## Nonverbal Immediacy in Human Resources Training and Development Programs: The Case of Physicians

## Mehmet Devrim Aydin, PhD.

Associate Professor of Public Administration
Hacettepe University
Faculty of Economics and Administrative Sciences
Department of Political Science and Public Administration
06532, Beytepe
Ankara, Turkey.

#### **Abstract**

This study was conducted to demonstrate the importance of adding nonverbal immediacy subject into human resources training and development programs by choosing physicians as the focus of the study. With a new scale, Nonverbal Immediacy Scale for Physicians (NISP), the study investigates the effects of physicians' nonverbal immediacy skills on the "perceived success of physicians" and on the "patient satisfaction". In order to test the hypotheses, Political Science and Public Administration students in Hacettepe University were selected as a study group. Students rated the nonverbal immediacy skills (maintaining eye-contact, smiling, relaxed body position, and lively voice) of the best physician they had ever known. Findings of the study proved that physicians' nonverbal immediacy skills are positively correlated with "perceived success level of physicians" and "patient satisfaction". In the conclusion part, the study emphasizes the importance of adding nonverbal immediacy subject into "physician training and development programs" in hospitals.

**Keywords:** training, development, nonverbal immediacy, nonverbal communication, physician, patient satisfaction

#### 1. Introduction

The success of an organization highly depends on the quality of its personnel. This knowledge means that hiring and selection part of Human Resources Management (HRM) practices is extremely important, because, if an organization can select the most qualified people, the chance of success will be very high. However, today's work force is in need of a continuous training support in order to keep it highly qualified against the pressures arising from rapid pace of technology and never ceasing crises.

Most of the Human Resources Training and Development (HRTD) programs include communication topic to develop competencies in the field of teamwork, leadership, coordination etc. HRM professionals are aware of the fact that a healthy communication contributes almost all aspects of organizational life. Moreover, healthy communication includes both verbal and nonverbal communication skills. As is mentioned above, today, communication skills training generally cover topics like conflict management, coordination, effective teamwork, leadership, etc. However, it is almost impossible to see topics on nonverbal skills like "nonverbal communication" and "nonverbal immediacy" in most of the HRTD programs.

This study was conducted to demonstrate the importance of adding "nonverbal immediacy" subject into HRTD programs in organizations. To do this, physicians were chosen as the focus of the study. By developing a new nonverbal immediacy scale directly designed for physicians (Nonverbal Immediacy Scale for Physicians/NISP), the study investigates the effects of nonverbal immediacy skills on the "perceived success of outstanding physicians" and on the "patient satisfaction". Since it is vital to understand the components of best performance to include them in the training programs, understanding the role of nonverbal immediacy skills in outstanding physicians' success and on patient satisfaction will help develop a better HRTD program.

In the first part of this study, a literature review on HRTD, nonverbal immediacy and physician-patient communication is made. In the empirical part, a research conducted on physicians' nonverbal immediacy skills is presented. In the conclusion part, an evaluation is made resting on the findings of the study.

## 2. Human Resources Training and Development: Theoretical Framework

HRTD activities play an important role in nurturing and strengthening the core sets of knowledge and expertise that give organizations an edge over their competitors. Therefore, it can be said that HRTD has become a part of the backbone of strategy implementation in today's organizations. In addition, rapidly changing technologies require the employees continuously sharpen their knowledge, skills, and abilities to cope with new processes and systems. Because, jobs requiring modest skills are rapidly being replaced by jobs requiring advanced technical, interpersonal, and problem-solving skills (Sherman et al., 1998: 214). As is seen, the need for HRTD is continuously increasing in our era. In the following heading, a theoretical framework will be given on HRTD in order to clarify the discussions on two terms: training and development and to explain the reason of combined use of the terms in this study as HRTD.

