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Professionalism (empathy, interprofessional collaboration, lifelong learning)

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PROFESSIONALISM

(EMPATHY, INTERPROFESSIONAL COLLABORATION, LIFELONG LEARNING)

COMPARISONS OF NURSES AND PHYSICIANS ON AN OPERATIONAL MEASURE OF EMPATHY

Sylvia K. Fields, Mohammadreza Hojat, Joseph S. Gonnella, Salvatore Mangione, Gregory C. Kane, Mike Magee

In view of many changes taking place in today's healthcare marketplace, the theme of empathy in health provider-patient relations needs to be revisited. It has been proposed that patients benefit when all members of the healthcare team provide empathic care. Despite the role of empathy in patient outcomes, empirical research on empathy among health professionals is scarce partly because of a lack of a psychometrically sound tool to measure it. In this study, we briefly describe the development and validation of the Jefferson Scale of Physician Empathy (JSPE), an instrument that was specifically developed to measure empathy among health professionals (20 Likert-type items). The purpose of this study was to compare nurses and physicians on their responses to the JSPE. Study participants were 56 female registered nurses and 42 female physicians in the Internal Medicine postgraduate medical education program at Thomas Jefferson University Hospital. The reliability coefficients (Chronbach's coefficient alpha) were 0.87 for the nurses and 0.89 for physicians. Results of t-test showed no significant difference between nurses and physicians on total scores of the JSPE; however, multivariate analyses of variance indicated statistically significant differences between the two groups on 5 of 20 items of the JSPE. Findings suggest that the JSPE is a reliable research tool that can be used to assess empathy among health professionals including nurses.

Evaluation & The Health Professions. 2004; 27(1): 80-94.

Available online at publisher's site:
http://ehp.sagepub.com/cgi/content/abstract/27/1/80

EMPATHY: AN NP/MD COMPARISON

Mohammadreza Hojat, Sylvia K. Fields, Joseph S. Gonnella

The Jefferson Scale of Physician Empathy (JSPE, 20 Likert-type items) was administered to 32 female nurse practitioners, 37 female pediatricians, and 33 female physicians in hospital-based specialties (anesthesiology, pathology, radiology). Nurse practitioners and pediatricians obtained higher JSPE mean scores than physicians in hospital-based specialties.

The Nurse Practitioner. 2003; 28(4): 45-47.

Available online at publisher's site:
http://www.tnpj.com/pt/re/nursepract/abstract.00006205-200304000-00010.htm

ATTITUDES TOWARD PHYSICIAN–NURSE ALLIANCE: COMPARISONS OF MEDICAL AND NURSING STUDENTS

Mohammadreza Hojat, Sylvia K. Fields, Susan L. Rattner, Margaret Griffiths, Mitchell J. M. Cohen, James D. Plumb

This study was undertaken to examine empirically the similarities and differences between medical and nursing students in their attitudes toward physician-nurse alliances upon entry into their respective professional curricula.

The participants were 408 medical students (208 first year, 200 second year) and 149 nursing students (64 first year, 85 second year) representing 90% and 89% respectively of students in their corresponding classes.

The findings suggest considerable attitudinal congruities among medical and nursing students as they begin their professional education. Overall the medical students hold to the traditional views of physician authority and medical responsibility in these areas to a higher degree than the nursing students, although the data suggest more concordance and recognition of professionalism in nursing than would have been seen in the past. The findings of the present study provide useful information regarding the areas of focus for interdisciplinary educational programs.

Academic Medicine. 1997; 72(Supplement): S1-S3.

