

# PEOPLE, PLACES AND PHYSICAL CONTACT: A STUDY OF THE DISTRIBUTION OF TOUCHING BEHAVIOR

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## INTRODUCTION

The present paper reports a study of interpersonal touching behavior in three types of outdoor locations around Ankara, Turkey.<sup>1</sup> Because research articles rarely provide the general framework within which the significance of the specific findings can be evaluated, they may leave the general reader wondering why the study was done and what importance or relevance the results have for him. For this reason, it seems appropriate to begin with a few remarks of a general nature regarding the variable of interpersonal physical contact.

Of all the sensory processes by which we apprehend our environment, touch, or the tactile sense, is the largest, the earliest to develop, and perhaps the least investigated or understood. Because of this primacy in development, both in terms of the evolutionary history of man and of the life-span of the concrete individual, much of our understanding of the world in terms of the distal receptors (e.g., hearing and vision) comes first through their association with the tactile sense. For example, it seems clear that the texture of the objects in our environment is learned first through the sense of touch and only later generalized to vision.

The anthropologist, Edward Hall, feels that designers and engineers, not unlike research scientists, have not understood the importance of touch in keeping us related to the outer world. Among other illustrations, Hall mentions the characteristic tendency of touring cars built in America to make each ride an experience of sensory deprivation, as opposed to riding in sports cars in which one can enjoy the feeling of being in contact with the road.<sup>2</sup> An excellent example of the importance of a touch orientation to the physical environment and of the failure of scientists and engineers to appreciate its importance and design for it, comes in the words of Commander Joseph Kerwin, the science pilot of the NASA Skylab crew. When he was awakened one night during his tour in outer

2. E.T. HALL, *The Hidden Dimension*, New York: Doubleday, 1966, p.58.

space by a call from Houston Control, it was late and the lights were off, everyone having gone to bed.

'It was pitch black when I scrambled out of bed', he reported later. 'I had no way of determining up from down; I had no visual reference in the dark. I had to turn on the lights, but I just didn't know what direction to put my hand in. I had to feel things to orient myself -- I had to use touch instead of sight -- and everything felt different because *I didn't know where they were in relation to me.* It took me a whole minute just to get the lights on.'<sup>3</sup> (*Italics in the original*)

The great French painter, Georges Braque, is said to have remarked that "tactile" space separates the viewer from objects, while "visual" space separates the objects from each other. It follows in the example of the astronaut quoted above, that the designers of Skylab reflected the primarily *visual* bias that Hall has complained of, hence creating Kerwin's confusion in the dark. At a more general level, perhaps one consequence of repeated exposure to "visually-designed" spaces with systematic deprivation of "tactually-designed" spaces is to create insecurity in the individual who receives more and more information about how objects relate to each other and knows less and less about how he relates to his physical environment. Certainly, we learn the most basic distinctions between the self and the not-self at the most primitive level, through our early tactile experiences. In the words of Montagu :

The shape and form and space of the outer world of reality, its figures and the background from which they emerge are gradually built by the infant out of the building blocks of its experience, entering through all its senses, always contingent, correlated, measured and evaluated by the criterion of touch.<sup>4</sup>

Given this point of view, perhaps it makes more sense to ask not why should one investigate touch, but rather, why the tactile sense has been an under-investigated area of sensory and social psychology. One answer appears to be that interpersonal touch has been a tabooed area stemming from the fear of bodily pleasures, associated with the Christian tradition in the western world.<sup>5</sup> An alternative hypothesis is that the structure of capitalistic relations demands the sacrifice of sensuality to the needs of production.<sup>6</sup> In any case, the advent of more recent research in social and cross-cultural psychology, with the consequent discovery of wide individual differences in touching behavior, has practically guaranteed continuing interest in this variable for some time to come. The variation in interpersonal physical contact reported in the anthropological literature runs all the way from almost complete prohibition among adult, upper-class Englishmen to near-total freedom of expression among the Netsilik Eskimo of the Canadian Arctic, with other cultures occupying intermediate positions along the continuum.

