

Selecting Students with Personal Characteristics Relevant to Pharmaceutical Care

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This article proposes that pharmacy schools incorporate formal assessments of self-reported empathy in the admissions process. A valid measure of this construct will allow for the selection of students with the personal qualities necessary for patient counseling and other aspects of pharmaceutical care. With this in mind, two approaches to measuring self-reported empathy (forced-choice format versus direct self-ratings) were examined to determine which method was the best predictor of patient counseling skills. The results suggested that forced-choice self-descriptions of empathy were more predictive of performance in simulated patient-pharmacist interactions than a more traditional, direct self-rating approach. Suggestions for the appropriate use of self-reported empathy in the pharmacy school admissions process are discussed.

INTRODUCTION

The full implementation of pharmaceutical care will require practitioners that are committed to working with patients with a caring, compassionate concern for their total well-being. Pharmacy education has a primary responsibility for producing graduates with qualities that contribute to this helping orientation. While these qualities may, to some extent, be engendered by appropriate educational experiences(1), an admissions process that selects for individuals with a helping orientation may increase the likelihood of success(2,3).

According to Carl Rogers, one of the most influential theorists in the counseling professions, one prerequisite to effective helping relationships is empathy. Empathy may be defined as "the ability to accompany another to wherever the other person's feelings lead him."⁽⁴⁾ In Roger's view, empathy enables practitioners to establish the trusting relationship necessary to help patients. Studies of practitioner-patient interactions in health settings have confirmed that practitioners who are high on measures of empathy, as rated by trained observers, elicit more positive responses from patients than practitioners low on measures of empathy(5).

In light of research which suggests that empathy is an important quality for helping relationships, including health practitioner-patient relationships, it is proposed that pharmacy schools include an assessment of this trait, along with more traditional criteria (*e.g.*, GPA and PCAT scores) for use in admission decisions. However, a valid and practical measure of this construct is needed before it can be introduced into the pharmacy school application process.

Difficulties in Selecting Empathic Students

Empathy, like any personality trait, is a difficult construct to measure accurately. This is particularly true in college admissions or job applicant situations where respondents wish to create a positive impression(6). For example, pharmacy school applicants, if asked whether they enjoy helping people or if they are caring individuals, may answer in the affirmative

if they realize these traits are considered to be important for future health professionals. Because the questions included in most inventories which measure empathy are very obvious in their intent, they may be of little use in discriminating between applicants who are truly empathic and those who are "faking it" in order to be selected for admission to pharmacy school.

The inclination to fake responses to present a positive image, known as "social desirability," limits the usefulness of many self-report psychological inventories(6,7). For example, in one study of simulated patient-health practitioner interactions, Jarski(8) found that students' self-reported empathy scores were unrelated to behavioral measures of empathy, as assessed by trained observers. Invalid self-ratings, such as those found by Jarski, hinder the predictive validity of such instruments. In other words, self-ratings that are inaccurate will not allow for the prediction of behaviors that are supposed to be related to a particular personality trait.

To overcome the problem of social desirability associated with the use of many personality inventories, some inventories utilize a forced-choice format, which requires respondents to choose between equally positive alternatives when describing themselves(6). In one adaptation of this methodology, Duncan-Hewitt attempted to create a personality inventory to identify applicants who possess the necessary qualities to practice patient-centered pharmacy(8). The instrument instructed applicants to write down three nonacademic activities in which they were involved over the past year. Afterwards they were asked to choose, from a list of positive descriptors, up to three adjectives to describe themselves when they participate in each of the three activities. She then compared their responses to a list of 35 descriptors previously identified by community pharmacists as necessary for practicing pharmaceutical care to determine which students would be most likely to be successful. She tested the predictive validity of the inventory by examining the relationship between students' responses and performance in the first year of the problem-based and practice-oriented curriculum at the University of Toronto. She found that students'

scores on the personality inventory were a significant predictor of academic success in that curriculum.

