

Medical Student Attitudes Toward Communication Skills Training and Knowledge of Appropriate Provider-Patient Communication: A Comparison of First-Year and Fourth-Year Medical Students

Kevin B. Wright, PhD*, Carma Bylund, PhD†, Jennifer Ware, MA‡, Patricia Parker, PhD§, Jim L. Query, Jr, PhD||, Walter Baile, MD§

*Department of Communication, University of Oklahoma

†Department of Psychiatry & Behavioral Sciences, Memorial Sloan Kettering Cancer Center

‡Department of Communication, University of Memphis

§Department of Psychiatry, M. D. Anderson Cancer Research Center

||School of Communication, University of Houston

Abstract - Drawing upon Bloom's taxonomy of educational objectives as a theoretical framework, this study examines attitudes toward communication skills training, knowledge of appropriate provider-patient communication, and confidence communicating with patients between first-year and fourth-year medical students at a large medical school in the southern United States. The study findings indicate that fourth-year medical students do not differ from first-year medical students in terms of attitudes towards communication skills training or knowledge of appropriate provider-patient communication, but they have significantly higher confidence scores about communicating with patients. In addition, positive attitudes towards communication skills training are significantly related to perceived importance of communication skills and confidence when communicating with patients. Finally, female medical students have more positive attitudes towards communication skills training than male medical students. The implications of the study findings and directions for future research are also discussed.

Over the last 30 years, communication skills in the medical school curriculum have received a considerable amount of attention among scholars in a variety of disciplines, including communication.¹⁻⁵ Research on communication skills training suggests good communication skills may improve the physician-patient relationship and are related to positive health outcomes for patients, such as improved compliance, satisfaction with care, and benefits to physical and psychological health.⁶⁻⁸ In addition, good provider communication skills have been linked to more efficient health care organizations and effective health care delivery, provider and patient satisfaction, and fewer incidents of malpractice.^{9,3,10,11}

Based upon the findings of this body of research, many medical schools across the country and national medical organizations, such as the Association of American Medical Colleges (AAMC), have recently supported an increased emphasis on communication skills as an important part of medical education.¹² Despite the interest in communication skills training for medical students, most communication skills training studies have involved more experienced providers such as residents, fellows and attendings.¹³ However, medical school typically exposes future physicians to medical communication through coursework. Their experiences with communication skills training in medical school is likely to shape

their perceptions of communication issues and how they interact with patients throughout their career.²

While a variety of communication skills training programs have been found to improve providers' knowledge, attitudes, and skills,¹⁴⁻¹⁶ there are a number of issues that may impede the success of communication skills training, especially among medical students.² Previous research suggests that variables such as attitudes towards communications skills training, attitudes towards the value of medical communication skills, medical student experience within the clinical setting, and demographic variables may all influence the success of a communication skills training program.¹⁷⁻¹⁹

The relationship between attitudes toward communication skills training and the effective learning of these skills is consistent with several models of learning, most notably Bloom's (1956) taxonomy of educational objectives. While there has been some interest in applying Bloom's taxonomy to medical student education,^{20, 21} these studies have primarily focused on the cognitive and psychomotor dimensions of Bloom's taxonomy as opposed to the affective domain. Moreover, these studies have not specifically explored the relationships between affective aspects of the taxonomy, such as medical student attitudes toward communication skills training, on learn-

ing outcomes such as knowledge of appropriate medical communication behavior, perceived importance of communication skills, or self-assessments of confidence in communicating with patients.

Accordingly, the purpose of this study is to explore the relationships among medical student attitudes toward communication skills training, perceptions of the importance of medical communication, knowledge of appropriate medical communication skills, and their perceived confidence in their ability to communicate effectively with patients. In addition, the study explores differences in these perceptions between first and fourth-year medical students and between male and female medical students.

Bloom's Taxonomy of Educational Objectives

Notwithstanding its limitations, Bloom's²² taxonomy of educational objectives serves as a useful theoretical framework for studying medical student attitudes towards communication skills training (see also Bloom and colleagues²³ for an extension of this taxonomy). The taxonomy is useful in explicating the hierarchical nature of learning, and it contains three domains of learning: cognitive, affective, and psychomotor.