The foregoing remarks have been directed primarily at the importance of touch in our commerce with the physical environment. However, even more important than one's relationship with the inanimate environment, the tactile

3. H.S.F. COOPER, Jr., *Space Station I*, *New Yorker Magazine*, August 30, 1976, pp. 34-66.

4. A. MONTAGU, *Touching: The Human Significance of the Skin*, New York: Columbia University Press, 1971, p.196.

5. A. MONTAGU, *Touching: The Human Significance of the Skin*, New York: Columbia University Press, 1971.

6. H. MARCUSE, *Eros and Civilization*, Boston: Beacon Press, 1955.

7. F.S. HAMMETT, Studies in the Thyroid Apparatus: I, *American Journal of Physiology*, v. 56, 1921, pp. 196-204.

8. R. ADER and P.M. CONKLIN, Handling of Pregnant Rats: Effects on Emotionality of their Offspring, *Science*, v.142, 1963, pp. 412-413.

9. H.F. HARLOW and M.K. HARLOW, Learning to Love, *American Scientist*, 1966, pp. 244-272.

10. L.J. YARROW, Maternal Deprivation: Toward an Empirical and Conceptual Re-evaluation, *Psychological Bulletin*, v.58, 1961, pp. 459-490.

11. M.J. ROSENTHAL, Psychosomatic Study of Infantile Eczema, *Pediatrics*, v.10, 1952, pp. 581-593; W.J. GREENE, Jr., Early Object Relations, Somatic, Affective and Personal, *The Journal of Nervous and Mental Disease*, v. 126, 1958, pp. 225-253.

12. L.K. FRANK, Tactile Communication, *Genetic Psychology Monographs*, v.56, 1957, pp. 209-225.

13. J. BOWLBY, *Maternal Care and Mental Health*, Geneva: World Health Organization, 1951; G. Bateson, A Theory of Play and Fantasy, *Psychiatric Research Reports 2*, New York: American Psychiatric Association 1955; A. LOWEN, *The Betrayal of the Body*, New York: Collier Books, 1969.

sense is also crucial in establishing and maintaining contact with the social world. To begin with a humble example, Hammett has observed that the behavior of laboratory rats that were accustomed to being handled from infancy was strikingly different from that of nonhandled rats. The former animals were described as relaxed, yielding, not easily frightened, placid and as having a high threshold to potentially disturbing stimuli.<sup>7</sup> In addition, the offspring of such handled rats were also found to be significantly less excitable than were the offspring of non-handled rats.<sup>8</sup> Such astounding differences have been similarly reported by Harlow and Harlow<sup>9</sup> with Rhesus monkeys. In their research, bodily contact between mother and infant was found to be the dominant variable in providing the young monkey with security and in enhancing its capacity to withstand stress.

Apparently, deprivation of tactual stimulation engenders similar ill effects in the human infant. Yarrow has reviewed much of the evidence regarding human maternal deprivation and concludes that it is an important factor in a number of serious disorders of childhood.<sup>10</sup> In this judgement, she concurs with a wide variety of writers investigating such diverse complications as allergies and blood diseases,<sup>11</sup> disorders of language and symbolic activity,<sup>12</sup> and schizophrenia and other related emotional disorders.<sup>13</sup> Although many of these writers are also concerned with grosser variables than the deprivation of tactual stimulation alone, all of them have specifically mentioned the importance of touch.

Unfortunately, this rich stream of suggestion, speculation, and evidence regarding the importance of touch in child development dwindles down to a mere trickle as one approaches the developmental stage of adulthood. In spite of the obvious importance of touch in everyday interpersonal relations, psychology has virtually neglected this area of study. Very little is known about the distribution of touching behavior in public or private behavior settings, the social norms that regulate the acceptability of physical contact, and the way in which such norms and behavior vary across cultures. Most importantly, the personal consequences for the individual of long-term systematic variation in amount of physical contact is totally unknown. The investigation of nonverbal behavior has proceeded rapidly in the past few years, with laboratory studies of nodding, smiling, eye contact and personal space as these variables function in social interaction; yet the variable of touch has been conspicuously lacking from this proliferation of studies.