Although a number of studies have investigated the relationship between personality variables and various indicators of academic performance in pharmacy school(9,10), very few studies have specifically examined the relationship between personal characteristics and performance in patient counseling situations. The lack of a valid personality assessment forces many pharmacy schools to rely on personal interviews and standard questions, such as "Why do you want to become a pharmacist?" to assess the extent to which applicants are interested in patient counseling during the admissions process. These strategies are not very likely to produce meaningful information, as many applicants realize that "helping people" is the expected response.

Goals of Present Study

The primary goal of this study is to examine the relationship between self-reported empathy and patient counseling skills among first-year pharmacy students. The predictive validity of two different instruments designed to measure empathy was tested. One instrument employed a forced-choice self-ratings format, similar to the one created by Duncan-Hewitt. The other instrument utilized a traditional, direct self-ratings approach. It was predicted that the forced-choice instrument would be more strongly related to performance in a simulated patient counseling exercise than the direct self-rating instrument.

METHODS

All first-year PharmD students (N=99) in a required course, "Communication Skills in Pharmacy," at the Virginia Commonwealth University (VCU) School of Pharmacy were asked to participate in the study.

Overview

This study employed a classical "longitudinal prediction model", which is a common method for assessing the validity of an employee or student selection process(6). The first step in this model is the measurement of at least one "criteria" variable on a large group of candidates. Actual performance, known as the "criterion" variable, is measured at a later date. The relationship between the criteria and criterion behaviors are then assessed to determine the degree of the relationship. The stronger the relationship, the greater the predictive validity of the criteria variable. In this study, two measures of self-reported empathy (forced-choice self-descriptions versus direct self-ratings) were employed as criteria variables, with performance in a simulated patient-pharmacist interaction as the criterion variable.

Materials

Forced-Choice Self-Description Inventory. This inventory, adapted from Duncan-Hewitt(9), includes two sections. In column 1, students listed at least three nonacademic activities in which they were involved that were most important to them, such as community service, employment, hobbies, sports, etc. In Column 2, students identified up to three qualities from a list of 111 descriptors which they felt each activity demonstrated. Empathy scores were calculated by summing the number of descriptors related to empathy that were chosen by each student. Total scores on this inventory could range from 0 to 3.

Direct Self-Description Inventory. This inventory contains 24 adjectives previously shown to load on an "interpersonal sensitivity" dimension of Bern's Sex-Role Inventory(11,12). Students were asked to rate the extent to which a series of adjectives, such as sensitive and warm, describe them on a scale ranging from 1 (not at all) to 7 (very much). This scale proved to be high in internal consistency (Cronbach's coefficient alpha = 0.88).

Patient-Pharmacist Interaction Scenario. A scenario with a difficult patient was deliberately chosen for this exercise, as the purpose was to determine whether students could respond to a potentially negative interpersonal situation in a compassionate and caring manner. The following information was given to the students prior to the simulated patient-pharmacist interaction:

You are a pharmacist at Friendly Pharmacy, an independent pharmacy in a suburban neighborhood of a large metropolitan area. You are extremely busy one afternoon, when the following event occurs:

After waiting in line for 15 minutes, a new customer named Ms. Smith approaches the counter. Before you get a chance to address her, she announces "What's going on in here today? I'm 6 months pregnant, I've got a 3 year old with an upper respiratory infection with me, and this is the longest I've ever had to wait to get a prescription filled." As you listen to this woman, you notice that she is smoking. You realize that this is not only against your store policy, but it is also having a negative effect on both her 3-year old and her unborn child.

(If you choose to address the smoking issue, please be aware that Nicotrol and other such products are generally not recommended for pregnant women. The only safe smoking cessation methods for pregnant women involve behavioral approaches, such as avoiding places where other people smoke and substituting other behaviors in place of smoking.)

Ms. Smith's prescription is for an antibiotic called Augmentin, which you conclude is for the 3-year old's upper respiratory infection. The directions specify that the child should take 1 chewable tablet (250 mg) three times per day after eating. When you attempt to process the payment for the prescription, you find it is not covered by Ms. Smith's insurance plan and she must pay \$55.95 for the medication out of her own pocket.