PSYCHOMETRIC PROPERTIES OF AN ATTITUDE SCALE MEASURING PHYSICIAN-NURSE COLLABORATION

Mohammadreza Hojat, Sylvia K. Fields, J. Jon Veloski, Margaret Griffiths, Mitchell J. M. Cohen, James D. Plumb

This study examined the psychometric properties of an assessment tool for measuring attitudes toward physician-nurse collaboration. A survey addressing the areas of responsibility, expectations, shared learning, decision making, authority, and autonomy was administered to first-year medical and nursing students. Factor analysis of the survey indicated that the survey measured four underlying constructs of shared education and collaborative relationships, caring as opposed to curing, nurse's autonomy, and physician's authority. A scale was developed in which 15 items of the survey with large factor loadings were included. The alpha reliability estimates of the scale for medical and nursing students were .84 and .85, respectively. The mean of the scale was significantly higher for nursing than medical students. Results supported the construct validity and reliability of the scale. This scale can be used to evaluate the effectiveness of programs developed to foster physician-nurse collaboration and to study group differences on attitudes toward interpersonal collaboration.

Evaluation & The Health Professions. 1999; 22(2): 208-220.

Available online at publisher's site:
http://ehp.sagepub.com/cgi/content/abstract/22/2/208

EMPATHY SCORES IN MEDICAL SCHOOL AND RATINGS OF EMPATHIC BEHAVIOR IN RESIDENCY TRAINING THREE YEARS LATER

Mohammadreza Hojat, Joseph S. Gonnella, Salvatore Mangione, Thomas J. Nasca, Mike Magee

This study was designed to examine association between scores on a self-report empathy scale (Jefferson Scale of Physician Empathy) administered in medical school and ratings of empathic behavior made three years later by directors of residency training programs. Study participants included 106 physicians. Relationships between scores of The Jefferson Scale of Physician Empathy (20 Likert-type items), administered at the beginning of the third-year of medical school, and ratings of empathic behavior made by directors of residency training programs were examined. Top scorers on the JSPE, compared to Bottom scorers obtained a significantly higher average rating of empathic behavior three years later in residency (p<,05, effect size=0.50). Findings provide evidence in support of long-term predictive validity of the self-report empathy scale despite different methods of evaluations (self-report and supervisors' ratings) and time interval between evaluations (3 years). Because empathy is relevant to prosocial and helping behavior, it is important to enhance our understanding of its correlates and outcomes among health professionals.

Journal of Social Psychology. 2005; 145: 663-672.

Available online at publisher's site:
http://pqasb.pqarchiver.com/heldref/access/939463221.html?dids=939463221:939463221:939463221:939463221&FMT=ABS&FMTS=ABS:FT:TG:PAGE&date=Dec+2005&&pub=The+Journal+of+Social+Psychology&startpage=663

PHYSICIAN EMPATHY IN MEDICAL EDUCATION AND PRACTICE: EXPERIENCE WITH THE JEFFERSON SCALE OF PHYSICIAN EMPATHY

Mohammadreza Hojat, Joseph S. Gonnella, Salvatore Mangione, Thomas J. Nasca, Mike Magee

Despite the importance of physician empathy in patient care, empirical investigation on the topic is scarce because of conceptual ambiguity and a lack of a psychometrically sound tool for measuring physician empathy. In this article we describe different conceptual views of empathy, draw a distinction between empathy and sympathy, and define physician empathy. We also describe the development and psychometric properties (i.e. validity and reliability) of the Jefferson Scale of Physician Empathy (JSPE), a brief research tool (20 Likert-type items) that we developed as a response to the need for an operational measure of physician empathy. We outline an agenda for future research on physician empathy. We conclude that research regarding physician empathy is crucial considering the rapid developments in biotechnology and the current trend toward market-driven, corporate medicine, which strain the physician-patient relationships.

Seminars in Integrative Medicine. 2003; 1(1): 25-41.

Available online at publisher's site:
http://dx.doi.org/10.1016/S1543-1150(03)00002-4

EMPATHY IN MEDICAL STUDENTS AS RELATED TO ACADEMIC PERFORMANCE, CLINICAL COMPETENCE, AND GENDER

Mohammadreza Hojat, Joseph S. Gonnella, Salvatore Mangione, Thomas J. Nasca, J. Jon Veloski, James B. Erdmann, Clara A. Callahan, Mike Magee

Context: Empathy is a major component of patient-physician relationships, and the cultivation and evaluation of empathy is a learning objective for all American medical schools as proposed by the Association of American Medical Colleges (AAMC). It is important to address the measurement of empathy, its development, and its correlates in medical schools.