One promising start has been made on empirically defining the concept of "body-accessibility", in which English respondents reacted to a questionnaire inquiring about areas of the body on which they have been touched or have touched others.<sup>14</sup> This work has recently been replicated and extended to situational variables with American respondents by Stemberidge.<sup>15</sup> Such questionnaire data, however, may have only a limited relation to actual behavior, as the amount of physical contact between persons may not have a high degree of salience for the respondent at the time that he answers the items. Rather, the place of such questionnaire data on interpersonal physical contact would seem to be at the level of norms and values, answering the question of what amount of touching is verbally approved. It cannot be an acceptable substitute for observation of actual behavior.

14. S.M. Jourard, An Exploratory Study of Body-Accessibility, *British Journal of Social and Clinical Psychology*, v.5, 1966, pp. 221-231.

15. D.A. STEMBRIDGE, "An Exploratory Study of Tactual Behavior," Unpublished Doctoral Dissertation, University of Houston, Texas, 1974.

This indifference with which psychology regards the phenomenon of interpersonal physical contact occurs in a world that is increasingly filled by strangers, thus multiplying at least the probability of unintended physical contact.

It is as if the touch-taboo most of us learned in childhood has produced a scotoma in our professional vision, making us describe man in our textbooks as if he did not get closer to his fellows than a foot or so.<sup>16</sup>

16. S.M. JOURARD, An Exploratory Study of Body-Accessibility, *British Journal of Social and Clinical Psychology*, v.5, 1966, p. 221.

One writer who has dealt directly with physical contact between adults from a behavioral point of view is the anthropologist, Edward P. Hall. In his investigations of close distances between individuals the "intimate distance-far phase", defined as between six and eighteen inches, Hall makes the point that vision becomes an inappropriate receptor system. Much of the discomfort experienced by Americans when they interact with others reared in cultures whose inhabitants customarily stand close to each other during a conversation stems from the American's continued use of the visual system as a means to apprehend the other. At the intimate proxemic distance, the perceptual system returns only distorted imagery; touch, smell and heat are appropriate channels to use in apprehending the other. Hall's American subjects expressed their discomfort in quite revealing ways; one stated :

These people get so close you're cross-eyed. It really makes me nervous. They put their face so close it feels like they're inside you.<sup>17</sup>  
(Italics in the original)

17. E.T. HALL, *The Hidden Dimension*, New York: Doubleday, 1966, p.111.

Crowded transportation systems such as the *dolmuş*, subways, busses and elevators throw strangers into intimate contact with each other. Experienced users of these systems have developed defensive strategies for coping with such unintended physical contact. One can fix one's gaze on the middle distance, but not at the faces or bodies of one's fellow travelers. There is a more or less rigidly enforced norm for not talking and one's muscles are kept tense, rather than relaxed. Touch is restricted if at all possible to the backs and sides of bodies, and hands are kept strictly to oneself. The overall impression presented to one's traveling companions is that of bearing with but not enjoying the touching experience.

Strategies such as these are interesting and important in terms of the social psychology of interpersonal relations, but a prior need from a scientific point of view would seem to be for reliable and systematic information on the actual occurrence of intended physical contact. Data on the distribution of touching behavior in public settings would provide the initial step toward developing a taxonomy of tactility, to aid the designer of public spaces in planning spaces for pedestrian traffic flow and in helping to achieve an objective, behavioral definition of what constitutes an acceptable level of population density in such settings. Only with such base-line data can unacceptable levels of density and crowding be operationally specified.

The writers are aware of only one study utilizing direct observation in naturally-occurring behavior settings and investigating rates of intended physical contact as a dependent

18. W.R. BERKOWITZ, A Cross-National Comparison of Some Social Patterns of Urban Pedestrians, *Journal of Cross-Cultural Psychology*, v.2, 1971, pp. 129-144.

variable. This investigation, conducted by Berkowitz,<sup>18</sup> compared contact rates in five different Western nations (England, Italy, Sweden, West Germany and the United States) and in three "non-Arab Moslem countries" of the Middle East, grouped together as a single category (Afghanistan, Iran and Turkey). One important finding reported by Berkowitz in this study is that although relatively high contact rates were found in some Western nations (Italy and West Germany), the three "non-Arab Moslem countries" were lower than any other nation in the sample.