Please note that all technical information, including the antibiotic dosage amount and directions, is correct in this scenario. The scenario will begin with the patient's remark, "What's going on in here?" Please address the issues relevant to pharmacist-patient communication in your response.

Rating Scales

The students' interactions were rated on several dimensions of importance in helping relationships suggested by Egan(13) and Strong(14) from the counseling psychology and social psychology literature:

Nonverbal Communication Skills. Students were rated on five items related to their non-verbal communication skills (e.g., “Faces patient squarely”) on a scale ranging from 1 (Needs a lot of improvement) to 5 (Very Good). Cronbach’s coefficient alpha was 0.76 for the pharmacists’ ratings, 0.78 for the instructors’ ratings, and 0.84 for the counseling psychology students’ ratings.

Verbal Communication Skills. Students were rated on seven items related to their verbal communication skills (e.g., “Paraphrases patient accurately) on a scale ranging from 1 (Needs a lot of improvement) to 5 (Very Good). Cronbach’s coefficient alpha was 0.79 for the pharmacists’ ratings, 0.77 for the instructors’ ratings, and 0.73 for the counseling psychology students’ ratings.

Empathy. The pharmacists and psychologists rated the extent to which a list of 24 adjectives related to empathy (e.g., caring) described each student’s performance on a scale from 1 (not at all) to 7 (very much). Cronbach’s coefficient alpha was 0.95 for the pharmacists’ ratings, 0.95 for the instructors’ ratings, and 0.96 for the counseling psychology students’ ratings.

Expertise. The pharmacists and psychologists rated the extent to which a list of five adjectives related to expertise (e.g., competent) described each student’s performance on a scale from 1 (not at all) to 7 (very much). Cronbach’s coefficient alpha was 0.93 for the pharmacists’ ratings, 0.93 for the instructors’ ratings, and 0.92 for the counseling psychology students’ ratings.

Likability. The pharmacists and psychologists rated the extent to which a list of five adjectives related to likability (e.g., pleasant) described each student’s performance on a scale from 1 (not at all) to 7 (very much). Cronbach’s coefficient alpha was 0.95 for the pharmacists’ ratings, 0.93 for the instructors’ ratings, and 0.96 for the counseling psychology students’ ratings.

Trustworthiness. The pharmacists and psychologists rated the extent to which a list of five adjectives related to trustworthiness (e.g., reliable) described each student’s performance on a scale from 1 (not at all) to 7 (very much). Cronbach’s coefficient alpha was 0.93 for the pharmacists’ ratings, 0.92 for the instructors’ ratings, and 0.97 for the counseling psychology students’ ratings.

Procedure

This research was conducted during the laboratory sessions of a “Communication Skills in Pharmacy” class. Instructors for each class included an advanced PhD student in either counseling or social psychology and a practicing pharmacist who acted as a resource person. Classes ranged in size from 9-12 students. Students completed both the forced-choice self-description inventory and the direct self-description inventory at the beginning of the fall semester. They were asked to turn in their responses for research purposes on a voluntary basis.

Ten weeks after the first day of class, students were videotaped role-playing a pharmacist in a simulated patient-pharmacist interaction. The patient roles were played by the course instructors. Instructors’ responses were scripted in order to standardize the scenario as much as possible. For example, if

Table I. Characteristics of students

	N	Percent
Sex		
Male	12	14
Female	73	86
Age		
Under 21	33	37
21-25	37	42
26-30	11	13
31 or older	7	7
Race		
White	55	63
Non-white	33	37

the student addressed the smoking issue, the instructor replied, “I’ve tried everything and I just can’t stop.” Scripted responses were developed for all other anticipated questions and comments as well to ensure that the situation was similar for all students. Both the instructor and the practicing pharmacist evaluated the students after the students left the room, immediately following each of the simulated interactions. The week following the videotaped interactions, students viewed the videotapes as a class and critiqued their performances.