## 2.1 "Training" versus "Development"

The term "training" is often used casually to describe any effort initiated by an organization to foster learning among its members (Sherman et al., 1998: 214). However, many experts make a distinction between training and development. Definitions from different experts are listed below:

Training refers to a systematic approach to learning and development to improve individual, team, and organizational effectiveness, whereas development refers to activities leading to the acquisition of new knowledge or skills for purposes of personal growth (Aguinis and Kraiger, 2009: 452).

Training typically focuses on providing employees with specific skills or helping them correct deficiencies in their performance. In contrast, development is an effort to provide employees with the abilities the organization will need in the future (Gomez-Mejia et al., 2001: 260).

Training tends to be more narrowly focused and oriented toward short term performance concerns, whereas, development tends to be oriented more toward broadening an individual's skills for the future responsibilities (Sherman et al., 1998: 214).

In order to understand the difference better, an example from school teachers can be helpful. For a teacher, training deals with building specific teaching skills: how to sequence a lesson or how to teach a dialogue, for instance. Development, on the other hand, focuses on the individual teacher-on the process of reflection, examination, and change, which can lead to doing a better job and to personal and professional growth (Freeman, 1982: 21). This distinction between training and development further implies a difference in scope. Training addresses certain immediate needs, like helping a person with no previous teaching experience enter a class with some degree of confidence in what she or he is doing. Development, however, speaks to broader, long-term concerns; how a teacher can be motivated to grow, to explore new avenues and ideas, and, thus, to stay away from professional atrophy or the feeling that one has done it all before (Freeman, 1982: 22). Table 1 summarizes the three stages of teaching expertise:

Table 1. Selecting the Program Type: Training or Development

	Need Type	Program Type
Stage 1	What do I teach?	Training
Stage 2	How do I teach what I teach?	Training and/or Development
Stage 3	Why do I teach what I teach?	Development
_	Why do I teach the way I do?	-

Source: Adapted from Freeman (1982: 27).

As is seen above, the goal of training is a fairly quick improvement in worker's/employee's performance, whereas the goal of development is the overall enrichment of the organization's human resources.

Training strongly influences present performance levels, while development pays off in terms of more capable and flexible human resources in the long run (Sherman et al., 1998: 214).

TrainingDevelopmentFocusCurrent JobCurrent and future jobsScopeIndividual employeesWork group or organizationTime frameImmediateLong termGoalFix current skill deficitPrepare for future work demands

Table 2. Training versus Development: Summary Table

Source: Gomez-Mejia et al., 2001: 260.

Table 2 shows the distinction between the terms clearly, however, as in this study, some experts use the terms together.

## 2.1.1 Combining the terms: "Training and Development"

Some experts combine the two terms into a single phrase as "**training and development**" to recognize the combination of activities used by organization to increase the skill base of employees (Sherman et al., 1998: 214). Others use the term training alone to cover both terms. Aguinis and Kraiger (2009: 452) explain the reason as follows: "It is often difficult to ascertain whether a specific research study addresses training, development, or both...we use the term 'training' to refer to both training and development efforts." For example, problem-solving skill can be a subject of both training and a development program: This skill will help employees to solve problems in their current job immediately and in their future jobs in organization in the long term!

Another interesting thing about these terms is related to the perception of employees in practice. The term training can have a negative connotation in some organizations (Gomez et al., 2003: 260). The result is that people might appreciate an opportunity for development but resent being scheduled for training. Gomez et al. (2003: 260) summarize the situation and suggest the remedy as follows:

"Training often implies that a person has a skill deficit, so employees may view their selection for training as a negative and embarrassing message, rather than an improvement opportunity. Changing this perception can be difficult. To help make the change, a company can focus on the improvement potential offered through training, rather than correction of skill deficit. In other words, the "training" is portrayed as development. Although this tactic muddles the distinction between training and development, the two terms are often used interchangeably in practice. Given the rapid rate of change in many workplaces, training is becoming a necessity. The culture of organizations, then, needs to change so that training is viewed positively."