The focus of this study is on measuring aspects of the affective domain. This domain consists of attitudes, values, motivation, and feelings toward the information a person is learning. As with the other domains, the affective domain is hierarchical. For example, the lowest level of the affective domain hierarchy includes behaviors such as awareness of a phenomena and willingness to pay attention to it. At the next level of the affective domain hierarchy, people attend and react to a particular phenomenon or piece of information. In addition, there is some level of satisfaction associated with reacting to it. The next level of the affective domain hierarchy is known as valuing, or the worth or value a person attaches to a particular object, phenomenon, or behavior. In other words, at this stage an individual begins to associated feelings of worth or value to what they are learning. Next in the hierarchy, people organize values into priorities by contrasting different values, resolving conflicts between them, and creating a unique value system. Finally, at the top of the affective domain hierarchy, individuals internalize values about what they are learning, and they tend to behave in ways that are consistent with these values. For example, a medical student who has internalized positive values associated with communication skills training would likely behave in ways that are consistent with those values, such as listening to patients more, explaining treatments in ways that the patient will understand, and attending to the physical, psychological, and social needs of patients

when constructing messages.

Perceptions of Communication Skills Training and Medical Communication

Several researchers have found that attitudes toward communication skills training are an important antecedent to acquiring communication skills. Medical students' attitudes toward communication skills training may be important indicators of the importance they place upon them, and they may eventually influence communication behaviors in clinical settings.¹⁸ However, previous studies have also found that courses dealing with communication skills training often have mixed results in terms of their influence on the attitudes of medical students.²⁴⁻²⁶

Rees and colleagues,²⁷ in a qualitative study of medical students, found that students held both positive and negative attitudes towards different aspects of communication skills learning. Negative attitudes were related to the perception that communication skills training courses are subjective and take a "soft" social science approach, and that many of the behaviors emphasized in communication skills training courses are basically common sense or too easy. Many of the students with negative attitudes toward learning communication skills believed themselves to be good communicators. In other words, individuals who perceived themselves as being able to confidently communicate with patients tended to have negative attitudes towards communication skills training.

There is some evidence that suggests medical students' attitudes toward communication skills are influenced by taking courses that emphasize communication skills training.²⁸ In a study that examined attitudes towards communication skills before and after a communication skills course, investigators found that the students rated their communication skills significantly lower at the end of the course than before the start of the course. Positive attitudes towards communication skills learning also became significantly lower by the end of the course compared with the start. These researchers believe that the medical students in this study might have been overconfident about their abilities to communicate with patients initially, and that the communication issues they learn during communication skills training might have reduced their overconfidence to more realistic levels.

The reviewed literature suggests that medical student attitudes toward communication skills training likely influences perceptions of the importance of these skills, and they may eventually influence the learning and adoption of communication skills in the clinical setting. In addition, attitudes toward communication skills training are

also likely to be related to medical student assessments of their ability to communicate effectively with patients. However, much of the previous work in this area has inferred these relationships among variables rather than specifically testing them.

RQ1: Medical students' attitudes toward communication skills training will be related to their perceptions of the importance of medical communication, confidence about communicating with patients, and knowledge about appropriate provider communication.

Experience Communicating with Patients and Perceptions of Communication Skills

According to Humphris and Kaney,² "many courses do not introduce teaching of communication skills until midway into the medical curriculum, to coincide with the traditional starting point of the clinical component of training." Third and fourth-year medical student training is much more focused on actual clinical work than the training of first and second-year students, who primarily deal with classroom lecture about communication or simulated training with standardized patients. Since third and fourth-year medical students spend more time interacting with actual patients and dealing with real, as opposed to simulated, health issues, it is reasonable to assume that these differences in experiences would affect perceptions of both communication skills training and the importance of medical communication skills.

There is some evidence that beginning medical students may differ from more experienced medical students in terms of their perceptions of communication skills training as well as their perceptions of the importance of medical communication skills.^{4,15, 17} Studies comparing communication skills between more experienced medical students and beginning medical students have demonstrated mixed results. Some studies have shown that the experience third and fourth-year medical students gain by actually communicating with patients tends to improve their communication skills. For example, Kaufman¹⁷ found that experience with patients in clinical settings tended to promote the acquisition of communication skills that were often learned at earlier points in the medical school curriculum. In addition, Kaufman¹⁷ suggested that medical students who had performed basic communication skills with patients in a clinical setting may be more confident in their ability to communicate with patients than medical students who lacked this experience. However, Roter and Hall²⁹ report that since communication skills are often emphasized in coursework taken ear-

lier in the medical school curriculum, beginning medical students are often more knowledgeable about communication skills than more advanced medical students, and that knowledge of communication skills may deteriorate over time.