Additionally, all students were asked to turn in their videotapes so that a group of three graduate students in counseling psychology could evaluate the tapes at a later date. These graduate students were used as raters because of their specific training in communication and helping relationships. Also, they were able to provide less biased evaluations of the pharmacy students because they were not personally acquainted with them. The use of graduate students in counseling psychology for rating the interpersonal skills of health practitioners has been employed in previous studies of patient-health practitioner interactions(5). Approximately 65 percent of the pharmacy students signed a consent form and received a \$10 payment for the release of their videotapes for this portion of the study.

Data Analysis

The first set of analyses examined the relationship between forced-choice self-ratings of empathy and characteristics related to effective patient counseling, as assessed by course instructors, consulting pharmacists, and counseling psychology graduate students. A series of regression analyses were performed between forced-choice self-ratings of empathy and each of the performance indicators. Because each of the nine sections of the class had a different instructor and rater, section codes were entered into each regression equation first in order to remove variance due to differences in training and in the stringency of evaluations between raters. Self-reported empathy scores were then entered into the equation to examine the relationship between self-reported empathy and each indicator of performance.

Parameter estimates are provided for all main effects of self-reported empathy to describe the strength and direction of its relationship with ratings made by the course instructors, consulting pharmacists, and counseling psychology graduate students. Significant main effects for the section codes are also noted, when appropriate. Post-hoc analyses of any main effects for section codes are not presented here, however, as the purpose of this analysis is to simply remove extraneous variance and not to examine differences in performance ratings between sections.

A second set of analyses, identical to those just described, were conducted to examine the relationship between direct self-ratings of empathy and indicators of patient counseling performance. The number of significant relationships between self-reported empathy and performance ratings will be compared for the forced choice self-rating instrument versus the direct self-rating instrument to determine which instrument has the most predictive validity.

RESULTS

Eighty-eight (88 percent) of the first-year PharmD students at VCU participated in this study. A more complete description of the study sample is shown in Table I. Mean scores on the forced-choice self-description inventory and the direct self-description inventory were 0.92 (SD=0.92) and 5.73 (SD=0.54), respectively. In other words, the average student selected about one adjective related to empathy using the forced-choice self-description inventory. When completing the direct self-ratings inventory, however, students rated themselves well above the midpoint of the seven-point scale. Because these two inventories use different ratings scales, direct comparisons between scores are not very meaningful. However, there appeared to be more variance associated with the forced-choice inventory, which could mean that it is more discriminating than the direct self-ratings approach. The lower levels of variance associated with the direct self-ratings approach could indicate that students tended to rate themselves in a similar, socially desirable manner.

Means and standard deviations for ratings made by the instructors, pharmacists, and counseling psychology students are shown in Table II. An examination of the means for each of the performance indicators reveals that raters evaluated the students at the mid-point or above on each of the characteristics related to effective patient counseling. Interestingly, of all the personal qualities evaluated, students received the lowest ratings on measures of empathy.

Predictive Validity of Forced-Choice Self-Ratings of Empathy

The results of regression analyses conducted to examine the relationship between forced-choice self-ratings of empathy and performance in the simulated patient-pharmacist interactions are shown below:

Relationship Between Forced-Choice Self-Ratings of Empathy and Course Instructors' Ratings of Videotaped Interactions

Ratings of Communication Skills. Analyses of students' verbal communication skills revealed a main effect for section ($F=22.62$, $dfs=4$, 77 ; $P<0.01$) and self-reported empathy ($F=4.93$, $dfs=1$, 75 ; $P<0.05$). The positive parameter estimate for self-reported empathy, shown in Table III, indicates a positive relationship between the number of empathy-related descriptors students used to describe themselves and course instructors' ratings of students' verbal communication skills. The results also indicated a significant main effect for section on students' nonverbal communication skills ($F=17.54$, $dfs=4$, 77 ; $P<0.01$). However, self-reported empathy was unrelated to course instructors' ratings of students' nonverbal communication skills.