Berkowitz's finding of lower contact rates is inconsistent with impressions based on casual observation in Moslem countries. To anyone who has witnessed friends in these countries greeting one another by kissing on both cheeks, and walking hand in hand or arm in arm in public places, such a finding is difficult to accept. However, such casual observations may assume a misleading salience for the American observer, for whom these events stand in dramatic contrast to what is observed in his culture. In addition, it seems clear that physical contact between persons of the opposite sex is devaluated in Moslem cultures and it probably occurs with less frequency than in Christian countries. Despite such qualifications, however, the reported low rates of physical contact remain puzzling. Accordingly, a replication of Berkowitz's study was carried out in the spring of 1974 in Ankara, Turkey.

Since the major intent of the study was to compare the rates of interpersonal contact with those reported in the earlier investigation, the operational procedures in Berkowitz's study (briefly described in the Method section below) were scrupulously followed. Only in the following aspects did the present study intentionally differ from the previous one.

1. Observations were carried out only in Ankara, Turkey. No data on Iran, Afghanistan, or other parts of Turkey were collected in the present investigation. However, since Berkowitz apparently grouped these three countries together because of a lack of sufficient numbers of observations in each country separately, and not because of any theoretical commitment to their similarity<sup>19</sup> the restriction to Turkey should not violate the spirit of the replication.

2. No attempt was made in the present study to record the frequency of verbal interaction.

3. Insofar as possible, observers were assigned to locations in pairs, in order to provide information about the reliability of the judgements involved.

4. For each of the three location categories - designated by Berkowitz as shopping, parks, and entertainment areas - approximately equal numbers of observations were made in settings frequented by members of the lower social strata and in settings frequented by members of middle and upper social strata.

The principal prediction in the present investigation was that observed rates of contact would be higher than those reported by Berkowitz for "Moslem countries". Other predictions relevant to the comparison of the studies were that contact rates would be higher for females than males, and that contact rates would be higher in lower-class than in upper-class settings.

19. W.R. BERKOWITZ, A Cross-National Comparison of Some Social Patterns of Urban Pedestrians, *Journal of Cross-Cultural Psychology*, v.2, 1971, p. 132.

## METHOD

20. W.R. BERKOWITZ, A Cross-National Comparison of Some Social Patterns of Urban Pedestrians, *Journal of Cross-Cultural Psychology*, v.2, 1971, pp. 129-144.

As the original article reports procedures in detail, they need not be fully described here. Interested readers should consult the Berkowitz report.<sup>20</sup>

A brief summary of procedures used in the present study is presented below.

**OBSERVERS.** 48 observers (undergraduate social science majors at Middle East Technical University) were trained to classify passers-by into Berkowitz's age-sex categories (See *Procedure* below) and to record intentional contact between members of groups. These observers were sent to the locations described below. Forty of them observed in pairs, and eight, for various reasons, observed alone. The data from three pairs of observers were found to be unusable, so that the data from which



Fig. 1 Observed setting:  
Samanpazari



Fig. 2 Observed setting:  
Tunalı Hilmi Caddesi,  
Kavaklidere

21. The park settings were Kurtuluş Parkı, Gençlik Parkı, and Kuğulu Park. Shopping settings included Kızılay, Anafartalar Caddesi (Ulus), Samanpazarı, and Tunali Hilmi Caddesi (Kavaklıdere). Entertainment settings were Gençlik Parkı, the immediate vicinity of Dedeman Sineması, the immediate vicinity of Tuna Pastanesi, and entrances to various night-clubs and gazinos in Maltepe.

reliability estimates were made consisted of the recorded observations from seventeen pairs of observers. Data for analyses other than reliability estimates consisted of the recordings from single observers in 25 time-location settings.

SETTINGS. Observations were made in three different types of outdoor locations, designated as parks, shopping areas and entertainment areas.<sup>21</sup> Shopping areas and parks were observed in the afternoons and entertainment areas were observed at approximately 9:00 o'clock in the evening.

