

Nonverbal encouragement of participation in a course: the effect of touching

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Abstract. Previous studies have shown that touching leads to positive behavior, particularly in an educational context. A new experiment was carried out in which students were encouraged to intervene in a course by demonstrating the solution of a statistical exercise on the blackboard. According to the experiment, students were or were not briefly touched on the forearm by the teacher during the corrective exercise. After that, the teacher asked his students to demonstrate the exercise on the blackboard. The results showed that touching increases the volunteers' rate. Various explanations (familiarity, status and mood) were suggested to explain such results.

1. Introduction

Touching the arm or the shoulder of a person for 1–2 s when asking for a request seems trivial. However, more than 20 years of research has led to the conclusion that this nonverbal contact definitely affects the subject's behavior. An experiment carried out by Kleinke (1977) has shown that the simple fact of touching someone's forearm induces him/her to hand back money found in a phone box, or to give money to a person in the street. Similarly, Hornik (1987) has pointed out that touching increases the response rates in street surveys. It has also been observed that people are more persistent when executing a difficult task such as answering a long questionnaire about personal matters (Nannberg & Hansen, 1994). The simple touching of a customer by a waiter or waitress in a restaurant increases his or her tip (Crusco & Wetzel, 1984; Stephen & Zweigenhaft, 1986; Hornik, 1992b; Lynn, Le, & Sherwyn, 1998). A person demonstrating products in a store will observe that the willingness to taste or to test his/her products, increases if he/she touches his/her client while ordering. Moreover, it increases product sales rate in the store (Smith, Gier, & Willis, 1982; Hornik, 1992a).

Apart from the effects on compliance to a request, touching appears also as a factor for the encouragement of human behavior. For instance, the fact of a teacher touching a student twice on the arm during an interview following a first examination, results in the student improving his/her later performances, more than those observed in a control group where students were not touched during the interview (Steward & Lupfer, 1987). A study conducted by Wheldall, Bevan, and Shortall (1986) has shown that touching leads young children to become more involved in

a task and to show less disruptive behavior during classes. The conductors of this experiment asked teachers to touch their pupils whilst they congratulated them on their results or on their behavior during classes. Teachers were also instructed not to touch their pupils during other interactions. Observers in the class measured the number of disruptive behaviors shown by the pupils: getting up without permission and hitting a classmate; and the behavior concerning the application of the pupils in their school tasks: use of the appropriate material and concentration. Results have shown that in two different classes where such observations were made, there was a 60% reduction in disruptive behavior following touching, compared with the average of such behavior before the adoption of this tactile encouragement. It was also found that the number of pupils increased positive behaviors in their school tasks: taking a book in order to read it and checking information in a dictionary increased by approximately 20%. These results confirm those obtained by Kazdin and Klock (1973) even with difficult pupils (Clements & Tracy, 1977; Van Houten et al., 1982). Such positive effects of touching are also found with elderly people within the framework of manual tasks which were proposed to them (Howard, 1988).

The effects of encouragement induced by tactile contact are also found with health behavior. Jourard and Friedman (1970) have shown that touching leads patients in psychotherapy to speak much longer with their therapists about particularly personal problems. The effect of encouragement aroused by a brief tactile contact is also observed with a measure of self-disclosure behavior (Pattison, 1973). Finally, the simple touching of a patient by a nurse, the day before a surgical operation, decreases the patient's real stress (evaluated by physiological measures: heart rate, blood pressure) and perceived stress (self-evaluated), and increases the compliance to the preoperative recommendations given to the patient (Whitcher & Fisher, 1979). However, in this latter study, the positive effects of touching were found only on female patients whereas the reverse effect was found on male patients. Eaton, Mitchell-Bonair, and Friedmann (1986) have even found that when the service staff for elderly people push their encouragement to eat with tactile contact, an increasing number of calories and proteins absorbed by the subjects was observed. These positive effects on eating behavior lasted 5 days after the tactile contact.

Thus, all these works tend to show that touching encourages people to produce the behavior expected by the person who touches. Consequently, a new evaluation of this effect of encouragement was made with students in order to encourage them to intervene more frequently as volunteers for correcting an exercise on the blackboard in front of their classmates.