Ratings of Personal Qualities. Analyses of course instructors' ratings of students' trustworthiness revealed a main effect for

Table II. Ratings of simulated pharmacist patient interaction performance ratings from course instructors, consulting pharmacists, and counseling psychology students

Variable	Mean	SD
Instructors' Ratings		
Verbal Skills	3.83	0.65
Nonverbal Skills	4.13	0.55
Expertise	5.33	0.96
Likability	5.33	1.16
Trustworthiness	5.50	1.01
Empathy	4.82	0.85
Pharmacists' Ratings		
Verbal Skills	3.97	0.55
Nonverbal Skills	3.59	0.55
Expertise	5.29	0.9
Likability	5.37	0.89
Trustworthiness	5.31	0.78
Empathy	4.84	0.75
Counseling Psychology Students' Ratings		
Verbal Skills	3.40	0.42
Nonverbal Skills	3.95	0.53
Expertise	5.20	0.63
Likability	5.38	0.81
Trustworthiness	5.50	0.65
Empathy	5.07	0.63

both section ($F=21.77$, $dfs=1$, 69 ; $P<0.01$) and self-reported empathy ($F=15.23$, $dfs=1$, 68 ; $P<0.01$). The positive parameter estimate for self-reported empathy, shown in Table III, indicates a positive relationship between the number of empathy-related descriptors students used to describe themselves and course instructors' ratings of students' trustworthiness.

Analyses of course instructors' ratings of students' empathic qualities revealed a main effect for both section ($F=10.07$, $dfs=3$, 68 ; $P<0.01$) and self-reported empathy ($F=5.39$, $dfs=1$, 68 ; $P<0.01$). The positive parameter estimate for self-reported empathy, shown in Table III, indicates a positive relationship between the number of empathy-related descriptors students used to describe themselves and course instructors' ratings of students' empathic qualities.

Analyses of course instructors' ratings of students' expertise revealed a main effect for section ($F=11.41$, $dfs=4$, 75 ; $P<0.01$). However, the number of empathic qualities reported by the students was unrelated to the course instructors' ratings of students' expertise. Analyses of course instructors' ratings of students' likableness revealed a main effect for section ($F=5.70$, $dfs=4$, 75 ; $P<0.01$). However, the number of empathic qualities reported by the students was unrelated to the course instructors' ratings of students' likableness.

Relationship Between Forced-Choice Self-Ratings of Empathy and Pharmacists' Ratings of Videotaped Interactions

Ratings of Communication Skills. Analyses of students' verbal communication skills revealed a main effect for section ($F=2.54$, $dfs=8$, 75 ; $P<0.05$). The number of empathic qualities reported by the students was unrelated to the pharmacists' ratings of students' verbal communication skills. Analyses of students' nonverbal communication skills also revealed a main effect for section ($F=5.03$, $dfs=8$, 75 ; $P<0.01$). The number of empathic qualities reported by the students was unrelated to the pharmacists' ratings of students' nonverbal communication skills.

Table III. Relationship between forced-choice self-ratings of empathy versus direct self-ratings of empathy and performance ratings

Outcome variable	Parameter estimate for forced-choice self-ratings method (Beta)	Parameter estimates for direct self-ratings method (Beta)
Instructors' Ratings (N=88)		
Verbal skills	0.27*	0.023
Non-verbal skills	-0.027	-0.039
Expertise	0.121	-0.533**
Attractiveness	0.204	0.057
Trustworthiness	0.330**	-0.480**
Empathy	0.219*	0.027
Pharmacists' Ratings (N=88)		
Verbal skills	0.058	-0.064
Non-verbal skills	-0.041	-0.144
Expertise	0.077	-0.200
Attractiveness	0.215*	0.002
Trustworthiness	-0.031	-0.089
Empathy	0.172*	0.049
Counseling Psychology Students' Ratings (N=57)		
Verbal skills	0.143*	-0.136
Non-verbal skills	0.064	-0.142
Expertise	0.119	-0.284
Attractiveness	0.140	-0.365
Trustworthiness	0.066	-0.159
Empathy	0.001	-0.185

Note: Beta weights represent the association between self-ratings of empathy and performance ratings. For each regression analysis, section codes were controlled to remove variance due to differences in training between instructors in different sections.