Kaufman¹⁷ also found that while medical students' experience communicating with patients increased their confidence about performing basic communication skills, these experiences did not necessarily increase confidence about their ability to perform more complex communication skills (such as discussing sensitive issues with patients or breaking bad news). It is possible knowledge of more complicated communication situations, such as discussing difficult topics with patients, coupled with a relatively small number of experiences of actual communication with patients, might actually raise apprehension among more advanced medical students and undermine confidence about their abilities to communicate effectively in these types of situations. By comparison, beginning medical students' exposure to difficult medical communication situations is often limited to textbook descriptions, and this may lead them to be more confident about their abilities to handle them effectively.

Given the findings of these studies, it appears that first-year and fourth-year medical students likely differ in terms of their perceptions of communication skills training, confidence in communicating well with patients, and knowledge about appropriate provider communication. Yet few studies have examined how attitudes towards communication skills training may differ between beginning and advanced medical students. Although it is likely that more experience with patients in clinical settings affects attitudes towards communication skills. While confidence about communicating with patients should increase as a medical student gains experience with patients, self-perceptions of confidence could possibly be undermined if actual communication experiences with patients raise doubts about the ability to communicate effectively. Finally, since some studies have found that knowledge of communication skills deteriorates as medical students advance into later stages of the curriculum and others have found that experience with patients fosters the development of communication skills, it is important to compare how knowledge of good communication skills may change over time.

RQ2: Are there differences between first-year and fourth-year medical students in terms of their attitudes toward communication skills training, perceptions of the importance of medical communication, confidence about communicating

with patients, and knowledge about appropriate provider communication?

Gender Differences in Communication Skills Among Medical Students

There is some evidence that attitudes toward communication skills training may also be associated with demographic variables, such as gender⁴. While few studies have explored the relationship between gender and perceptions of medical communication skills, some small gender differences might be expected. A recent meta-analysis¹⁹ indicated that female physicians are more likely to perform more patient-centered communication behaviors such as collaborative communication, empathic communication and giving psychosocial information. Other researchers have found that male medical students were slower at learning communication skills than females.³⁰

RQ3: Are there gender differences in terms of medical students' attitudes of communication skills training, perceptions of the importance of medical communication, confidence about communicating effectively with patients, and knowledge about appropriate provider communication?

Methods

Sample Characteristics - Medical students were recruited for the survey by the first author at a large metropolitan medical school in the southern United States. There were 118 first-year and fourth-year medical students respondents to the survey (N = 118). Of these individuals, 71 were first-year and 47 were fourth-year medical students. The gender of respondents was 68 male and 50 female. The ethnicity of respondents was 96 white, nine African-American, three Asian-American, and the remainder were classified as "other". The majority of the sample (113) indicated that English was their first language while five indicated that English was their second language. The average age for the sample was 25.17 (*SD* = 3.41). The medical students had taken an average of 1.35 (*SD* = 1.87) courses that emphasized communication skills training.

Medical Communication Curriculum for the Participants - Medical students at the institution where the study took place are required to take a four-year interdisciplinary course with an emphasis on communication skills training. In addition to communication and clinical skills, such as physical examination and patient interviewing, other topics presented in this course include prevention,

epidemiology, behavioral development, nutrition, medical ethics, culture and professionalism.

The first two years of this course are taught through small group discussions and role play with faculty, didactic sessions, working with a community preceptor physician to examine and interview patients under the physician's supervision, and practical sessions where students learn and practice communication and other clinical skills such as techniques of physical examination and patient interviewing. During the last two years, students rotate through clinical clerkships and attend workshops on special topics throughout the year such as palliative care, complimentary and alternative medicine, HIV/AIDS, and giving bad news. The participants in this study included both first- and fourth-year medical students. The survey was administered at the end of the academic year. Thus, at the time of participation in the study both had completed the same curriculum in the first year, while the fourth year students had also completed the curriculum in the second, third, and fourth years. Both the first and fourth year students were exposed to identical content and instructors during their first year.

Medical students graduating from this institution in 2005 and after will be required to take and pass a national test using standardized patients (SPs), a process that tests students' communication and interpersonal skills as well as clinical skills. This is mandatory for certification and licensure, and many medical schools in the United States may require passing this test as a requirement for graduation.