2. Hypothesis

As far as the positive effects of touching on behavior have been observed in the literature, we believe that tactile contact between a teacher and a student should eventually increase the participation of the student in the class.

3. Method

3.1. SUBJECTS

One-hundred-and-two undergraduate university students (64 males and 38 females) between 18 and 20 years were tested during their courses. These students came from four different kinds of the same degree (social sciences).

3.2. PROCEDURE

The experiment lasted 6 weeks during which a male teacher of statistics was the conductor of the experiment. The experiment was conducted weekly during each of the two one-hour classes of statistics lectures given to the students.

The teacher (a 42-year-old man with 11 years of teaching experience in statistics) was trained by the investigator to act similarly in both situations and to touch a student in the appropriate way. Nevertheless, he was not aware of the goals of our experiment and had not received any information about previous studies on the effect of touching on behavior or on evaluation. He was unaware of the hypothesis of the study.

The experiment was conducted during the period of the course where common statistical tests were studied (e.g., chi-square independent test, means comparisons and one-way ANOVA).

Regularly, by the way of a random list of the students' position in the classroom, the teacher came to control the solving of an exercise. In order to guarantee an ethical approach to pedagogy and to maintain the same methodological conditions between the two experimental groups, the professor was instructed to encourage positively all the students. In every case, if the exercise was not finished, he helped the student and encouraged him/her to continue in the following way: "That's a good start. It is OK. Go on like that". If the exercise was finished and the solution found, the experiment conductor said: "That's good. You understood everything". If there was a mistake, he lavished encouragement all the same and helped the student find the correct solution. In every case, when leaving the student, he added: "That's good. Well done". The encouragements were given with a low voice in order to prevent the students around the student-target from hearing the teacher. At this moment, according to a random selection, the experimentor touched or did not touch the student for 1 s with his hand. Touching was done by applying a slight tap on the upper-arm of the target. Then, he left and proceeded in the same way with another student who was chosen individually at random. During each of these phases, four students were tested. Once the visit to the fourth student target was finished, the experiment conductor said to everyone: "So now, we are going to correct the exercise. Would anyone like to come to the blackboard and show the solution?". At French universities, when students want to volunteer to come up to the blackboard they put up their hand and the teacher has the responsibility of selecting one student amongst the volunteers. The same procedure was used for

	Touched	No touched	Mean
Male-students	N=29	N=35	
Volunteered	31.0%	11.4%	20.3%
Did not volunteer	69.0	88.6%	79.7%
Female-students	N=17	N=21	
Volunteered	23.6%	4.8%	13.2%
Did not volunteer	76.4%	95.2%	86.8%
Mean	28.3%	8.9%	17.7%

Table I. Rate of students who volunteered to correct the exercise on the blackboard

N: size of the group.

this experiment. The experimentor asked for some volunteers and noted amongst the four target students who was a volunteer and who was not.

4. Results

The dependent variable was defined as the number of volunteers between the four target students who accepted the invitation to correct the exercise on the blackboard. The various frequencies obtained according to the subject's gender and the independent variable are listed in Table I.

A 2 (touching/no touching) * 2 (male-students/female-students) * 2 (volunteer/ no volunteer) log-linear method was used to analyze our data. A main effect of touching was obtained (χ^2 (1, N = 102) = 6.59, p < 0.02). As we can see, when touched, target students were more likely to volunteer than target students who were not touched. Despite the appearances, between these target students, male students were not more willing to volunteer than their female counterparts (χ^2 (1, N = 102) = 0.87, ns). There was no interaction effect obtained between the subject's gender and touching condition (χ^2 (4, N = 102) = 7.68, ns).

5. Discussion

The results obtained show that touching is a factor of encouragement to produce the behavior expected by the person who touches. We confirm here the different studies which have pointed out the effect of touching on compliance (Kleinke, 1977; Willis & Hamm, 1980; Brockner, Pressman, Cabitt, & Moran, 1982; Smith, Gier, & Willis, 1982; Goldman & Fordyce, 1983; Goldman, Kiyohara, & Pfannensteil, 1985; Hornik, 1987; Hornik & Ellis, 1988). However, in our experiment the request was impersonal and did not concern a request for the benefit of the solicitor. These results are congruent with recent studies on nonverbal immediacy. Albers (2001) found a strong relationship between the use of nonverbal immediacy (e.g.,

eye contact, and smiling) and the willingness of audience members to participate in discussion especially the willingness of students to discuss things with a teacher who used these nonverbal behaviors in a learning course. In the same way, Christophel (1990) found that such immediate nonverbal behaviors increased student motivation and learning.