* $P < 0.05$

** $P < 0.01$

Ratings of Personal Qualities. Analyses of the pharmacists' ratings of students' trustworthiness revealed a main effect for section ($F=6.39$, $dfs=8$, 66 ; $P < 0.01$). The number of empathic qualities reported by the students, however, was unrelated to the pharmacists' ratings of students' trustworthiness.

Analyses of pharmacists' ratings of students' empathic qualities revealed a main effect for section ($F=5.72$, $dfs=8$, 66 ; $P < 0.05$) and self-reported empathy ($F=5.19$, $dfs=1$, 66 ; $P < 0.05$). As shown in Table II, the number of empathic qualities reported by the students was positively related to pharmacists' ratings of students' empathic qualities.

Analyses of community pharmacists' ratings of students' expertise revealed a main effect for section ($F=7.76$, $dfs=8$, 75 ; $P < 0.01$). The number of empathic qualities reported by the students, however, was unrelated to the pharmacists' ratings of students' expertise.

Analyses of pharmacists' ratings of students' likableness revealed a main effect for section ($F=3.23$, $dfs=8$, 75 ; $P < 0.01$) and self-reported empathy ($F=4.53$, $dfs=1$, 75 ; $P < 0.05$). As shown in Table II, the number of empathic qualities reported by the students was positively related to pharmacists' ratings of students' likableness.

Relationship Between Forced Choice Self-Descriptions of Empathy and Psychology Doctoral Students' Ratings of Videotaped Interactions

Analyses were conducted to determine if there were any differences in sex, age, or self-reported empathy between the original sample of students and the students who chose to participate in this portion of the study by turning in their videotapes for payment by the researcher. There were no significant differences in age between the students who chose to participate and those who chose not to participate. The proportion of

men (20 percent) and women (80 percent) also remained the same. However, the students who chose not to participate in the second part of the study described themselves with more empathy-related traits than the students who chose to participate ($t=2.36$, $df=81$; $P < 0.05$). The means were 1.19 and 0.71, respectively.

Average correlations between raters were unacceptably low (Mean Correlation= $.280$) when all three raters were included for each item. Therefore, only the two most highly correlated scores were averaged together and utilized for each item. This resulted in a mean correlation of 0.427 between raters for all items.

Ratings of Communication Skills. Analyses of students' verbal communication skills revealed a main effect for section ($F=2.76$, $dfs=4$, 46 ; $P < 0.05$) and self-reported empathy ($F=5.81$, $dfs=1,46$; $P < 0.05$). The positive parameter estimate for self-reported empathy shown in Table III indicates a positive relationship between the number of empathy-related descriptors students used to describe themselves and doctoral students' ratings of students' verbal communication skills. The results indicated no effects for section or self-reported empathy on students' nonverbal communication skills.

Ratings of Personal Qualities. Analyses of doctoral students' ratings of students' personal qualities revealed no effects for either section or self-reported empathy.

Predictive Validity of Direct Self Descriptions of Empathy

The results of regression analyses conducted to examine the relationship between direct self-ratings of empathy and performance in the simulated patient-pharmacist interactions are shown below:

Relationship Between Direct Self-Descriptions of Empathy and Course Instructors' Ratings of Videotaped Interactions Ratings of Communication Skills. Analyses of students' verbal communication skills revealed a main effect for section ($F=16.58$, $dfs=4$, 86 ; $P<0.01$). No effects were obtained for students' self-reported empathy scores. Analyses of student nonverbal communication skills also revealed a main effect for section ($F=15.60$, $dfs=4$, 86 ; $P<0.01$). No effects were obtained for students' self-reported empathy scores.

Ratings of Personal Qualities. Analyses of course instructors' ratings of students' trustworthiness revealed a main effect for both section ($F=13.60$, $dfs=4$, 78 ; $P<0.01$) and self-reported empathy scores ($F=9.38$, $dfs=1$, 78 ; $P<0.01$). The negative parameter estimate, as shown in Table III, indicates a negative relationship between students' self-reported empathy scores and course instructors' ratings of students' trustworthiness.

