

Improving medication adherence by using practitioner nonverbal techniques: a field experiment on the effect of touch

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Abstract Though the positive effect of touch on compliance has been widely reported in the social psychology literature, a new evaluation has been made in a health setting. Six general practitioners were instructed to touch (or not) their patients on the forearm for 1–2 s. Patients who suffered from mild pharyngitis were solicited by the practitioners at the end of the consultation for a verbal promise to take the antibiotic medication as prescribed. One week later, patients were contacted at home to determine the number of pills that had been taken and to evaluate the practitioner. Touch increased medication adherence in both male and female patients, but was associated with a greater increase in male patients. It was also found that practitioners were perceived to be more concerned about their patients by those in the touch condition. Practitioner competence appeared to be slightly higher in the touch condition. The theoretical implications of this positive effect of tactile contact are discussed and the practical interest for practitioners is highlighted, showing how this nonverbal technique could help them to increase the medication adherence of their patients.

Keywords Tactile contact · Medication · Adherence

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Introduction

The problem of nonadherence to recommended medical regimens has been widely documented (Fincham 2007; Laude and Tabuteau 2007; Palazuolo and Olié 2004; Reach 2007). This phenomenon is generally associated with a waste of practitioners' time, a negative effect on patients' health, and an increase in the number of relapses and, therefore, increases healthcare costs. Thus it would be interesting to explore and to promote techniques that facilitate patients' adherence to prescribed medication (Shea 2006). Previous studies have shown that medication adherence can be increased with various techniques that are easy to implement. Kulik and Carlino (1987) found that parents of children suffering from an inner ear infection were more compliant with the medication prescribed for their children when the practitioner asked them for a verbal promise to give their child all the prescribed antibiotic medication. Stewart (1984) found that practitioners who encourage discussion and are interested in a patient's point of view are more successful in getting patients to follow their advice. Rissman and Zimmer-Rissman (1987) found that an increase in the time spent with patients, regardless of the content of the interchange, is associated with an increase in medication adherence. Such studies show that several factors could be used to increase medication adherence on the practitioner's level. In this study, we explore the effect on medication adherence of practitioners' nonverbal behavior and, particularly, tactile contact towards their patients.

Touch and compliance

The positive effect of touch on compliance to a request has been widely demonstrated in the social psychology

literature. Broadly speaking, when slight tactile contact of a solicitor is associated with a request for help, it leads the “touchee” to agree more frequently to the solicitation. Kleinke (1977) has shown that touching the forearm of a person for 1 or 2-s led him/her to return money found in a phone box or to give money to a confederate in the street more frequently. Similarly, touch increases the response rates observed in street surveys about food habits (Hornik 1987; Hornik and Ellis 1988) or jewelry (Guéguen 2001b, 2002a). Slight touching also leads to greater persistence when executing a difficult task, such as answering a long questionnaire about very private subjects (Nannberg and Hansen 1994). Various consumer behaviors are also influenced by tactile contact. Several studies have found that the tactile contact of a patron by a waiter or a waitress in a restaurant or bar increases client tipping (Crusco and Wetzel 1984; Stephen and Zweigenhaft 1986; Hornik 1992b; Lynn et al. 1998; Guéguen and Jacob 2005). Touching potential customers can also lead to an increase in the selling rate of products (Smith et al. 1982; Hornik 1992a, b; Guéguen 2001a). Tactile contact clearly has a positive effect on compliance in a variety of contexts. A meta-analysis by Segrin (1993) across 13 studies found that the magnitude of the effect of touch is not large ($r = .21$) but remains fairly consistent across these studies. Previous studies on the effect of touch on human behavior have also found that tactile contact is associated with a more positive impression of the “toucher” by the “touchee” (Erceau and Guéguen 2007; Fisher et al. 1976; Hornik 1992a, b; Steward and Lupfer 1987).