Objectives: We designed this study to test two hypotheses: 1. Medical students with higher empathy scores would obtain higher ratings of clinical competence in core clinical clerkships. 2. Women would obtain higher empathy scores than men.

Materials and Subjects: A 20-item empathy scale developed by the authors (Jefferson Scale of Physician Empathy) was completed by 371 third-year medical students (198 men, 173 women).

Methods: Associations between empathy scores and ratings of clinical competence in six core clerkships, gender, and performance on objective examinations were studied by using t-test, analysis of variance, and correlation coefficients.

Results: Both research hypotheses were confirmed. Empathy scores were associated with ratings of clinical competence and gender, but not with performance on objective examinations such as the Medical College Admission Test (MCAT), and Steps 1 and 2 of the United States Medical Licensing Examinations (USMLE).

Conclusions: Empathy scores are associated with gender and ratings of clinical competence in medical school. It is important to further examine educational and clinical correlates of empathy, as well as stability and changes in empathy at different stages of undergraduate and graduate medical education in future research.

Medical Education. 2002; 36(6): 522-527.

Available online at publisher's site:
http://www.blackwell-synergy.com/doi/abs/10.1046/j.1365-2923.2002.01234.x

COMPARISONS OF AMERICAN, ISRAELI, ITALIAN AND MEXICAN PHYSICIANS AND NURSES ON THE TOTAL AND FACTOR SCORES OF THE JEFFERSON SCALE OF ATTITUDES TOWARD PHYSICIAN-NURSE COLLABORATIVE RELATIONSHIPS

Mohammadreza Hojat, Joseph S. Gonnella, Thomas J. Nasca, Sylvia K. Fields, Americo Cicchetti, Alessandra Lo Scalzo, Francesco Taroni, Anna Maria Vicenza Amicosante, Manuela Macinati, Massimo Tangucci, Carlo Liva,Gualtiero Ricciardi, Shmuel Eidelman, Hanna Admi, Hana Geva, Tanya Mashiach, Gideon Alroy, Adelina Alcorta-Gonzalez, David Ibarra, Antonio Torres-Ruiz

This cross-cultural study was designed to compare the attitudes of physicians and nurses toward physician-nurse collaboration in the United States, Israel, Italy and Mexico. Total participants were 2,522 physicians and nurses who completed the Jefferson Scale of Attitudes Toward Physician-Nurse Collaboration (15 Likert-type items). They were compared on the total scores and four factors of the Jefferson Scale (shared education and team work, caring as opposed to curing, nurses' autonomy, physicians' dominance). Results showed inter-and intra-cultural similarities and differences among the study groups providing support for the social role theory and the principle of least interest in inter-professional relationships. Implications for promoting physician-nurse education and inter-professional collaboration are discussed.

International Journal of Nursing Studies. 2003; 40(4): 427-435.

Available online at publisher's site:
http://dx.doi.org/10.1016/S0020-7489(02)00108-6

THE JEFFERSON SCALE OF PHYSICIAN EMPATHY: FURTHER PSYCHOMETRIC DATA AND DIFFERENCES BY GENDER AND SPECIALTY AT ITEM LEVEL

Mohammadreza Hojat, Joseph S. Gonnella, Thomas J. Nasca, Salvatore Mangione, J. Jon Veloski, Michael Magee

Objective: This study was designed to investigate the psychometric properties of individual items of the Jefferson Scale of Physician Empathy by examining differences between men and women and between physicians in the "people-oriented" and "technology-oriented" specialties.

Method: The Jefferson Scale of Physician Empathy (20 Likert-type items) was mailed to 1,007 physicians affiliated with the Jefferson Health System in the greater Philadelphia region; 704 (70%) responded.

Results: Descriptive statistics for items and item-total score correlations were reported. Women scored higher than men on 6 items. Physicians in the "people-oriented" specialties scored significantly higher than those in "technology-oriented" specialties on 11 items.