Analyses of course instructors' ratings of students' empathic qualities revealed a main effect for section ($F=8.41$, $dfs=3$, 78 ; $P<0.01$). Students' self-reported empathy scores were unrelated to course instructors' ratings of students' empathic qualities. Analyses of course instructors' ratings of students' expertise revealed a main effect for both section ($F=12.35$, $dfs=4$, 84 ; $P<0.01$) and self-reported empathy scores ($F=11.56$, $dfs=1$, 84 ; $P<0.05$). The negative parameter estimate, as shown in Table III, indicates a negative relationship between students' self-reported empathy scores and course instructors' ratings of students' expertise. Analyses of course instructors' ratings of students' likableness revealed a main effect for section ($F=4.19$, $dfs=4$, 84 ; $P<0.01$). Students' self-reported empathy scores were unrelated to course instructors' ratings of students' likableness.

The relationship between direct self-descriptions of empathy and the pharmacists' ratings of videotaped interactions is shown in Table III. The students' self-reported empathy scores were not predictive of the pharmacists' ratings of the pharmacy students' communication skills or personal qualities. The relationship between direct self-descriptions of empathy and the doctoral students' ratings of videotaped interactions are shown in Table III. The self-reported empathy scores of the students also were not predictive of the doctoral students' ratings of the pharmacy students' communication skills or personal qualities.

DISCUSSION

The relationship between self-reported empathy and patient counseling skills was examined to determine the predictive validity of two personality inventories designed to measure self-ratings of empathy among PharmD students. The results suggested that forced choice self-ratings of empathy were related to students' verbal communication skills and a number of personal traits previously shown to be important in counseling relationships, including trustworthiness, empathy, and likability.

In contrast, the predictive validity of a more traditional, direct self-rating approach was extremely weak. In fact, the results suggested that students' empathy scores were inversely related to both expertise and trustworthiness, as rated by course instructors. That is, students who rated themselves high on the adjectives related to empathy, were perceived as less "trustworthy" and less "expert" than students who rated themselves low on these adjectives. There was no relationship, however, between students' verbal or nonverbal communication skills

and self-reported empathy using the direct self-ratings approach.

These results suggest that using a forced-choice format to obtain self-ratings of empathy may eliminate some of the self-distortion often found when using more traditional approaches to personality measurement, such as the instrument used by Jarksi(8). These findings were sometimes inconsistent, however, and depended upon the evaluator. The relationship between self-reported empathy and verbal communication skills was only obtained when the evaluations came from the course instructors and the doctoral counseling psychology students. This may have occurred because the course instructors and the doctoral counseling psychology students had received formal training in psychology. Hence, they may have evaluated the students' verbal communication skills, such as the ability to paraphrase and properly reflect emotions, more accurately than the pharmacists because they were more familiar with these skills. If the instructors' ratings and counseling psychology students' ratings were more accurate or valid, this would have increased the likelihood of detecting any relationship that existed between self-reported empathy and verbal communication skills.

On the other hand, the relationship between self-reported empathy and ratings of personal traits known to be important in patient counseling situations was only obtained when the evaluations came from the course instructors and pharmacists from each class. This may have occurred because the course instructors and the pharmacists were better acquainted with the students. Hence, they may have evaluated the students' personal qualities more accurately than the doctoral counseling psychology students who were unacquainted with the students. Again, if the instructors' ratings and the pharmacists' ratings were more valid, this would have increased the likelihood of detecting any existing relationship between self-reported empathy and personal qualities.

Self-reported empathy was unrelated to either perceived expertise or nonverbal communication skills. This may reflect the fact that empathy is not an important prerequisite for either of these variables. For example, the items related to nonverbal skills included the ability to maintain eye contact and lean forward during the conversation. The items related to expertise included the adjectives "knowledgeable" and "expert." Individuals may be able to exercise positive nonverbal behaviors and appear knowledgeable and competent without actual being empathic. The lack of relationship between self-reported empathy and these two variables, therefore, is not particularly surprising.