Touch in the medical context

The effect of touch on individual health behavior has been reported in the social psychology literature in circumstances involving different health behaviors. Eaton et al. (1986) evaluated the effect of gentle touch during eating on the nutritional intake of institutionalized chronic organic brain syndrome patients. They found that touch is associated with increased calorie (29%) and protein (36%) intake. Tactile contact is also associated with a higher level of patient comfort. Pattison (1973) found that clients who were touched engaged in more self-exploration than clients who were not touched. Bacorn and Dixon (1984) show that a counselor’s touch in a first interview with a client is associated with greater acceptance for a second interview. In the same way, Hollinger (1986) found that geriatric patients who were slightly touched by a nurse during a 15 min nurse–patient interaction express more verbal interaction than patients who were not touched. Some studies also suggest that in a counseling context, touch is

associated with better perception of the counselor. Alagna et al. (1979), in an analogue study, demonstrate that the clients who have been touched by counselors evaluate the counseling experience, and the counselor, more positively. Again this effect of touch on the perception of the counselor has been reported in several studies (Durana 1998; Hubble et al. 1981; Stockwell and Dye 1980). However, neither the latter cited studies nor that of Alagna et al. (1979) have examined the behavioral effects of touch.

These previous studies suggest that touch could be used successfully in a medical context to obtain more effectiveness in the medical recommendations addressed by practitioners to patients and to enhance the perception of physicians in this context. Thus far the effect of touch on medication adherence has not been evaluated in studies which examine the effect of tactile contact on patient behavior. To our knowledge, no study has tested the effect of this nonverbal variable on medication adherence. Similarly, the effect of touch on the perception of a medical practitioner has not been evaluated. Our aim was to study these two specific effects of tactile contact.

Given the effect of touch and its influence on multiple requests, as reported in the social psychology literature, we expected that a practitioner’s tactile contact could be used to increase patients’ adherence to medical prescriptions. The present study was designed to evaluate the effectiveness of touch on medication adherence in a patient population and to determine whether this nonverbal behavior would affect the patients’ perception of the physician. In keeping with previous research, we hypothesized that a practitioner’s tactile contact towards patients would be associated with greater adherence to medical prescriptions and with a more positive evaluation of the practitioner. In this experiment, we decide to test the effect of a practitioner’s tactile contact on medication adherence in the case of bacterial pharyngitis because it is a commonly encountered, mild illness that is associated with a specific medication regimen (e.g., antibiotics). In addition it has been shown (Céruse et al. 2002) that adherence to antibiotic treatment is an important factor in preventing the recurrence of this infection. According to previous research on tactile contact, gender was considered as an independent variable because of the discrepancy in results reporting the effect of touch on compliance to a request was tested and when the same request was tested. For example, with tipping behavior, Ebesu Hubbard et al. (2003) found no difference between male and female patrons in a restaurant, whereas Crusco and Wetzel (1984) found that men are more generous than women when touched, and Stephen and Zweigenhaft (1986) found that women are more generous than men when touched.

Methods

Participants

The patient population included 326 patients (147 men and 179 women) aged between 20 and 30 ($M = 23.8$, $SD = 3.81$) who consulted their family doctor and were diagnosed with pharyngitis associated with a bacterial infection. The experiment was carried out from October 2007 to mid-March 2008. It was not possible to obtain the measures for 77 patients because 67 were not at home when the interviewer came to evaluate the patient's medication consumption. However, the number of the patients not presented in the two experimental conditions was not different statistically: 36/154 in the touch condition and 31/162 in the no-touch condition ($\chi^2(1, 316) = 0.85$, ns). For the 10 other patients it was impossible for them to give information about their medication consumption ($N = 6$: 4 in the touch condition and 2 in the control condition) or because they refused to respond to the two questions concerning their perception of practitioner's competence and practitioner's concern about his/her patient ($N = 4$: 1 in the experimental condition and 3 in the control condition). As such, data concerning the number of pills consumed, patient perception of physician competence and concern were collected from 249 patients. Information about this final sample, including excluded patients is presented in tabular form (Table 1).

Procedure

Six general practitioners (4 men and 2 women) volunteered to participate in the study and acted as confederates in our