Conclusions: Findings provided further evidence in support of the psychometric properties of the Scale. Group differences observed in this study indicate that some aspects of empathy are more related than others to physician's gender and specialty.

Academic Medicine. 2002; 77(10): S58-S60.

Available online at publisher's site:
http://www.academicmedicine.org/pt/re/acmed/pdfhandler.00001888-200210001-00019.pdf

PHYSICIAN EMPATHY: DEFINITION, COMPONENTS, MEASUREMENT, AND RELATIONSHIP TO GENDER AND SPECIALTY

Mohammadreza Hojat, Joseph S. Gonnella, Thomas J. Nasca, Salvatore Mangione, Michael J. Vergare, Michael Magee

Objective: There is a dearth of empirical research on physician empathy despite its mediating role in patient-physician relationships and clinical outcomes. This study was designed to investigate the components of physician empathy, its measurement properties, and group differences in empathy scores.

Method: A revised version of the Jefferson Scale of Physician Empathy (with 20 Likert-type items) was mailed to 1,007 physicians affiliated with the Jefferson Health System in the greater Philadelphia region; 704 (70%) responded. Construct validity, reliability of the empathy scale, and the differences on mean empathy scores by physicians' gender and specialty were examined.

Results: Three meaningful factors emerged (perspective taking, compassionate care, and standing in the patient's shoes) to provide support for the construct validity of the empathy scale, which was also found to be internally consistent with relatively stable scores over time. Women scored higher than men to a degree that was nearly significant with control for gender, and psychiatrists scored a mean empathy rating that was significantly higher than that of physicians specializing in anesthesiology, orthopedic surgery, neurosurgery, radiology, cardiovascular surgery, obstetrics and gynecology, and general surgery. No significant difference was observed on empathy scores among physicians specializing in psychiatry, internal medicine, pediatrics, emergency medicine, and family medicine.

Conclusions: Empathy is a multidimensional concept that varies among physicians and can be measured with a psychometrically sound tool. Implications for specialty selection and career counseling are discussed.

American Journal of Psychiatry. 2002; 159(9): 1563-1569.

Available online at publisher's site:
http://ajp.psychiatryonline.org/cgi/content/abstract/159/9/1563

DEVELOPING AN INSTRUMENT TO MEASURE ATTITUDES TOWARD NURSES: PRELIMINARY PSYCHOMETRIC FINDINGS

Mohammadreza Hojat, Mary W. Herman

Although many doctors and nurses presumably develop good working relationships, substantial problems are frequently reported. There is a large body of reports on physicians' attitudes toward and perceptions of nurses, but no systematic attempt has been made to develop a psychometrically sound instrument to measure attitudes towards nurses. This study reports steps in developing such an instrument and its psychometric characteristics. Based on a review of the literature, a preliminary list of 59 statements of attitudes toward nurses was prepared and subsequently reviewed by 26 medical educators, nurses, and physicians. Twenty-five statements were judged to have adequate face validity and were included in a preliminary version of a questionnaire using a 4-point Likert-type format. Quantitative analyses were performed on the responses of two groups of medical students (67 freshmen and sophomores and 15 freshmen). Twenty statements yielded a significant and positive correlation with the total score. Statistical analyses of the 20-item version of the scale supported its psychometric characteristics.

Psychological Reports. 1985; 56: 571-579.

RELATIONSHIPS BETWEEN SCORES OF THE JEFFERSON SCALE OF PHYSICIAN EMPATHY (JSPE) AND THE INTERPERSONAL REACTIVITY INDEX (IRI)