Therefore, the use of the two terms together can be highly convenient and prevent misconception in practice. With this reason, the term **Human Resources Training and Development (HRTD)** will be used in this study to refer to both training and development efforts. In the following heading of the study, the importance of nonverbal immediacy will be demonstrated in order to explain the rationale of adding the subject into HRTD programs in organizations.

#### 2.2 Importance of Nonverbal Communication and Nonverbal Immediacy in HRTD Programs

The ability to solve the meanings of the nonverbal communication messages of a worker, coworker, manager, or a customer is an important asset for both managers and employees. People can manipulate their verbal messages, but the body cannot disguise feelings of aggressiveness, opposition, stress, disbelief, hesitancy, resentment, anger, etc. and leaks them as nonverbal signals (Rotenberg and Sullivan, 2003: 175; Vrij, 1993: 601; Vrij et al., 1996: 544; Vrij et al., 1997: 87; Waltman and Golen, 1993: 61). Therefore, persons who can recognize these signals in time, have a greater chance to intervene and solve communication problems earlier when compared to those who are unskillful in this field. When it comes to immediacy; it can be defined as the development of communication among individuals through selected verbal and nonverbal communication behaviors (Mehrabian, 1969; Mehrabian, 1971; Andersen et.al., 1979). In other words, it indicates the degree of closing the perceived power distance among people.

Simply speaking, it can be defined as a form of communication producing charm and pleasant feelings. Immediacy can be grouped into two categories: Verbal immediacy and nonverbal immediacy. However, research showed that nonverbal immediacy is more effective than verbal immediacy in creating pleasant feelings at the communication process (Rodriguez et.al., 1996). Nonverbal immediacy skills can be listed as follows: Eyecontact, smiling, relaxed body position, using a lively voice tone, touching, being active and energetic, etc. (Richmond et.al., 1987).

The importance of nonverbal communication and nonverbal immediacy skills can easily be understood upon the given framework above, however, those skills are generally out of the scope of communication skills training in HRTD programs. This is also true for physician training in both medical schools and professional hospitals. Therefore in the following part, the subject will be explained in the framework of physician-patient communication.

#### 2.3. Nonverbal Communication at Physician-Patient Interaction

Today, there is an increasing awareness among physicians, patients, researchers and educators that effective communication skills is important in achieving desired health outcomes (Boon and Stewart, 1998: 161). Physician-patient communication has a great impact on many aspects of the patients and his families' well-being, including their psychosocial adjustment, decision making, treatment compliance and satisfaction with care. However, there still remain serious deficits in this relationship and most physicians still have little training with respect to their communication competence (Stubenrauch et al., 2012: 225).

Since many aspects of medical care involve sensitivity to patients' feelings and a facility in expressive communication with patients, a consideration of the importance of the **general nonverbal communication skills** of physicians to success in the interpersonal aspects of health care may be beneficial (DiMatteo et al., 1980: 377). Nonverbal communication in health care interactions involves primarily the communication of cues of emotion through various channels (DiMatteo et al., 1980: 378): 1) facial expressions (e.g., smiles, grimaces), 2) body postures and movements (e.g., finger tapping, hand wringing), and 3) the tone and inflections of voice (e.g., high-pitched voice).

In fact, the value of the physicians' skill in communication (encoding) of emotional messages in nonverbal channels as well as their ability to understand (decoding) patients' nonverbal cues, has been recognized by physicians as early as Hippocrates (DiMatteo et al., 1980: 378).

In conclusion, preparing a communication skills program as a part of HRTD activities in an organization without including nonverbal immediacy subject seems not to be a reasonable approach, at least in theory. To evaluate the situation in practice, an empirical study was designed. The study focused on the physician-patient communication and on the role of nonverbal immediacy in this process. In the following part, findings of this empirical study will be presented.

#### 3. Empirical Study

An empirical research was designed and conducted with the participation of university students at the Political Science and Public Administration department of Hacettepe University, Turkey.