An equal number of observers were sent to those locations which the investigators labeled as "lower class" and those labeled "middle or upper class". The basic distinctions between these "categories were that lower class areas were located in the older parts of Ankara (e.g., Ulus, Samanpazarı) and were frequented by people who dressed in the traditional Anatolian costume or in shabby Western clothes, while middle or upper



Fig. 3 Observed setting:  
Talin Sineması



Fig. 4 Observed setting:  
Gençlik Parkı



class settings were located in the more recently created metropolitan areas of Ankara (e.g., Kızılay, Kavaklıdere), and were frequented by people dressed in more fashionable or more formal Western attire.

**PROCEDURE.** Observers were provided with tally sheets on which they recorded each passing group's members in terms of age and sex. The age-sex categories used included: infant, male or female child, male or female adolescent, male or female adult and male or female older adult. In addition each group member (other than infants) was scored for the number of others with whom he or she was in physical contact. Physical contact with infants was excluded from the data as it was felt that nearly all infants are in contact with some older person in outdoor settings and the inclusion of such data would unduly inflate the overall contact rates. Contact scores could vary from 0, no contact, through 1, contact with one other member of the group, to a maximum of 2, if the target was in contact with group members on both sides. Duration of physical contact was not scored and any intentional physical touching that occurred during the observation interval was recorded.

Observers, working in pairs, stood approximately two meters apart from each other and began recording simultaneously and independently at a prearranged signal. Without further communication, they recorded everyone passing between them for the duration of the observation period. Observers working alone recorded everyone passing in front of them during the observation period. All observers recorded both individuals and groups until a total of 100 units had been recorded, and then continued recording only groups until 100 groups had been recorded.

The basic criterion of "100 social units" used in the data collection requires some elaboration; for the sake of maintaining high reliability as well as to achieve a census of the population in the setting, observers recorded each individual who passed in front of them. Single individuals were not categorized in terms of age categories or degree of contact, but were merely tallied as one condition for observation. This basic criterion of 100 "social units" (i.e.,



the first 100 conditions for observation, regardless of whether they were single individuals or groups), was also necessary in order to keep the data comparable to Berkowitz's study. However, since this criterion resulted in unequal numbers of groups being recorded by observers in different settings, depending on the number of single individuals that were tallied by the observers, each observer was further instructed to continue collecting data until 100 groups had been observed. This second criterion insures a comparable data base for the comparison of observer-gathered data in the locations.

## RESULTS AND DISCUSSION

**RELIABILITY.** Reliability in the form of interobserver agreement was calculated for the frequency of individuals within each of the age-sex categories and for the total amount of contact observed in each category. In general, agreement was found to be satisfactory, with product-moment correlations ranging from .7 to .9; the only exceptions occurred in the older adult categories, where the correlations were less than .5. Unreliability in the latter categories probably stems from two sources: firstly, the youth of the observers, who were not accustomed to estimating the ages of older adults; and secondly, the traditional dress styles, worn particularly among the lower classes and the older age groups, which make age discrimination difficult.

**CONTACT RATES.** The rates of contact for 100 units (corresponding to the data base in the Berkowitz study) and for 100 groups are presented in Table 1. The rates reported by Berkowitz for Italy and West Germany, the countries with the highest contact rates in his sample, as well as for "Moslem countries", are also presented in Table 1 for ease of comparison. In all cases, the percentages in the Table were obtained by dividing the number of people in each age-sex category into the number of contacts recorded for that category.

	Berkowitz Study			Present Study	
	Italy	West Germany	"Moslem"	Turkey 100 Units	100 Groups
Male Child	34.0	34.0	24.7	49.1	52.2
Female Child	42.3	41.3	44.4	71.4	68.7
Male Adol.	17.7	21.8	44.4	39.7	35.0
Female Adol.	42.5	41.8	25.8	59.9	56.8
Male Adult	20.5	24.6	8.6	34.5	36.4
Female Adult	47.7	31.3	34.0	61.5	65.4
Male Older	27.3	18.6	16.7	40.9	42.2
Female Older	34.5	19.1	29.4	74.3	63.2
Averages	29.8	26.4	15.4	46.7	47.3

Table 1. Rates of Physical Contact Among Group Members in Selected Nations in the Berkowitz Study and in the Present Investigation.