experiment (Mean age: 43.8 years ($SD = 5.24$), with a mean of 11.2 years of practice ($SD = 4.7$)). They were instructed to select patients as participants based on the following criteria: (1) patient age between 20 and 30 years; (2) patient diagnosed with probable bacterial pharyngitis (one case out of 5 patients when considering adult symptoms); (3) penicillin was the prescribed treatment; (4) medication consisted of a similar product packaged in the same way (a box containing 16 pills); and (5) patient was instructed to take two pills per day (one with breakfast and one with dinner) for 7 days. We selected patients between 20 to 30 years of age, since a recent survey in France shows that the rate of patients who fail to follow medication recommendations is higher in this age bracket (20–30) than in any other (Laude and Tabuteau 2007). The practitioners were instructed to act as usual with their patient and to solicit information about their age only at the end of the consultation after the prescription had been written. Then, the practitioner got up and escorted the patient to the door of the office. In both conditions, the practitioner was instructed to gaze at the patient and to say "It's very important for you to take your medication in order to prevent a recurrence". In the experimental condition, the practitioner slightly touched the patient's forearm for 1 to 2-s while stressing the importance of complying with the treatment, whereas no tactile contact was performed in the control condition. The two experimental conditions were selected according to a random distribution by using a list of the patients which the practitioner consulted just prior to the end of the consultation: Patient 1/Touch, Patient 2/Touch, Patient 3/No touch, Patient 4/Touch, Patient 5/No touch and so on... The practitioner waited until the patient had left, before noting the experimental condition used for

Table 1 Composition of the samples

	Touch ($N = 118$)	No touch ($N = 131$)	Patients not present at home ($N = 67$) or excluded from the data analysis ($N = 10$)
Mean age (years)	23.7	24.0	24.1
SD	3.76	3.90	(3.91)
Range	20–30	20–30	20–30
Sex			
Males	58 (49.1%)	64 (48.8%)	25 (32.5%)
Females	60 (50.9%)	67 (51.2%)	52 (67.5%)
Ethnicity			
French born	117 (99.1%)	129 (98.5%)	77 (100%)
Non-French born	1 (0.9)	2 (1.5%)	0 (0%)
Marital status			
Married	37 (31.4%)	40 (30.5%)	28 (36.4%)
Divorced/Separated	2 (1.71%)	1 (0.8%)	1 (1.3%)
Single	79 (66.9%)	90 (68.7%)	48 (62.3%)

the patient on a pre-designed form. Exactly 8 days later, the patients were solicited at home in face to face interaction with an interviewer who was unaware of the experimental condition. Twenty-two interviewers (14 women and 8 men) took part in this study. Each interviewer was instructed to say “*You consulted Doctor X (name of the practitioner) a week ago for a pharyngitis caused by a bacterial infection. Doctor X prescribed an antibiotic. Is it possible to look at the box to see how many pills are left?*” All but 4 of the patients agreed to the request and all of them invited the interviewer to enter their homes. All but 6 patients were able to find the box of medication and give it to the interviewer. The interviewer was instructed to note the number of pills remaining in the box. After recording this number, the interviewer asked the patient to respond to two questions concerning the practitioner. All of them agreed with the request. In the first question, patients were asked to rate the extent to which they thought the practitioner was competent on a scale ranging from zero to nine (0 = this doctor is not competent, 9 = this doctor is very competent). In the second question, patients were asked to rate the extent to which they thought the practitioner was concerned about them, using the same scale from 0 to nine (0 = this doctor is not concerned about me, 9 = this doctor is really concerned about me). After responding, patients were thanked and given a complete debriefing.

The interviewer told the patients that they had participated in an experiment on medication adherence. The experiment was described in detail but the interviewer could not inform them of the experimental condition (touch or no touch) in which they took part. Patients were then asked if they agreed to our using their data for further anonymous study. All the patients verbally agreed to our using the data collected and signed a consent form. A copy of the consent form and an information sheet concerning the experiment, the methodology and our laboratory web site was given to each patient. This procedure was used in accordance with recommendations from the ethical committee of our laboratory. The pre-printed information sheet that was given to the participant included the address of the web site presenting this project and the personal phone number of the director of the laboratory. To date, none of the participants have phoned to obtain information about this research.

Measures

Three dependent variables were measured in this experiment: The number of pills remaining in the box (DV1), the patient’s evaluation of the practitioner’s competence (DV2) and the patient’s evaluation of the practitioner’s concern about him/her (VD3).