Survey Instrument Measures - The survey questionnaire used four established measures, and demographic questions. The reliability of each instrument was assessed using Cronbach's alpha. The instruments used were Communication Skills Attitude Scale (CSAS)³¹, Perceived Importance of Medical Communication¹⁸, Perceived Confidence about Communicating with Patients,³² Appropriate Provider Communication Knowledge.³²

The researchers measured the medical students' attitudes toward communication skills learning using Communication Skills Attitude Scale (CSAS).³¹ This 26-item measure uses a five-point Likert-type scale, and it includes positive and negative statements about communication skills training. Examples of positive CSAS items included, "Learning communication skills will help me respect patients," and "In order to be a good doctor I must have good communication skills." Examples of negative CSAS items included, "I can't see the point in learning communication skills," and "Communication skills learning should be left to psychology students, not medical stu-

dents.” All negative CSAS items were reverse coded for analysis, so that higher scores on all items indicated more positive attitudes toward communication skills training. The reliability coefficient for all CSAS items was 0.87.

Perceptions of the importance of medical communication were assessed using an instrument developed by Languille and colleagues.¹⁸ This measure contains 12 items and uses a five-point Likert type scale to assess various attitudes towards the importance of communication in a variety of medical situations, including patient-provider interactions and communication among health care workers. Examples of items included, “Good doctor-patient communication improves patients’ health outcomes,” and “Giving information about lifestyle is important in medical practice.” The reliability coefficient for this measure was 0.79.

The researchers assessed perceptions of confidence about communication with patients using an instrument developed by Parker, Baile, Lenzi and Cohen.^{32,33} Medical students were asked to rate, on a seven-point semantic differential scale with “not confident at all” and “totally confident” as bi-polar descriptors, how confident they currently felt about their ability to successfully perform eight communication behaviors. Sample items included, “Initiate a discussion with a patient about his/her illness and concerns,” and “Ask questions that will increase patients’ disclosure of their feelings and concerns about their illness and treatment.” Scores on the eight items for this scale were summed to create a composite score (minimum score=8; maximum score =56). The reliability coefficient for this instrument was 0.90.

The medical students were also tested about their knowledge of appropriate provider communication behavior in a variety of provider-patient situations. The researchers used a measure of knowledge of appropriate provider communication behaviors.^{32,33} The measure consisted of 15 true/false items regarding appropriate provider communication behaviors (minimum score=0; maximum score=15). Sample items included, “Open-ended questions encourage patients to give more irrelevant details,” and “A family member should always be present when you break bad news.” The reliability coefficient for this measure was 0.76.

Data Analysis -The first research question was assessed by conducting correlations between attitudes toward communication skills training scores, perceptions of the importance of medical com-

munication scores, confidence about communicating with patients scores, and knowledge about appropriate provider communication scores. The researchers analyzed the second research question concerning differences between first- and fourth-year medical students in terms of these variables by conducting a series of t-tests. Finally, the third research question was assessed by conducting t-tests for these variables between male and female medical students. Given that the state-of-the-art meta-analysis conducted by Roter, Hall, and Aoki¹⁹ emphasized that the differences between male and female physicians, though significant, are generally small, for this questions we expected that an educationally significant difference would be any difference, no matter how small.

Results

The first research question asked whether there are relationships among medical students’ attitudes toward communication skills training, perceptions of the importance of medical communication, confidence about communicating with patients, and knowledge about appropriate provider communication. Table 1 shows the bivariate correlations for each of these variables. The findings indicate a small positive relationship between positive attitudes toward communication skills training and perceived of importance of medical communication. Moreover, there was a small positive relationship between positive attitudes toward communication skills training and knowledge of appropriate provider communication. Finally, while there was no direct relationship between attitudes toward communication skills training and confidence communicating with patients, there was a small positive relationship between perceptions of the importance of medical communication and confidence about communicating with patients.

The second research question was concerned with whether there were differences between first-year and fourth-year medical students in terms of their attitudes toward communication skills training, perceptions of the importance of medical communication, confidence about

Table 1: Correlations among Attitudes toward Communication Skills Training, Perceptions of the Importance of Medical Communication, Confidence about Communicating with Patients, and Knowledge about Appropriate Provider Communication

	CSAS	Importance	Confidence	Knowledge
CSAS		0.45**	0.03	0.19*
Importance			0.27**	0.09
Confidence				0.08
Knowledge				

* p < 0.05, ** p < 0.01, 2-tailed

communicating with patients, and knowledge about appropriate provider communication. A series of t-tests revealed that fourth-year medical students had significantly higher positive attitude toward communication skill training scores ($M = 90.15$, $SD = 5.84$) than first-year medical students ($M = 86.98$; $SD = 6.65$, $t(116) = -2.628$, $p < 0.01$, $\eta^2 = 0.06$), and that fourth-year medical students had significantly higher perceived confidence scores about communicating with patients than first-year medical students ($M = 44.73$; $SD = 13.17$), $t(116) = -4.756$, $p < 0.001$, $\eta^2 = 0.16$). All other differences between first- and fourth-year medical students on the variables mentioned above were not statistically significant.