Limitations

There are several limitations to this study that should be mentioned. First, students completed the personality inventory during the first month of school. However, they were evaluated at the end of the semester, after participating in a "communication skills in pharmacy" course. Therefore, we can only conclude that students who describe themselves as participating in activities which involve empathic traits learn patient counseling skills more readily than students who do not describe themselves in this manner. It is unknown whether they actually possessed these skills when they completed the personality inventory at the beginning of the semester. This is only a problem, however, if a communication skills course is not part of a pharmacy curriculum.

Another potential problem is that we tested students who

had already been accepted to pharmacy school. This raises several issues. One issue is that the students were likely to be a very homogeneous group. This may have resulted in less variance in responses than would have been the case if we had used all of the other program applicants who either were not accepted at this particular school or chose not to attend this school. Because it is usually more difficult to obtain significant relationships in homogenous groups due to problems of "restricted range"(6), these results are probably a conservative estimate of an actual pharmacy school admissions situation.

Another issue related to using students who were already admitted to the pharmacy program is that they may have been less motivated to "fake" their responses and more likely to give true assessments of themselves and their activities than applicants who are actually trying to gain admission to a pharmacy program. There is always the possibility that highly informed pharmacy program applicants will learn the "correct" response to this personality inventory. If this occurs, forced-choice self-descriptions may not be predictive of actual counseling skills among future pharmacy program applicants. If future applicants learn how to "fake" their responses, this approach may be of little value in identifying students with a helping orientation. Most applicants, however, probably assume that the purpose of the inventory is to identify students with either a pharmacy or medical background. If this is the case, applicants may assume that traits related to intelligence are most important in program admission decisions.

An additional issue that should be pointed out relates to the section effects that were obtained in many of the analyses. Section codes were included in each of the regression analysis to remove extraneous variance due to differences in training between groups and differences in rating styles between raters. However, in analyses that included the instructors' ratings or the pharmacists' ratings, these two variables were confounded. That is, the trainers and the raters were the same people. Therefore, it is impossible to determine which variable is responsible for the significant section effects. Because section effects were obtained in some of the analyses that included ratings from the counseling psychology students, differences in training between sections are at least partially responsible for some of the section effects obtained from the analyses of instructors' and pharmacists' ratings. The possibility that some effects were due to inconsistent coding criteria still exists, however, and should be addressed in future research.

Finally, it should be noted that 18 separate regression equations were conducted to examine the relationship between self-ratings of empathy and performance ratings of the students. Multiple analyses, such as those performed here, increase the chance that some of the significant relationships occurred by chance.

CONCLUSIONS

The predictive validity of forced-choice self-ratings of empathy to identify students with a helping orientation was largely confirmed. Students who described themselves as empathic and caring, using the forced choice format, were evaluated as having better verbal communication skills than students who

described themselves using less empathic adjectives. Further, students who described themselves as empathic and caring, using the forced choice format, were evaluated more positively on a number of personal traits previously shown to be important in helping relationships. In contrast, students' empathy scores on a more traditional, direct self-rating instrument were unrelated to both communication skills and personal qualities necessary in helping relationships, as rated by course instructors, pharmacists, and doctoral counseling students.

Although more research is needed to replicate our findings, a forced choice format for obtaining self-ratings of empathy shows promise for use in pharmacy school admissions criteria. Further, there is no reason to think these results would not generalize to pharmacy students at similar schools of pharmacy across the United States. A forced choice instrument, such as the one used in this study, could be used in conjunction with more traditional measures of aptitude, such as the PCAT and grade point averages, to make admissions decisions. For example, this instrument could be used as a second screening tool to narrow down a pool of applicants with PCAT scores and grade point averages deemed acceptable at a particular school. This process could help to identify students with both the technical competency and the interpersonal skills necessary for the successful practice of pharmaceutical care.

Acknowledgement. The authors wish to thank Dr. Mark Stasson, Associate Professor of Psychology at Virginia Commonwealth University, for statistical advice on this research.

Am. J. Pharm. Educ., **63**, 132-138(1999); received 3/23/98, accepted 3/10/99.

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