Note : Selected data on contact are reproduced from Berkowitz with permission from the *Journal of Cross-Cultural Psychology*. Rates were calculated by summing the total number of contacts for each age-sex category, dividing by the total number of group members observed in that category and multiplying the result by 100.

Inspection of Table 1 reveals that the contact rates obtained in the present study are a good deal higher in each age-sex category than these reported by Berkowitz for "Moslem countries" and are in fact higher than the rates reported by Berkowitz for any of the countries he observed. Although the direction of difference confirms the major prediction of the present study, the size of the discrepancy would seem to merit further comment.

The first source of difference that suggests itself is the fact that all the observations in the present study were drawn from a single city, whereas Berkowitz's data were gathered from eight cities in three different countries. Hence, Berkowitz's findings may be more representative than those presently reported. In considering this possibility, it is important to keep in mind that the greater geographic dispersion of Berkowitz's data points does not imply greater stability of the results. In fact, in terms of sheer quantity of observations, the present study can claim to have the more stable results, based as they are on twenty-five separate observers and conditions for observation, as opposed to twenty conditions for observation and an unknown number of observers in the "Moslem" sample of the earlier study. However, the appeal of the wide distribution of data points in Berkowitz's study derives not from the absolute number of observations, but from their dispersion across three different countries. Yet this very dispersion would seem to render the hypothesis of greater representativeness untenable. If contact rates comparable to those found in the present study were found by Berkowitz in Turkey, then rates in Iran and/or Afghanistan must have approached zero in order to produce mean rates lower than any of the Western countries which have a great deal in common both culturally and historically seems highly unlikely. If such variation does, nevertheless, exist, then it is clearly necessary to examine data from each country separately.

A second possible cause for the discrepancy may lie in different methods of calculating contact rates, even though every effort was made in the present study to duplicate Berkowitz's methods and calculation procedures. Because observers continued to record beyond 100 social units (Berkowitz's observation criterion) until data from 100 groups had been recorded, it is possible to compare these two methods for generating data on physical contact. If Berkowitz's criterion had tended to generate lower contact rates, the more extensive criterion of 100 groups should have resulted in higher contact rates. As can be seen from inspection of Table 1, however, the two criteria produce very similar rates across the age-sex categories. The one large difference that does occur (in the female older adult category) is not in the expected direction, and in any case is probably due to observer inconsistency in the use of category, rather than to any real difference between the two criteria. It will be remembered that the "older adult" category was the one with the least interobserver agreement. Therefore, it would seem that the higher rate of physical contact found in the present study in comparison to Berkowitz's investigation cannot be accounted for on the basis of differences in observational criteria or methods of calculation of contact rates.

**SOCIAL AND ECONOMIC CLASS DIFFERENCES.** One possibility for accounting for the difference between the two studies lies in social class differences in amount of interpersonal physical contact. If urbanized, modernized populations engage in

touching behavior more frequently than people from rural, traditional backgrounds, it might be possible that observing different proportions of the two types of populations would give rise to the differences in contact rates. Conceivably then, restriction of observations to Ankara, one of the most modern of Turkish cities, may have produced unrepresentatively high rates of touching. Actually, however, casual observations and the anthropological literature agree that the opposite would seem to be the case. The more modernized, urbanized and "civilized" a population, the less the involvement that population seems to have in interpersonal touching behavior. Conversely, to the extent that a population remains traditional in outlook, reflects its rural-village orientation in its norms and values, and/or is regarded as technologically "primitive", it may also be expected to engage in a high rate of interpersonal touching behavior. Consider, as one example of this distinction, the upper-class English population in contrast to the Netsilik Eskimos mentioned in the introduction.

Comparison of the contact rates in different parts of Ankara can help to resolve this issue. Thus, the prediction of the present study is that data collected from settings located in the older parts of Ankara will have higher proportions of the rural-traditional type of population, whereas data collected from settings located in the newer sections of Ankara will be based on greater proportions of people representing the modernized, urbanized population of the city. Since the population in the older parts of Ankara is composed of a greater proportion of recent immigrants from the Anatolian villages and small towns, they can be described as "urban villagers"<sup>22</sup> and should behave according to the social customs and norms of their traditional, rural backgrounds. This line of reasoning clearly predicts a higher contact rate in those settings located in the older parts of Ankara.