The third research question examined possible gender differences in terms of medical students' attitudes toward communication skills training, perceptions of the importance of medical communication, confidence about communicating with patients, and knowledge about appropriate provider communication. T-tests revealed that female medical students had significantly higher positive attitudes toward communication skills training scores ($M = 90.00$; $SD = 4.95$) than male medical students ($M = 87.08$; $SD = 7.32$), $t(116) = -2.424$, $p < 0.05$, $\eta^2 = 0.05$), while male medical students had significantly higher confidence scores about communicating with patients ($M = 50.35$; $SD = 13.19$) than female medical students ($M = 46.04$; $SD = 10.27$), $t(116) = 1.995$, $p < 0.05$, $\eta^2 = 0.01$).

Discussion

The purpose of this study was to explore the relationships among medical student attitudes toward communication skills training, medical communication, and confidence about communicating with patients. In addition, the study examined differences in these perceptions between first- and fourth-year medical students and between male and female medical students. This section discusses several implications of the study findings as well as limitations of this study and directions for future research.

The results indicate that attitudes of medical students toward communication skills training may be associated with their perceptions of the importance of these skills. In addition, medical students who had more positive attitudes toward communication skills training had more knowledge about appropriate communication behaviors with patients. These findings have several implications for the process of teaching communication skills training to medical students.

Medical school is where physicians probably first encounter information about the impact of their communication behaviors on patient satisfaction and health outcomes. Therefore, the attitudes they develop about communication skills during communication skills training courses may influence more general attitudes about the value of these skills. Since attitudes are often important predictors of behaviors³⁴, medical students who have negative perceptions of communication skills training may devalue the importance of these skills, and ultimately they may decide that they are not important enough to develop or practice when interacting with patients. This finding suggests that attitudes towards communication skills training might affect the learning and retention of these skills since positive attitudes toward communication skills training were related to increased knowledge of appropriate communication behaviors with patients. However, the small correlation between these variables suggests that other factors probably contribute more to knowledge of appropriate communication behaviors than attitudes towards communication skills training.

Given these findings, medical school educators should consider the role of affective learning when teaching courses emphasizing communication skills (in addition to cognitive learning). This would be consistent with approaches to learning that integrate all three domains of Bloom's taxonomy.³⁵ Developing teaching strategies that present communication skills training in a more positive light or emphasize their importance (in an effort to influence affective learning) may ultimately help medical students to perceive these skills as important and retain knowledge of them.

Two examples of programs that may facilitate such affective learning follow. The Program in Communication and Medicine at Northwestern University's Feinberg School of Medicine has developed a set of "patient narrative videos" that provide insight into patients' personal experiences with illnesses such as: diabetes, manic depression and chronic pain as well as end-of-life issues.³⁶ In some of these videos, the patients discuss their relationships and communication with their doctors. Using the same principle of understanding patient perspectives of illness, Rosenbaum and colleagues³⁷ at the University of Iowa developed and use in the first-year medical curriculum a research-based theater piece called "In Their Own Words". Students present perspectives of 10 different patients, which are based upon the interviews with authors who have written about their experiences with illness and health care. Student evaluations of this educational intervention have been uniformly positive. Students have reported learning, for example, that patients want their health care providers to understand their per-

spective and listen to them, that health care providers' words and actions have a profound effect on patients, and information or situations that a physician might consider to be "normal" or "routine" may be quite distressing for the patient.

It is important for educators to take proactive measures early in the course to influence attitudes about medical communication skills and their impact on patient care, whether or not these types of curricular activities are used. Specifically, instructors could influence attitudes towards learning communication skills by challenging the perception that communication is a "soft" social science, emphasizing research that links poor provider communication skills to undesirable outcomes, such as lawsuits, lower patient satisfaction, and patient perceptions of reduced quality of medical care.³⁸⁻⁴⁰ In addition, since previous research has found that medical students often believe that they already have the communication skills necessary to communicate effectively with patients,²⁷ this perception can be challenged by presenting evidence from these studies of negative outcomes resulting from communication problems among physicians. Emphasizing the similarity between characteristics of the providers in these studies to the medical students may help to challenge faulty self-perceptions of actual communication abilities, and reinforce the idea that they need to learn and practice communication skills to avoid negative outcomes related to communication.