#### 3.1 Purpose

The research was conducted to show the effects of nonverbal immediacy skills of physicians on their perceived success and on the patient satisfaction. Turkish students involved in the research were asked to respond the questionnaire based on their perception of the most successful physician that they had ever known. In this context, hypotheses of the research were formed as follows:

- H<sub>1</sub>. Outstanding physicians frequently use nonverbal immediacy behaviors.
- H<sub>2</sub>. Physicians' nonverbal immediacy skills affect patients' perception of physician success.
- H<sub>3</sub>. Physicians' nonverbal immediacy skills affect patient satisfaction.

## 3.2 Sampling

The survey was conducted with the participation of 102 Political Science and Public Administration students from Hacettepe University (Turkey).

#### 3.3 Data Collection

Questionnaires were implemented during the first 10 minutes of class hours by the permission of course instructor. Students were asked to respond a total of 9 items. The scale developed and used in the research was named as Nonverbal Immediacy Scale for Physicians (NISP). It was developed by using one of the most popular scales in the literature on nonverbal immediacy (Revised Nonverbal Immediacy Measure/RNIM) (McCroskey et al., 1996).

#### 3.3.1 Nonverbal Immediacy Scale for Physicians (NISP)

When physician-patient communication literature was reviewed, a few scales on nonverbal communication can be found (Ong et al. 1995; Cegala and Lenzmeier Broz, 2002; Fallowfield, 2001; Boon and Stewart, 1998; Stubenrauch et al., 2012; DiMatteo et al., 1980), but the usage of these scales is not suitable to the structure of this study (Likert type questionnaire implementation directly to patients). Therefore, a popular nonverbal immediacy scale (RNIM) was adapted into this field. RNIM consists 10 items and it measures nonverbal immediacy skills of instructors in the classroom teaching. The scale was used in many articles after that date and it has been one of the most popular scales in nonverbal immediacy literature. The high validity and reliability of RNIM (together with time saving advantage due to 10 items) were most likely the reason behind this popularity.

Since RNIM was originally developed for instructors, it had to be adapted to physicians and to the physicians' office instead of the classroom. Thus, wording of the items were changed and three items were removed from the scale in order to adapt the scale to physician-patient interaction. Removed items were related to "gesturing", "touching" and "walking around". Finally, newly developed scale (NISP) contained 7 items related to nonverbal immediacy skills of physicians (Table 3).

Table 3. Nonverbal Immediacy Scale for Physicians (NISP)

Ins	<b>Instruction:</b> Think about "the best physician that you have made a visit". For the following		
	statements, please use the following scale to respond to each of the items:		
	Never=0 Rarely=1 Occasionally=2 Often=3 Very Often=4		
1*	Uses monotone/dull voice when talking to the patient		
2	Looks at the patient while talking		
3	Smiles at the patient while talking		
4*	Has a very tense body position while talking to the patient		
5*	Looks away while talking to the patient		
6	Has a very relaxed body position while talking to the patient		
7	Uses a variety of vocal expressions when talking to the patient		

\* Item should be reflected prior to scoring. **Source:** Developed from McCroskey et al. (1996)

In addition to these 7 items, two more questions were added to measure the "patient perception of physician success" and "patient satisfaction":

- 1. In your opinion, what is the success level of this physician in his/her profession? ("0" very poor, "1" poor, "2" neither poor nor good, "3" good, "4" very good).
- 2. What is your satisfaction level related to your visit to this physician's office? ("0" very dissatisfied, "1" dissatisfied, "2" neither dissatisfied nor satisfied, "3" satisfied, "4" very satisfied).

Therefore, the questionnaire used in the study contained a total of 9 items: 7 items on nonverbal immediacy (NISP), 1 item on physician success and 1 item on patient satisfaction.

## 3.4 Validity

Factor analysis produced a 2-factor structure (number of eigenvalues over 1) and 2 factors cumulatively explained 60 % of total variance. There were no overlapping items that should be eliminated from the instrument. Items related to smiling and lively voice came together forming a separate factor and items related to eye contact and body posture formed the other factor (see Table 4).