Results

In this experiment, we defined a fully-compliant patient as a patient who had consumed all 16 pills when solicited at home. None of the patients in our sample had completed entirely the prescribed treatment. Therefore, the number of pills remaining in the box was used as the dependent variable. A 2 (experimental condition) \times 2 (patient gender) \times 2 (practitioner gender) \times 6 (practitioners) ANOVA was performed with the data. A main effect of the experimental condition was observed ($F(1, 225) = 60.05, P < .001, \eta^2 = .19$): the number of pills remaining in the box was lower in the touch condition ($M = 5.22, SD = 1.14$) than in the no touch condition ($M = 6.43, SD = 1.51$). No main effect of the practitioner gender was found ($F(1, 225) = 0.01, P = .99, \eta^2 = .00$) showing that the number of pills remaining in the box was not different with a male ($M = 5.86, SD = 1.54$) or with a female physician ($M = 5.87, SD = 1.38$). A main effect of patient gender was found ($F(1, 225) = 42.71, P < .001, \eta^2 = .16$) with the number of pills remaining in the box being lower among female patients ($M = 5.36, SD = 1.17$) than among male patients ($M = 6.39, SD = 1.58$). A main effect of practitioner was also recorded ($F(5, 225) = 4.42, p < .005, \eta^2 = .07$): practitioner 1: $M = 5.76, SD = 1.29$; practitioner 2: $M = 5.97, SD = 1.46$; practitioner 3: $M = 5.31, SD = 1.43$; practitioner 4: $M = 5.75, SD = 1.50$; practitioner 5: $M = 6.32, SD = 1.49$; practitioner 6: $M = 6.11, SD = 1.59$. However, this factor did not interact with any of the other factors ($P > .20$). Only one interaction effect was revealed by the ANOVA. It was found that experimental condition and patient gender were statistically significant ($F(1, 225) = 6.98, P = .03, \eta^2 = .02$). Since touch and patient gender were factors showing both a main effect and an interaction effect, the results are presented according to these factors (Table 2).

Additional data analyses revealed that the difference between the touch/no touch condition was significant when considering male patients ($M = 5.55$ vs. $M = 7.14$; $t(120, 2\text{-tailed}) = 6.41, P < .001, d = 1.17$) and when considering female patients ($M = 5.22$ vs. $M = 6.43$; $t(125, 2\text{-tailed}) = 4.35, P < .001, d = .78$). Both male and female patients complied more favorably with the physician’s instructions when touched. Statistical differences in compliance between male and female patients were found in both the experimental (touch) condition ($M = 5.55$ vs. $M = 4.91$; $t(116, 2\text{-tailed}) = 3.17, P < .001, d = 0.58$) and the control (no touch) condition ($M = 7.14$ vs. $M = 5.76$; $t(129, 2\text{-tailed}) = 5.84, P < .001, d = 1.02$). In considering the sizes of the observed effects, the interaction effect between patient gender and experimental condition may be explained by a higher level of medication adherence associated with touch in male patients.

Table 2 Mean (SD in brackets) of pills remaining in the box according to patients' gender and experimental conditions

	Touch	No touch	Total
Male patients	5.55 (1.19) <i>N</i> = 58	7.14 (1.51) <i>N</i> = 64	6.38 (1.57) <i>N</i> = 122
Female patients	4.91 (1.00) <i>N</i> = 60	5.76 (1.18) <i>N</i> = 67	5.36 (1.17) <i>N</i> = 127
Total	5.22 (1.14) <i>N</i> = 118	6.43 (1.52) <i>N</i> = 131	5.86 (1.47) <i>N</i> = 249

Table 3 Mean (SD in brackets) of patients' evaluations of the practitioner's competence and practitioner's concern about his/her patient according to experimental conditions

Measure	Touch (<i>N</i> = 118)	No touch (<i>N</i> = 131)
Practitioner's competence	6.36 (0.61)	6.15 (0.67)
Practitioner's concern about his/ her patient	6.64 (0.70)	6.02 (0.52)

Correlational analysis performed with patient evaluation ratings of practitioner competence and practitioner concern for patients showed that a significant link existed in general ($r(247) = .48, P < .001$). As a consequence a 2 (experimental condition) \times 2 (patient gender) \times 2 (practitioner gender) \times 6 (practitioners) MANOVA, was performed using patient ratings of practitioner competence and practitioner concern as dependent variables (Table 3). A main effect of experimental condition was found ($F(2, 224) = 29.45, P < .001, \eta^2 = .21$), but no further main effect was observed and the interaction effect was not statistically significant ($P > .30$). The data are presented in Table 3 according to the experimental conditions.