Mohammadreza Hojat, Salvatore Mangione, Gregory C. Kane, Joseph S. Gonnella

We designed this study to examine the relationships between scores of two measures of empathy. One was specifically developed for measuring empathy in patient care situations; the other was developed for the general population. We hypothesized that the overlap between scores of the two measures would be greater for their constructs that are more relevant to patient care. Study participants were 93 first-year internal medicine residents at Thomas Jefferson University Hospital in Philadelphia. We administered the Jefferson Scale of Physician Empathy (JSPE, specifically developed for administration to health professionals), and the Interpersonal Reactivity Index (IRI, developed for the general population). We found statistically significant correlations of moderate magnitudes between the total scores of the JSPE and IRI ($r=0.45$, $p<0.01$). Our research hypothesis was confirmed by observing higher correlations between those scales of the IRI that were relevant to patient care (e.g., empathic concern, perspective taking) and related factors of the JSPE (compassionate care, perspective taking) than other scales of the IRI that seemed less relevant to patient care (e.g., personal distress and fantasy). These findings provide further support for the validity of the JSPE. We concluded that physician empathy as measured by the JSPE and its underlying factors are distinct personal attributes that have a limited overlap with fantasy and no overlap with personal distress defined as dimensions of an empathy measure that was developed for the general population.

Medical Teacher. 2005; 27(7): 625-628.

Available online at publisher's site:
http://taylorandfrancis.metapress.com/openurl.asp?genre=article&id=doi:10.1080/01421590500069744

THE JEFFERSON SCALE OF PHYSICIAN EMPATHY: DEVELOPMENT AND PRELIMINARY PSYCHOMETRIC DATA

Mohammadreza Hojat, Salvatore Mangione, Thomas J. Nasca, Mitchell J. M. Cohen, Joseph S. Gonnella, James B. Erdmann, J. Jon Veloski, Mike Magee

Despite the importance of empathy in patient care, empirical investigation on the topic is scarce because there is no psychometrically sound instrument to operationally measure empathy in healthcare providers. This study was designed to develop a brief instrument to measure empathy in healthcare providers in patient care situations. Three groups participated in the study. Group 1 consisted of 55 physicians, Group 2 were 41 internal medicine residents, and Group 3 was comprised of 193 third year medical students. A 90-item preliminary version of the empathy scale was developed based on a review of the literature and distributed to Group 1 for feedback. After pilot testing, a revised and shortened 45-item version of the instrument was distributed to Groups 2 and 3. Also included was a set of tests to measure other conceptually-related attributes (e.g., compassion, concern, perspective taking, sympathy, warmth, dutifulness, faith-in-people, etc.). A final version of the Jefferson Scale of Physician Empathy containing 20 items based on statistical analyses was constructed. Psychometric findings provided support for construct validity, criterion-related validity (convergent and discriminant), and internal consistency reliability (coefficient alpha) of the scale. Suggestions are made for further research.

Educational and Psychological Measurement. 2001; 61(2): 349-365.

Available online at publisher's site:
http://epm.sagepub.com/cgi/content/abstract/61/2/349

AN EMPIRICAL STUDY OF DECLINE IN EMPATHY IN MEDICAL SCHOOL

Mohammadreza Hojat, Salvatore Mangione, Thomas J. Nasca, Susan L. Rattner, James B. Erdmann, Joseph S. Gonnella, Mike Magee

Context: It has been reported that students become more cynical as they progress through medical school. This can lead to a decline in empathy. Empirical research to address this issue is scarce because the definition of empathy lacks clarity, and a tool to measure empathy specifically in medical students and doctors has been unavailable.

Objective: To examine changes in empathy among medical students as they progress through medical school.

Materials and Subjects: A newly developed scale (Jefferson Scale of Physician Empathy (JSPE), with 20 Likert-type items) was administered to 125 medical students at the beginning (pretest) and end (post-test) of year 3 of medical school. This scale was specifically developed for measuring empathy in patient care situations and has acceptable psychometric properties.

Methods: In this prospective longitudinal study, the changes in pretest/post-test empathy scores were examined by using t-test for repeated measure design; the effect size estimates were also calculated.

Results: Statistically significant declines were observed in 5 items ($P < 0.01$) and in the total scores of the JSPE ($P < 0.05$) between the 2 test administrations.

Conclusions: Although the decline in empathy was not clinically important for all of the statistically significant findings, the downward trend suggests that empathy could be amenable to change during medical school. Further research is needed to identify factors that contribute to changes in empathy and to examine whether targeted educational programmes can help to retain, reinforce, and cultivate empathy among medical students for improving clinical outcomes.