	Component	
	1	2
Smile	.869	.015
Colorful voice	.746	.176
Monotone voice*	.665	.269
Relaxed body position	.068	.832
Tense body position*	.099	.829
Look away*	.363	.545
Eye contact	.479	.537

Table 4. Rotated Component Matrix

**Note:** Principal Component Analysis was used for extraction. Rotation Method is Varimax with Kaiser Normalization.

#### 3.5 Reliability

Statistical analysis indicates that Cronbach's Alpha coefficient is 0.77 for NISP (negative questions in the scale were reversely coded before conducting the test).

## 3.6 Findings

Arithmetical means were used for determining nonverbal immediacy skills of the most outstanding physicians (first hypothesis), whereas Pearson Simple Correlation test was used for testing the second and third hypotheses of the study.

## 3.6.1 Hypothesis 1: Outstanding physicians frequently use nonverbal immediacy behaviors

In order to test that hypothesis, arithmetic means of NISP items were calculated after combining the related questions in four categories (eye contact, voice tone, relaxed body, and smiling). Those categories and the related item numbers in the scale are given below:

- 1. Relaxed body position (combining item 4 and item 6),
- 2. Maintaining eye contact (combining item 2 and item 5),
- 3. Smiling (item 3),
- 4. Lively voice/variety of vocal expressions (combining item 1 and item 7).

Following table shows the ranking of arithmetic means for nonverbal immediacy skills of outstanding physicians.

Table 5. Patients' Perception on Nonverbal Immediacy Skills of Outstanding Physicians (arithmetic means in a descending order)

Order		Mean	Std.
			Deviation
1	Relaxed body position (combining item 4 and item 6)	3.11	0.79
2	Eye contact (combining item 2 and item 5)	3.08	0.85
3	Smiling (item 3)	2.99	0.87
4	Lively voice (combining item 1 and item 7)	2.75	0.92

<sup>\*</sup> Arithmetic means for each variable are in between 0 and 4. Values equal or over "2.5" mean that the behavior is frequently or very frequently repeated.

As seen in the table 5, all means are above 2.5 (over 4), meaning that those behaviors are frequently or very frequently repeated by the physicians. This finding supports the first hypothesis of the research. In other words, those who are perceived as outstanding physicians by their patients use nonverbal immediacy behaviors frequently.

<sup>\*</sup> Item should be reflected prior to scoring.

# 3.6.2 Hypothesis 2: Physicians' nonverbal immediacy skills affect patients' perception of physician success

In order to test the second hypothesis of the study, Pearson Simple Correlation test was used.

Table 6. Correlation between Nonverbal Immediacy Skills and Perceived Physician Success

	Performance
	of Physician
Smiling	.290(**)
Lively Voice	.510(**)
Relaxed body position	.284(**)
Eye contact	.508(**)

<sup>\*\*</sup> Correlation is significant at the 0.01 level (2-tailed).

Table 6 shows that there are positive correlations between immediacy skills and physician success. Results indicate statistically significant, positive and strong correlations at lively voice (r=0.51, p<0.01) and eye contact (r=0.51, p<0.01) skills. Other two skills have also statistically significant and positive correlations, but these correlations are small sized (r=0.29, p<0.01 for smiling and r=0.28, p<0.01 for relaxed body posture). This finding supports the second hypothesis of the research. In other words, physicians' perceived success is positively correlated with their nonverbal immediacy skills.

## 3.6.3 Hypothesis 3: Physicians' nonverbal immediacy skills affect patient satisfaction

In order to test the third hypothesis of the study, Pearson Simple Correlation test was used.

Table 7. Correlation between Nonverbal Immediacy Skills and Patient Satisfaction

	Patient
	Satisfaction
Smiling	.432(**)
Lively Voice	.443(**)
Relaxed body posture	.149
Eye contact	.317(**)

<sup>\*\*</sup> Correlation is significant at the 0.01 level (2-tailed).