As described in the Methods section above, observers were sent in equal numbers to the older and to the newer locations around Ankara. Of the 25 observers used in the study (not including the additional 17 observers who collected reliability data), 13 observed in locations presumably inhabited by a

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Rates according to two different criteria

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Age-Sex Categories	One Hundred Social Units Criterion		One Hundred Groups Criterion	
	Lower Class	Middle Upper	Lower Class	Middle Upper
Male Child	53	41	55	46
Female Child	73	69	75	62
Male Adol.	55	29	41	29
Female Adol.	72	51	64	52
Male Adult	41	26	39	33
Female Adult	68	53	69	61
Male Older	43	38	40	47
Female Older	85	60	70	57
Averages	55	38	51	43

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22. H. GANS, *The Urban Villagers*.  
New York: Free Press, 1962.

Table 2. Rates of Interpersonal Physical Contact for Locations Inhabited by Different Social Classes.

Note : See Table 1 for an explanation of the method of calculating percentage rates of physical contact.

23. The following settings were classified as middle-upper class/new city: Kızılay, Tunali Hilmi Caddesi, Dedeman Sineması, Tuna Pasthanesi, Kuşulu Park. The remaining settings (see note 21) were classified as lower class/old city.

greater proportion of people from traditional, rural backgrounds and 12 observed in locations inhabited by a greater proportion of people representing the more modern, cosmopolitan segments of the population.<sup>23</sup> Table 2 presents the data on contact patterns for each of the eight age-sex categories. Results are given separately for the "100 social units" and for the "100 groups" criteria. Inspection of the data displayed in Table 2 indicates that only once, out of the 16 comparisons, in the case of the male, older adult, 100 groups category, does the contact rate for the lower class locations fail to exceed that of the comparable category for the middle-upper class locations. The data are then quite consistent in showing greater contact rates for lower class locations, as well as universally indicating higher contact rates for females than for males.

The statistical significance of the eight per cent overall difference in contact rate between the two types of locations in the 100 groups criterion was tested with the t-test for independent samples. Results indicated a highly significant difference, well beyond the one per cent level of probability ( $t = 21.62$ ,  $df 11, 12$ ). Almost all of the other more specific comparisons between rates in the age-sex categories are likewise statistically reliable.

One possible confounding factor related to this analysis of traditional versus modern settings and rates of physical contact must be described. Further analysis of the data revealed that the size of the average group observed in the settings located in the older parts of Ankara was slightly (6.6 %) larger than the average group observed in the settings located in the newer parts of the city. Statistical evaluation of the differences indicated that, however slight, the mean sizes of the groups observed were significantly different ( $t = 2.22$ ,  $df 11, 12$ ;  $p < .05$ ). Thus, the differences in contact rates between settings located in older and newer parts of the city might in part be due, to the larger sizes of the groups in the settings located in older parts of town, rather than to other characteristics of the populations involved. As a check on this possibility, the overall correlation between size and contact rate was calculated for the entire set of 25 observers. The resulting correlation of .28 proved non-significant, indicating that no reliable relationship exists between the two variables. Even if the degree of relationship implied in the correlation is taken as meaningful, it is too small to account for the much greater variance in contact rates between the two types of settings.

SETTING TYPES. Still another variable influencing physical contact rates is the type of setting within which data were collected. An analysis of mean group sizes and of physical contact rates across the three types of outdoor settings, however, revealed no dramatic or significant differences among them. Average group sizes varied from a low of 2.36 people in park areas to a high of 2.56 people in entertainment areas, with shopping locations occupying an intermediate position. Park locations were also lower in contact rates, with an average of 37 per cent across the eight age-sex categories, compared to 50 per cent contact in entertainment locations and 51 per cent in shopping areas. Once again, as in the analysis of settings located in the older and in the newer parts of town, there is a slight, nonsignificant tendency for average size of group to covary with physical contact rate.