One issue that could possibly undermine instructor efforts toward emphasizing the importance of communication skills training to medical students is that few empirical studies have been able to demonstrate a strong relationship between medical communication skills training and objective measures of physical health outcomes for patients.¹³ However, there is substantial evidence that patient perceptions of good physician communication skills are related to patient satisfaction,^{6, 41, 42} increased compliance to medical treatments,⁴³⁻⁴⁵ and reduced incidents of symptoms.⁴⁶ A greater emphasis on empirical studies linking communication behaviors to outcomes in the medical school curriculum might lead to more positive attitudes of communications skills and changing negative perceptions.

The finding that fourth-year medical students had significantly more positive attitudes toward communication skills training than first-year students suggests that repeated exposure to communication training over time and actual clinical experience may influence attitudes toward communication skills training. Since the fourth-year medical students in the current study had participated in more years of the four-year course emphasizing commu-

nication skills at the institution that was investigated in the current study, and they had more clinical experience than first-year students, it could be that these experiences positively influenced attitudes toward communication skills training, especially in cases where they could see the benefit of communication skills in the clinical setting. However, future studies need to measure changes in attitudes towards communication skills training in a longitudinal design to assess whether greater experience truly influences attitudes toward communication skills training.

The finding that perceived importance of medical communication skills was positively associated with perceived confidence about communicating with patients suggests that positive attitudes towards communication skills may be helpful to medical students in terms of helping them to feel more comfortable about their communication skills when interacting with patients. By improving attitudes towards communication skills training, instructors may be helping students to gain confidence in their ability to perform these skills. However, the finding that fourth-year students were more confident than first-year students in terms of their perceived ability to communicate with patients suggests that actual clinical experience communicating with patients might be more important for building confidence than attitudes towards communication skills training. While it may be difficult to adjust the curriculum within many medical schools, perhaps some initial interaction with patients or simulated patients for first-year students might have a positive effect on their communication confidence levels. Future research would benefit from exploring how increasing opportunities for communicating with patients throughout the medical school curriculum affects confidence, perceptions of communication, skills, and actual communicative abilities.

In terms of gender differences, the finding that female medical students had more positive attitudes toward communication skills training suggests that more efforts need to be made to emphasize the importance and relevance of communication skills among male medical students. In addition, researchers should find ways to improve perceptions about learning communication skills in general, but particularly for male students. The fact that female medical students were significantly less confident about communicating with patients than male students raises some important issues for teaching communication skills courses in the medical school curriculum. More attention needs to be devoted to building female medical students' confidence. Of course, it is possible that male medical students in this study were overconfident about their communication abilities with patients, whereas the

female medical students were more realistic. Nonetheless, future research should continue to examine gender differences in perceptions of communication skills so that course content can be adjusted to deal with students who might be overconfident or under confident in terms of their ability to communicate effectively with patients.

This study has a number of limitations that influence its findings. First, the study's focus on perceptions based on self-reports from medical students rather than actual behaviors limits the degree to which we can make strong statements about the relationship between attitudes towards communication skills training and actual communication abilities. However, because self-perceptions of variables, such as the importance of communication skills and confidence communicating with patients, most likely influence communication behaviors to some degree, the findings shed light on possible relationships between variables. However, future research should examine how these perceptions are related to actual behavioral outcomes.

Communication skills training will continue to be an important component of the medical school curriculum. While the findings of the current study shed light on the relationships among attitudes toward communication skills training and outcomes, such as confidence when communicating with patients and knowledge of appropriate communication skills, clearly more research needs to examine the how perceptions of communication skills training influences provider behavior. Interventions targeting affective learning of communication skills, in conjunction with cognitive and behavioral training, need to be developed to help medical students understand the importance of communication and the complexity of communication issues in health care.

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Correspondence

Kevin B. Wright, Ph.D.
Department of Communication
University of Oklahoma
610 Elm Avenue, Room 101
Norman, OK 73019
Phone: (405) 325-5946
FAX: (405) 325-7625
email: kbwright@ou.edu