Table 7 shows that there are positive correlations between immediacy skills and physician success except relaxed body posture. Results indicate statistically significant, positive and middle size correlations at lively voice

(r=0.44, p<0.01), smiling (r=0.43, p<0.01) and eye contact (r=0.32, p<0.01). However, relaxed body position did not produce a statistically significant correlation with patient satisfaction (p>0.05). At this point, this analysis was repeated to see the scores of two separate items related to body position (item 4 and item 6) without combining, since the items in the scale had been combined before analysis.

Table 8. Correlation between Relaxed Body Position and Patient Satisfaction (analysis of the two items related to body position separately)

	Patient
	Satisfaction
Tense body position (reversely coded before test) (item 4)	.218(*)
Relaxed body position ( <b>item 6</b> )	.013

<sup>\*</sup> Correlation is significant at the 0.05 level (2-tailed).

Table 8 shows that one of the scale items related to body position (item 4-tense body position) produces statistically significant, positive and small size correlation with patient satisfaction, while the other one (item 6-relaxed body position) does not produce a statistically significant correlation. This finding is reasonable: Since physicians generally sit in their chairs while talking to patients, "having a relaxed position while sitting" may be negatively evaluated by participants as a sign of "indifference" instead of "comfort and communicativeness".

Whereas "sitting in a tense position" is more meaningful in the scale, since it might be seen as a characteristic of a "tense or strict person" who is not ready to listen to or to feel concern about his/her patient. Therefore, in future use of the scale, item 6 (relaxed body position) should be removed in order to prevent misunderstanding.

When item 6 was removed from the scale, alpha reliability score dropped to 0.75 (it was 0.77 in previous form). Correlation between body position and physician success changed as well. In combined version, this correlation was r=0.28, p<0.01, but when the analysis was repeated with only item 4 (not having a tense body position), correlation score became r=0.34, p<0.01. Moreover, the order of Outstanding Physicians' nonverbal immediacy skills also changed (see Table 9).

Table 9. Patients' Perception on Nonverbal Immediacy Skills of Outstanding Physicians (arithmetic means in a descending order)

Order		Mean	Std. Deviation
1	Eye contact (combining item 2 and item 5)	3.08	0.85
2	Not having a tense body position (item 4)	3.07	1.04
3	Smiling (item 3)	2.99	0.87
4	Lively voice (combining item 1 and item 7)	2.75	0.92

<sup>\*</sup> Arithmetic means for each variable are in between 0 and 4. Values equal or over "2.5" mean that the behavior is frequently or very frequently repeated.

As a conclusion, in the first version of the scale, 3 of the 4 categories of nonverbal immediacy showed statistically significant relations with patient satisfaction (when item 6 was removed from the scale, all categories showed statistically significant correlations.) In another words, the results support the third hypothesis of the research.

#### 4. Conclusion

Findings of this study show that physicians who are perceived as highly successful by their patients are rather competent in nonverbal immediacy. According to the findings, this competence also increases patient satisfaction. Moreover, physicians' nonverbal immediacy skills are also correlated with the patient perception of physician success. Fortunately, nonverbal immediacy skills can be taught, meaning that HRTD programs in hospitals can cover such skills. For example, a one-day training on nonverbal communication and nonverbal immediacy from a nonverbal communication expert at the weekend might be very helpful. We know that many patients change physicians ("doctor shop"), because they are dissatisfied with the impersonal treatment they receive and with their physicians' seeming lack of interest in them (DiMatteo et al., 1980). Dissatisfaction also increases costs in health care system due to needless duplication of examinations and procedures. Then, such a training serves to the goals of both preventing costs and satisfying emotional and humane expectations in an overly mechanized health care system. In the future, effects of nonverbal immediacy behaviors in organizations should be a focus of concern in other professions as well. However, positive findings of this study imply that inclusion of nonverbal immediacy topic in HRTD programs may contribute a lot to the success of both employees and organizations simultaneously.