OBSERVER BIAS. Finally, the possibility of accounting for the differences between the two studies on the grounds of observer bias should be considered. There would seem to be two reasons for rejecting this solution. First, no particular set was given to the observers in the present study and the results of the earlier study were not discussed with them until data collection had been completed. Second, the general patterns of contact rates in the two studies are strikingly similar. Rates of contact for females are higher than for males and highest for child and older adult categories in both studies. If observer bias were a strong factor in accounting for the differences between the studies, one would not have expected such similar patterns to emerge from the data.

CONCLUDING COMMENTS. Clearly, the present study has demonstrated the possibility of generating interesting and precise quantitative data on behavior differences between locations. Rates of physical contact were shown to be a factor of some interest to environmental professionals, and one that is capable of being reliably observed in naturally-occurring outdoor urban locations. Contact has been shown to occur more frequently among females than males, more in settings located in older parts of Ankara than in the newer sections, to be slightly more frequent in shopping and entertainment areas than in parks, and to follow a U-shaped function across age categories, with children and older adults engaging in more physical contact than adolescents or adults.

Despite these gains in understanding the distribution of the physical contact variable, our failure to account for the dramatic reversal of the results of an earlier investigation indicates that there may be strong sources of variation in physical contact rates that are as yet unidentified. In view of this latter difficulty, intercultural generalizations based on touching data would seem to be premature.

## FİZİKSEL VE TOPLUMSAL ÇEVREDE DOKUNMA DAVRANIŞI

### ÖZET

Fiziksel ve toplumsal çevre ile ilişkilerin sürdürülmesinde dokunma duyusunun insan yaşamındaki önemi bu konuda şimdiye kadar yapılmış yayınlar yoluyla vurgulanmaktadır. Görme ve işitme gibi uzaysal duyular bize çevremizdeki nesnelere birbirleriyle olan ilişkilerine değin bilgi verirler; duymak gibi yakınlık duyuları ise çevre ile olan kişisel ilişkinin bilgi kaynağıdır. Kişilerin diğer insanlarla birlikte oldukları yerlerde birbirlerine fiziksel olarak dokunmalarıyla ilgili olarak doğrudan gözleme dayanan kültürler-arası tek çalışma Berkowitz tarafından 1971 yılında yapılmıştır. Adı geçen çalışmada, Türkiye (Afganistan ve İran gibi diğer iki Orta Doğu ülkesiyle birlikte) beş Batı ülkesiyle (İngiltere, İtalya, İsveç, Batı Almanya, Amerika Birleşik Devletleriyle) karşılaştırılmıştır. Berkowitz bu çalışmasının sonucunda Arap olmayan bu üç Orta Doğu ülkesinde kişiler arası fiziksel dokunma oranının karşılaştırıldıkları beş Batı ülkesinden daha düşük olduğunu belirtmektedir.

Biz bu yazımızda, gözleme dayanarak yaptığımız bir araştırmanın sonuçlarını Berkowitz'in sonuçları ile karşılaştırmalı olarak sunmaktayız. Araştırma 1974 yılında Ankara'da alt ve orta sınıf kişilerin bulunduğu bölgelerde fiziksel dokunma oranına ilişkin olarak gözleme dayanarak yaptığımız bir çalışmadır. Araştırma aşağıda yaptığımız varsayımları doğrulamıştır:

- 1) Ankara'da gözlenen dokunma oranı Berkowitz'in Orta Doğu ülkeleri için belirttiği fiziksel dokunma oranından oldukça yüksektir- hatta bu oran Berkowitz'in araştırmasını yaptığı herhangi bir ülkede bulunduğu orandan daha yüksektir,
- 2) Dokunma oranı erkeklere göre kadınlar arasında daha yüksektir,
- 3) Kent'in eski bölgelerinde dokunma oranı kentin yeni bölgelerine göre daha yüksektir.

Araştırmada elde ettiğimiz bulgular Berkowitz'in elde ettiği sonuçları tersine çevirmektedir. Aradaki farkın yönetsel nedenlere dayanmadığı kanısındayız; araştırma fiziksel dokunma oranlarındaki değişkenliğin şimdiye kadar üzerinde araştırma yapılmamış bazı önemli nedenlere dayanabileceği kanısını uyandırmıştır.

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