I eat just about the same things and she lost weight
last month.

Doctor: Well, I'm trying to find out why you haven't lost weight.
Incidentally, your friend and you are not alike so I'd
like you understand why we won't make comparisons.
Now tell me about your drinking habits.

Josephine: Well, I don't drink very much.
Doctor: Everybody thinks he or she is a moderate drinker. . .how
much do you drink?
Josephine: At most, one or two drinks a week. . .and that's only
when I go to the university faculty happy hour on Thurs-
evening.

Doctor: (looks at Josephine). . .Hmm. . .I hope you eat break-
fast...
Josephine: Oh yes.

Doctor: Well, let's see. I'm going to give you a diet—it's pret-
self-explanatory. You follow it and let's see what hap-
Before you leave, make an appointment for two weeks from
now and we'll check you then. (checks watch) Anything
else?

Josephine: Uh, no. I guess not. Thanks doctor. . .I'll see you in two
weeks.

APPENDIX F. COLLEGE HIERARCHY

1. (0.3) You are talking with your best friend.
2. (0.9) You are talking to a sales clerk in a department store.
3. (1.2) You are answering the telephone and do not know who's
calling.
4. (1.7) You are talking to a member of another race.
5. (2.4) You are talking to a policeman in a restaurant.
6. (2.7) You are talking with a minister.
7. (3.2) You are about to talk with your academic advisor.
8. (3.9) You are trying to make conversation with your date whom
you have not dated previously.
9. (4.2) You are trying to make a point at a bulletin session. and you
notice that everyone is looking at you.
10. (4.5) Each person in a group discussion has given his opinion and
it is your turn next.
11. (5.3) You are going in for an interview with a potential employer.
12. (5.7) You are scheduled to give a presentation in a panel
discussion.
13. (6.1) You are to give a speech in class today.
14. (6.4) You are getting up to give a speech on a topic that the
previous speaker just covered thoroughly.
15. (6.7) Your instructor has just called on you to give an impromptu
speech.
16. (7.0) You are about to give your speech and you find that you have
lost your notes.
17. (7.1) It is the night before an important speech and you are not yet
prepared.
18. (7.1) You have been asked to give a speech on a local television
show.