Discussion

In this study, we found that a slight tactile contact displayed by a practitioner towards patients when requesting a verbal promise of compliance with the prescribed medication was associated with greater adherence than the same verbal request made without any tactile contact. Additionally, our results show that tactile contact was associated with higher levels of perceived practitioner competence and perceived practitioner concern. Again, these results are congruent with previous studies showing that touch is associated with a higher positive perception of the "toucher" (Durana 1998; Hornik 1992a, b; Hubble et al. 1981; Stockwell and Dye 1980).

Overall, there was higher medication adherence among female patients than male patients. These results are con-

gruent with a previous evaluation carried out in France (Laude and Tabuteau 2007). Though tactile contact was associated with greater medication adherence for both male and female patients, a higher level of medication adherence associated with touch was found with male patients. This effect is perhaps explained by the fact that men use less tactile contact than women in their social interaction (Field 2001). Thus when tactile contact occurred, males were perhaps more receptive with this nonverbal behavior given its novelty. In a previous experiment conducted in France, students who were touched briefly on the forearm by their teacher agreed more favorably to go to the blackboard to demonstrate a problem to their peers when correcting exercises in class (Guéguen 2004). This effect was found both with male and female students but greater compliance associated with tactile contact was found with male students.

To our knowledge, this is the first time that the effect of touch on medical recommendations has been found. Previous research exploring the effect of touch on compliance to a request have shown that tactile contact is associated with greater compliance to pro-social requests such as giving someone a dime in the street (Kleinke 1977), leaving a tip for a server (Crusco and Wetzel 1984; Stephen and Zweigenhaft 1986; Hornik 1992b; Lynn et al. 1998), participating in a survey (Guéguen 2002a; Hornik 1987; Paulsell and Goldman 1984) or buying products (Hornik 1992a; Smith et al. 1982). However, in this experiment, the practitioners' requests were of neither a pro-social nor a consumer nature but rather a medical imperative. Previous studies have found that touch is also effective in encouraging people to interact with a counselor. However, in these studies, no request was made to patients who were free to participate (or not) with the counselling (Pattison 1973; Hollinger 1986) or to solicit a further interview (Bacorn and Dixon 1984).

Our results extend previous research and confirm the effect of touch in successfully encouraging people to perform an expected behavior in a medical context. Medication adherence then can be added to the list of behaviors that are influenced by slight tactile contact on the part of the solicitor. This effect has important practical interest given the fact that nonadherence to recommended medical regimens is a widespread problem for practitioners and health insurance organizations. In France, where this experiment was conducted, it has been reported that more than 70% of patients fail to comply with prescribed therapeutic regimens. According to Laude and Tabuteau (2007), it is necessary to encourage research on methods that can effectively increase medication adherence which has become a real public health issue, and to inform practitioners about these methods. As such, encouraging practitioners to associate a tactile contact with a verbal

promise to take the prescribed medication could be an interesting method to increase medication adherence. Previous research in France found that in cases of bacterial pharyngitis, young adult patients are particularly nonadherent with the medical prescription and frequently stop their medical regimen before the recommended delay (Crémieux 2008). In this experiment, we found that touch led the same patients to comply with the prescribed medication. The effect was highly significant ($\eta^2 = .19$) and corresponds in this experiment to a further one-day medication adherence. Our practitioners stated that one further day of medication adherence is important given the fact that they know that it is very difficult to obtain medication adherence with such young patients and with this pathology.

Our results also have a theoretical interest. In previous experiments where touch has been used to increase compliance, the behavior of the participant was evaluated in the minutes following tactile contact, whereas here, we evaluated the effect of touch several days later. Interestingly, we found that touch remained effective up to 7 days after the tactile contact. To our knowledge, this is the first evidence that touch has some middle-term effects. In previous studies where the effect of touch on compliance to a request has been evaluated, the delay between the tactile contact and the request varies from 1 to 3 s (Kleinke 1977; Guéguen 2002a; Hornik 1987; Paulsell and Goldman 1984) to 10–15 min (Guéguen 2004; Hornik 1992b; Smith et al. 1982). The theoretical implications are important because it would appear that while the effect of touch is activated as soon as tactile contact is made, the positive consequences may last for several days afterwards.