Medical Education. 2004; 38(9): 934-941.

Available online at publisher's site:
http://www.blackwell-synergy.com/doi/abs/10.1111/j.1365-2929.2004.01911.x

ATTITUDES TOWARD PHYSICIAN-NURSE COLLABORATION: A CROSS-CULTURAL STUDY OF MALE AND FEMALE PHYSICIANS AND NURSES IN THE UNITED STATES AND MEXICO

Mohammadreza Hojat, Thomas J. Nasca, Mitchell J. M. Cohen, Sylvia K. Fields, Susan L. Rattner, Margaret Griffiths, David Ibarra, Adelina Alcorta-Gonzalez, Antonio Torres-Ruiz, Guadalupe Ibarra, Alma Garcia

Background: Inter-professional collaboration between physicians and nurses, within and between cultures, can help contain cost and insure better patient outcomes. Attitudes toward such collaboration is a function of the roles prescribed in the culture and guide professional behavior.

Objectives: The purpose of the study was to test three research hypotheses concerning attitudes toward physician-nurse collaboration across genders, disciplines, and cultures.

Method: The Jefferson Scale of Attitudes Toward Physician-Nurse Collaboration was administered to 639 physicians and nurses in the United States (n = 267) and Mexico (n = 372). Attitude scores were compared by gender (men, women), discipline (physicians, nurses), and culture (United States, Mexico) by using a three-way factorial analysis of variance design.

Results: Findings confirmed the first research hypothesis by demonstrating that both physicians and nurses in the United States would express more positive attitudes toward physician=nurse collaboration than their counterparts in Mexico. The second research hypothesis, positing that nurses as compared to physicians in both countries would express more positive attitudes toward physician-nurse collaboration, was also supported. The third research hypothesis that female physicians would express more positive attitudes toward physician-nurse collaboration than their male counterparts was not confirmed.

Conclusions: Collaborative education for medical and nursing students, particularly in cultures with a hierarchal model of inter-professional relationship, is needed to promote positive attitudes toward complementary roles of physicians and nurses. Faculty preparation for collaboration is necessary in such cultures before implementing collaborative education.

Nursing Research. 2001; 50(2): 123-128.

Available online at publisher's site:
http://www.nursingresearchonline.com/pt/re/nnr/abstract.00006199-200103000-00008.htm

AN OPERATIONAL MEASURE OF PHYSICIAN LIFELONG LEARNING: ITS DEVELOPMENT, COMPONENTS AND PRELIMINARY PSYCHOMETRIC DATA

Mohammadreza Hojat, Thomas J. Nasca, James B. Erdmann, Anthony J. Frisby, J. Jon Veloski, Joseph S. Gonnella

Despite the emphasis placed on physicians' lifelong learning, no psychometrically sound instrument has been developed to provide an operational measure of the concept and its components among physicians. The authors designed this study to develop a tool for measuring physician lifelong learning, to identify its underlying components and to assess its psychometric properties. A 37-item questionnaire was developed, based on a review of literature and the results of two pilot studies. Psychometric analyses of the responses of 160 physicians identified 19 items that were included in the Jefferson Scale of Physician Lifelong Learning. Factor analysis of the 19 items showed five meaningful factors that were consistent with the definition and major features of lifelong learning. They were 'need recognition', 'research endeavor', 'self-initiation', 'technical skills' and 'personal motivation'. The method of contrasted groups provided evidence in support of the validity of the five factors. The factors' reliability was assessed by coefficient alpha. It is concluded that lifelong learning is a multifaceted concept, and its operational measure is feasible for evaluating different educational programs and for studying group differences among physicians.

Medical Teacher. 2003; 25(4):433-437.