These results have been replicated in two studies (Allen & Shaw, 1990; Jaasma & Koper, 1999) and are consistent in many different cultures (McCroskey et al., 1996). However, in all the studies mentioned above, the nonverbal immediacy of the teacher was constituted by different behaviors (eye contact, smiling, body tenseness, trunk and limb movement). Tactile contact was rarely included as a nonverbal immediate aspect of behavior, and when that was the case (Burgoon, 1991) the effect of touching was not evaluated independently. In addition, most of this research tested the effect of nonverbal immediacy on perception or attitude, but the effect on behavior has rarely been tested. Our results seem to show that touching is sufficient enough to affect students' behavior. We still have to explain this effect. Many hypotheses can be considered.

It is possible that touching, coming from a familiar high-status person, is perceived as a sign of distinction which encourages the target to produce the expected behavior. Jourard and Friedman (1970) found that when a therapist touched his/her patient, this contact led the patient to produce self-disclosure behavior more easily and to feel more confident. This feeling brings about a higher probability of further consultation with the therapist (Bacorn & Dixon, 1984). Thus, we may deduce that, in our experiment, the teacher's touching also increased the student's selfconfidence. So, the effect would have been to overcome the inhibition of correcting the exercise in front of his/her classmates. The fact of being touched by the teacher increases the value for the teacher, and consequently his requests are more likely to be answered.

Many studies have shown that lower status people are more easily the targets for the initiation of touching than higher status ones. Henley (1973) argued that individuals of a higher status have a touching privilege that is exercised in order to express and maintain their status advantage. She found that men, having a higher status than women, touch women more frequently than women touch men. Furthermore, some later studies have shown that the initiation of touching between male and female was determined by age: young males tend to initiate touching young females, whereas older females more frequently tend to initiate touching males (Hall & Veccia, 1990). Juni and Brannon (1981) found, by manipulating the status of the appearance of participants who were asking people for directions, that lower status persons were more frequently touched by people when receiving help, than higher status ones who only received verbal assistance. Some other researchers found that different forms of touching are initiated according to the toucher's or the touchee's status. Hall (1996) found that higher status individuals initiate touching more often as a sign of affection and direct it to the arm or the shoulder. Yet, we also know that people of a lower status tend to look for a higher status tactile contact (Juni & Brannon, 1981). Stier and Hall (1984) considered that people of higher status use touching in order to demonstrate their status whereas people of a lower status use it to gain status. So, the fact of touching someone of a higher status brings prestige to people of a lower status. This could explain the desire of wanting to touch a politician or someone famous, that turns sometimes into hysterical excess. Thus, we can talk about the search for gratitude from people of a lower status beyond the tactile contact. If this search is satisfied, the touchee will have more chances of accepting the request of the toucher. This compliant behavior would allow the preservation of an interaction to be considered as a status-enhancing act in itself.

Howard, Gengler, and Jain (1995, 1997) have shown to what extent a sign of valuation coming from someone of a higher status resulted in eventual compliance to his/her request. These researchers have shown that, if a teacher were to ask his students for a donation to a local charity, he was more likely to succeed under the following circumstances. If the student's name was remembered correctly by the teacher after a brief introduction, there was 90% compliance to his request. If a teacher did not remember correctly a name, there was 60% compliance; and if he failed to remember, there was 50% compliance. For these authors, the fact that the teacher did remember the name of the student correctly was considered as a compliment to him. We know now that a compliment or any positive sign coming from someone similar (Iverson, 1968). In our experiment, the teacher's touching may thus have activated this need for valuation that found its fulfillment in the compliance to come to the blackboard for the corrective exercise.