#### References

- Aguinis, H, & Kraiger, K. (2009). Benefits of Training and Development for Individuals and Teams, Organizations, and Society, Annual Review Psychology, 60: 451–74.
- Andersen, J.F., Andersen, P.A. & Jensen, A.D. (1979). The measurement of immediacy, Journal of Applied Communication Research, 7, 153-180.
- Boon, H. & Stewart, M. (1998). Patient-physician communication assessment instruments: 1986 to 1996 in review. Patient Education and Counselling, 35 (3), 161–176.
- Cegala, D. & Lenzmeier Broz, S. (2002). Physician communication skills training: a review of theoretical backgrounds, objectives and skills. Medical Education, 36 (11), 1004–1016.
- DiMatteo, M. R., Taranta, A., Friedman, H.S., & Prince, L. M. (1980). Predicting Patient Satisfaction from Physicians Nonverbal Communication Skills, Medical Care, 18(4), 376-387.

- Fallowfield, L., Saul, J., & Gilligan, B. (2001). Teaching senior nurses how to teach communication skills in oncology. Cancer Nursing, 24 (3), 185–191.
- Freeman, D. (1982). Observing Teachers: Three Approaches to In-Service Training and Development, TESOL Quarterly, 16(1), pp. 21-28.
- Gomez-Mejia, L.R., Balkin, D.B., & Cardy, R.L. (2001). Managing Human Resources, New Jersey: Prentice Hall.
- McCroskey, J. C., Sallinen, A., Fayer, J. M., Richmond, V. P., & Barraclough, R. A. (1996). Nonverbal immediacy and cognitive learning: A cross-cultural investigation, Communication Education, 45, 200-211.
- Mehrabian, A. (1969). Some referents and measures of nonverbal behavior, Behavioral Research Methods and Instruments, 1, 213-217.
- Mehrabian, A. (1971). Silent Messages, Belmont, CA: Wadsworth.
- Ong, L. M., de Haes, J. C., Hoos, A. M., & Lammes, F. B. (1995). Doctor-patient communication: a review of the literature. Social Science & Medicine, 40 (7), 903–918.
- Richmond, V. P., Gorham, J. S., & McCroskey, J. C. (1987). The relationship between selected immediacy behaviors and cognitive learning, Communication Yearbook, 10, 574-590.
- Rodriguez, J. I., Plax, T. G., & Kearney, P. (1996). Clarifying the relationship between teacher nonverbal immediacy and student cognitive learning: Affective learning as the central causal mediator, Communication Education, 45, 293-305.
- Rotenberg, K. J., & Sullivan, C. (2003). Children's use of gaze and limb movement cues to infer deception, Journal of Genetic Psychology, June, 164(2), 175-188.
- Sherman, A., Bohlander, G., & Snell, S. (1998). Human Resources Management, Cincinnati, Ohio: South-Western Publishing Company.
- Stubenrauch, S., Schneid, E., Wünsch, A., Helmes, A., Bertz, H., Fritzsche, K., Wirsching, M., and Gölz, T. (2012). Development and evaluation of a checklist assessing communication skills of oncologists: the COM-ON-Checklist, Journal of Evaluation in Clinical Practice, 18, 225–230.
- Vrij, A. (1993). Credibility judgments of detectives: the impact of nonverbal behavior, social skills, and physical characteristics on impression formation, The Journal of Social Psychology, October, 133(5), 601-611.
- Vrij, A., Semin, G. R., & Bull, R. (1996). Insight into behavior displayed during deception, Human Communication Research, June, 22(4), 544-563.
- Vrij, A., Akehurst, L., & Morris, P. (1997). Individual differences in hand movements during deception, Journal of Nonverbal Behavior, Summer, 21(2), 87-103.
- Waltman, J. L., & Golen, S. P. (1993). Detecting deception during interviews, Internal Auditor, August, 50(4), 61-64.