Available online at publisher's site:
http://taylorandfrancis.metapress.com/openurl.asp?genre=article&id=doi:10.1080/0142159031000137463

EMPATHY IN MEDICAL STUDENTS AS RELATED TO SPECIALTY INTEREST, PERSONALITY, AND PERCEPTIONS OF MOTHER AND FATHER

Mohammadreza Hojat, Marvin Zuckerman, Joseph S. Gonnella, Salvatore Mangione, Thomas J. Nasca, Michael J. Vergare, Mike Magee

This study was designed to examine relationships between empathy, specialty interest, personality, and perceptions of mother and father. Participants were 422 first-year medical students who completed the Jefferson Scale of Physician Empathy (JSPE) and the Zuckerman-Kuhlman Personality Questionnaire (ZKPQ, short form). They also reported their specialty interest and their perceptions of early relationships with their parents. Results showed that women outscored men on the empathy scale. Also, we found that higher scores on the JSPE were associated with students' interest in people-oriented specialties (as opposed to procedure-and technology-oriented specialties), higher level of satisfaction with early maternal relationship, higher sociability, and lower aggressive-hostility scores. Controlling for gender and social desirability did not change the general pattern of findings.

Personality and Individual Differences. 2005; 39(7): 1205-1215.

Available online at publisher's site:
http://dx.doi.org/10.1016/j.paid.2005.04.007

ASSESSMENT OF EMPATHY IN DIFFERENT YEARS OF INTERNAL MEDICINE TRAINING

Salvatore Mangione, Gregory C. Kane, John W. Caruso, Joseph S. Gonnella, Thomas J. Nasca, Mohammadreza Hojat

Problem Statement and Background: The issue of operational measurement of physician empathy and the question of whether empathy could change at different levels of medical education are of interest to medical educators.

Methods: We studied 98 internal medicine residents from all three years of training. We administered the Jefferson Scale of Physician Empathy and correlated residents' empathy scores with ratings on humanistic attributes by program directors.

Results: There were no statistically significant differences in empathy scores among residents of different training levels. Empathy scores remained also stable during one year of internship (test-retest reliability = .72). Correlation between empathy and ratings on humanism was .17.

Conclusions: Findings suggest that empathy is a relatively stable trait that is not easily amendable to change in residency training program. The issue of whether targeted educational activities for the purpose of cultivating empathy can improve the empathy scores awaits empirical scrutiny.

Medical Teacher. 2002; 24(4): 370-373.

Available online at publisher's site:
http://taylorandfrancis.metapress.com/openurl.asp?genre=article&id=doi:10.1080/01421590220145725

MEASURING PROFESSIONALISM: A REVIEW OF STUDIES WITH INSTRUMENTS REPORTED IN THE LITERATURE BETWEEN 1982 AND 2002

J. Jon Veloski, Sylvia K. Fields, James R. Boex, Linda L. Blank

Purpose: To describe the measurement properties of instruments reported in the literature that faculty might use to measure professionalism in medical students and residents.

Method: The authors reviewed studies published between 1982 and 2002 that had been located using Medline and four other databases. A national panel of 12 experts in measurement and research in medical education extracted data from research reports using a structured critique form.

Results: A total of 134 empirical studies related to the concept of professionalism were identified. The content of 114 involved specific elements of professionalism such as ethics, humanism, and multiculturalism, or associated phenomena in the educational environment such as abuse and cheating. Few studies addressed professionalism as a comprehensive construct (11 studies) or as a distinct facet of clinical competence (9 studies). The purpose of 109 studies was research or program evaluation rather than summative or formative assessment. Sixty-five used self-administered instruments with no independent observation of the participants' professional behavior. Evidence of reliability was reported in 62 studies. Although content validity was reported in 86 studies, only 34 provided strong evidence. Evidence of concurrent or predictive validity was provided in 43 and 16 studies, respectively.

Conclusions: There are few well-documented studies of instruments that can be used to measure professionalism in formative or summative evaluation. When evaluating the tools described in published research, it is essential for faculty to look critically for evidence related to the three fundamental measurement properties of content validity, reliability, and practicality.

Academic Medicine. 2005; 80(4): 366-370.

Available online at publisher's site:
http://www.academicmedicine.org/pt/re/acmed/pdfhandler.00001888-200504000-00014.pdf