Another explanation in terms of mood activation can also be considered to explain our results. We know now that positive mood activation, compared to a neutral mood, tends to increase compliance to a request made by its solicitor (Harris & Smith, 1975; Levin & Isen, 1975; Weyant, 1978; Bizman, Yinin, Ronco, & Schachar, 1980; Forgas, 1997, 1998; Rind, 1997). Now, Fischer, Rytting, and Heslin (1976) have shown that when a student was touched by an employee of a library, his/her mood was positively affected by the tactile contact. This effect on mood could explain why Goldman, Kiyohara, and Pfannensteil (1985) succeeded in obtaining a positive effect of touching on compliance even when the toucher was not the solicitor of the request. In their experiment, a male first asked a student for directions. According to their study, this person touched or did not touch the subject when formulating his thanks to him. A few minutes later, a second person approached the subject and asked him/her to give his/her time for a charity. The results showed that in the absence of touching in the initial contact with the first participant, 5% of the subjects agreed to the request without tactile contact against 40% with tactile contact. One can deduce that touching activates a positive affect which, in return, facilitates his/her later helpful behavior. In our experiment, we may consider that the same effect of activation had made the student's participation easier.

Obviously, for the moment, these explanatory hypotheses are extremely speculative and require new experiments to be conducted. Evaluation of mood, selfconfidence, self-esteem and ingratiation would be necessary variables to evaluate the cognitive effects of tactile contact on targets. The results of our study seem to reveal that touching is a nonverbal form of encouragement to produce an expected positive form of behavior. Such results also show the interest in the study of the effect of tactile contact within the framework of an educational relationship.

Of course such nonverbal behaviors could not be used everywhere. Field (1999) has pointed out that touching tends to have become taboo in the American school system. Mazur and Pekor (1985) found that elementary and high school teachers were warned not to touch children because of potential accusations of sexual abuse. In France, there are no recommendations concerning tactile behavior of the teachers towards the children, especially with university students. However, some tactile contact could be interpreted as a form of sexual solicitation. Consequently, precautions are necessary when using this type of nonverbal behavior and it is important to consider whether touching can be practiced by a teacher whilst still avoiding misinterpretation.

The results of the study should be interpreted cautiously given the preliminary nature of the study and the methodological limits of our experiment. In this study, the experimental teacher was trained to treat all subjects alike except with regard to the aspects of touching. Furthermore, it was difficult to control all other nonverbal aspects of behavior. In order to control these effects, comparative studies with other teachers would be necessary. A positive effect of touching was found in this experiment but this effect might not be extended to every teacher. For example, touching from a disliked teacher might not have the same result as touching from a popular, attractive or respected one. Thus, it will be necessary to control this effect on a student's response to tactile contact. Such evaluation implies that we need to evaluate several teachers before testing the effect of touching. It would also be interesting to evaluate different forms of touching in this pedagogic situation. In this experiment, a slight tap on the upper-arm of the target was used to create the tactile contact, but touching can take many different forms that induce different interpretations. In a recent experiment on the effect of touching on compliance, Guéguen (2002) found that two different forms of touching led to two different rates of compliance for a request for help. In Guéguen's experiment, men and women, taken at random in the street, were asked for money by participants. In some cases, the request was made without any contact (control group). In one case, touching consisted in holding the arm of the subject for 2 s whilst, in the other, it consisted in tapping the arm twice. The results have shown that compared to the control condition, the two forms of touching increased compliance. Nevertheless, holding the arm for 2 s led to greater compliance than just tapping it twice. Different parts of the body can also have some importance on the reaction to touching. Paulsell and Goldman (1984) found that touching someone's upper arm rather than the shoulder or the hand, leads to a greater helping behavior, for instance, helping an interviewer who accidentally dropped several survey forms. With these two latter studies, it seems that touching different parts of the body and different forms of touching are important variables

that can influence the reaction of the subject towards the toucher. Therefore, we can deduce that the same effect occurs when touching is practiced by a teacher with his/her students. Some touching might be interpreted as equivocal or intimate and lead students to react negatively to tactile contact. Future research will test the touch of different parts of the body, or the different forms of touching, in order to isolate which part or form is appropriated to positively affect the student's behavior and avoid equivocal reaction.

Future research might assess longer-term tactile contact effect or repeated tactile contact to determine whether the effect can be maintained over time.

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