This lasting effect of tactile contact may be attributed to differences in the perception of practitioner competence for patients in the experimental in the touch group which persisted for several days. Wycoff and Holley (1990) found that airline flight attendants who touched passengers on the shoulder or forearm are perceived to have higher abilities and greater expertise compared to those in a no touch situation. In their experiment, the evaluation was performed 1 to 2 h after the initial contact. In our experiment, this effect on the perception of the “toucher” in the experimental condition was found 1 week later. It is then possible that this perception effect was activated when the tactile contact occurred. Given that patient ratings of practitioner competence and practitioner concern varied according to the experimental condition (tactile contact or not), this result could explain the behavioral data obtained in our experiment. If a patient’s favorable evaluation of a practitioner is a perceptive condition for obtaining medication adherence, then factors that could enhance this positive perception may, in turn, lead to improved medication adherence.

Of course this is not the sole theoretical interpretation. It is possible that the process of touching patients changed the physicians in some way. Perhaps it changed how they expressed the importance of taking all the medication or the manner in which the physician communicated that they were more competent and caring. Alternatively, touch may have been effective because it was novel to have the doctor touch a patient. If, in fact, the touch did change the way patients perceived the physician and the physician’s request for compliance, then perhaps the potency of tactile contact would be different if the doctor used it regularly. Further studies would need to test such explanations and to evaluate whether the habit of touching patients remains effective over time.

Another limitation of our experimental design is the number of physicians used as confederates. Only 6 practitioners were tested and replication using a higher number of practitioners will be necessary. The evaluation of touch in this experiment was limited to adult patients suffering from a mild illness and who were prescribed a single antibiotic by the practitioner. The positive effect of touch reported here cannot be generalized to all types of illnesses or to all medical prescriptions. While touch clearly has the ability to influence various types of pro-social and consumer behaviors, because few studies have explored the effect of this phenomenon in health settings, our results cannot be generalized to wider contexts. In our experiment, patients between 20 and 30 years of age were tested but the effect of touch should not be generalized to all age brackets. Indeed, Lynn et al. (1998) found that touch has a positive effect on tipping only with young customers (18–25 years) and has no effect with older customers (55+ years). It would be interesting in future studies to examine whether this age effect appears in the context of medication adherence.

Our study also presents some methodological obstacles. We did not verify whether the physician acted in accordance with our experimental condition. Our confederates were simply asked to record the condition on a patients form immediately after the visit. Verification by a neutral observer would overcome this. Medication adherence was measured in this experiment by counting the number of pills remaining in the box. However, this method is potentially problematic since patients often remove pills from their packaging and dispose of them or transport them by alternative means. Electronic event monitoring would be a significant methodological improvement over the pill-counting method. Future studies should incorporate this method. Similarly, in our experiment, the competence of practitioners and the concern that practitioners showed towards their patients were the only two evaluation measures but other dependent variables could be tested. Fisher et al. (1976) found that touch increases perceived liking

about the “toucher” and Guéguen (2002b) found that the “toucher” is perceived as more dominant and more valuable. Increases in the perceived liking, value and dominance of the practitioner could also explain why patients comply more favorably with the practitioners’ recommendations. Future studies should include such dependent measures.

From a practical point of view then, our data may be somewhat limited to the type of disease and the relationship that exists between practitioners and patients. It may be that in certain medical circumstances, such as chronic illness requiring long-term and complex medication regimens, tactile contact would have a reverse effect. Here there was a positive effect of brief touching on the medical treatment of bacterial pharyngitis, a short-term medical infection that is associated with a specific medication regimen (e.g., antibiotics). However, we cannot generalize this behavioral effect with medication adherence for a chronic medical condition requiring other types of drugs (e.g., antihypertensives, and antidepressants). Certainly, a brief touch by the practitioner would not have the same effect in this condition. In addition, it has been shown that different cultures use tactile contact more or less frequently in their relationships (Field 1999; Jourard 1966) and our experiment, conducted in France, may reflect cultural effects that cannot be generalized to other cultures. Again, further studies controlling possible cultural effects are necessary.

Conclusion

In summary, we found that a practitioner’s tactile contact combined with a verbal recommendation to take medication as prescribed was associated with greater adherence by the patient than when no tactile contact was made. Touch was also associated with an increase in the patients’ ratings of practitioner competence and practitioner concern for patients. Replication and extension are now necessary to assess the practical interest of this easily implemented technique that practitioners can use to increase medication adherence in their patients. Touching a patient on the forearm is easy for a practitioner to do before leaving a patient, and it would be interesting to further explore the effects of this nonverbal behavior on patients’ behavior.

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