HISTORY AND STRATEGIES OF RESEARCH ON SOCIAL TOUCH

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ABSTRACT: The history of research on social touch is discussed along with comparisons of different research strategies and techniques. Suggestions for future research are proposed.

If intimacy is proximity, than nothing comes closer than touch, the most intimate knowledge of another. The expression to "know" someone in the Biblical sense is equivalent to having been sexually intimate with them, to have known their body. To permit another to come so close that bodies touch is an act of vulnerability and trust. Our personal space is a jealously guarded commodity, connected in its most primitive sense with survival. Because of this, of all the sensory systems involved in social interaction, touch is the least frequently used.

The power of touch is also reflected by language which is filled with expressions that underline the importance of the sense of touch to communicate emotions as well as important subleties of feeling and attitude—"a soft touch," "a gripping experience," "gives me goosebumps," "deeply touched," "to touch base"—the list goes on and on. How is it that so many important impressions and emotions are linked to touch and the different qualities of touch and physical contact?

Frank (1957) captured it well: "Without tactile communication, interpersonal relations would be bare and largely meaningless, with a minimum of affective coloring or emotional

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provocation, since linguistic and much of kinetic communication are signs and symbols which become operative only by evoking some of the responses which were initially stimulated by the tactile stimuli for which these signs and symbols are surrogates" (Frank, 1957, p. 242).

Our bodies end with our skin, an impressive 18 square feet of it, a vast surface on which to receive messages. And the skin is in a constant state of readiness to receive messages. It cannot shut its eyes or cover its ears; it is always on. Yet, even though the messages carried by touch are very important, the occasions for physical contact are few and far between.

Touch, as with all nonverbal behaviors, rarely has a unitary meaning. Whether it is a tap, a shove, or a caress, the meaning or message can profoundly change, depending upon a host of other factors.

Consider the perceptual capabilities of the haptic system as it is called, and the exquisite sensitivity of the skin and muscles to variations in the sensory information it can pick up from touching and being touched. Keep in mind the role these qualities play as variables in the information communicated in touch: skin temperature, texture, shape, softness, elasticity, and resilience. Consider too the stimulus qualities of touch which can vary and alter the meaning of a touch: duration, frequency, intensity, breadth, continuity, rhythm, and sequence. Finally, consider the body parts involved, the settings in which touch occurs, the relation of touch to other communication signals, who initiates touch, whether touch is reciprocated, whether an expected touch is omitted, how a touch is responded to, and the relationship and roles of the individuals involved.

A mass of information to process, and yet because touching another's body generates an immediate demand for a response, as well as a very special intimacy or threat that is unique among communicative behaviors, touch is the most carefully guarded and monitored of all social behaviors. For students of human behavior, the circumstances, extent, and manner of touch in social interaction both influences and reflects the nature of social relationships between individuals.

Taxonomies of touch have been proposed, but they really only capture the largest features of touch by categorizing according to the roles and relationships of the individuals involved (Heslin & Alper, 1982; Thayer, in Press).

What do we know about touch? How is touch studied? How did research on touch begin? Touch is such a sensitive topic, that

researchers have shied away from it because it seemed such an in-
frequent and spontaneous behavior and so many aspects of
touching were private and seemingly inaccessible. At the same
time however, a growing awareness of intimacy and the functions
of nonverbal behavior in the expression and regulation of in-
timacy, emotion, and social interaction encouraged attention to
the special roles played by touch in the balance of intimacy.

What follows is a look at the history of research on social
touch and the different stategies and techniques that have been
used to study touch.

EARLY BEGINNINGS

The origins of touch research can be described as a mix of
medical and psychological perspectives. The clinical literature
begins with Spitz (1945) who noted the physical and emotional
surrender that ate away at institutionalized infants who were only
rarely and briefly touched by their nurses. *Marasmus* it was called
in severe conditions, and the mortality rate for such infants was ex-
traordinarily high. Nature had intended for, or selected for, more
than just adequate nutrition. Without effective "mothering,"
without adequate stimulation that comes from holding and
stroking, human nature did not develop normally. Food and
sanitary conditions alone did not adequately support life; touch
had been identified as a biologically necessary form of
stimulation, not just a sentimental and romantic human in-
dulgence (e.g., Casler, 1961; Korner & Grobstein, 1966).

The next major step in touch research provided the very first
scientific evidence about the role of touch in social and emotional
development. Infants were intentionally, experimentally deprived
of their mothers by a sophisticated and terrifying manipulation
that substituted artificial mothers for real ones. It could have been
human babies in some other world, but it was monkeys, primates
like us, that were used to drive home a point about the vital role of
touch and contact in human survival.

Harlow's (1958) famous studies on maternal deprivation and
physical contact in rhesus monkeys was this landmark research
which established the need for physical contact as a drive as basic
as the need for food. The Harlows and their colleagues had iden-
tified an unlearned, biologically determined need for contact that
influenced both immediate and later forms of adaptive social-

emotional and cognitive behavior (Suomi, 1984). Subsequent experimental research established that contact, movement and handling were powerful forms of stimulation that enhanced normal neurological and social-emotional development in human infants as well (e.g., White & Castle, 1964). Moreover, contact also began to be intensively studied for its role as a major component of effective social bonding and mother-infant attachment (e.g., Ainsworth, 1979).

The next two attention-generating landmarks were lengthy monographs on touch, each a gem of scholarship. The first, by Frank in 1957, almost 30 years ago, was the flag-planting step that defined a new and exciting research domain. The second, by Montagu (1971), sustained research interest by providing a broad review of touch research and theory through the late 1960s, with a second updated edition (1978). What these writers had done was to pull together disparate bits of evidence — clinical, physiological, cultural, and psychological — so that the importance of touch for normal development was emphasized and clarified.

The next major push was given to touch research by Henley's early study (1973), and later book (1977), which tapped the political-sexual side of touch with particular focus on the status variable. Coming as it did during a period of increased sensitivity to sexism and discrimination in general, a new face of touch had been exposed, one that looked at touch as an expression of power and dominance, status and control, with women generally in the subordinate role with regard to touch liberties.

Recent research approaches have continued to contribute to the literature by the variety of techniques and situations studied, and smaller reviews have continued the tradition of pulling literature together for general updating (Heslin & Alper, 1982; Thayer, 1982) or special research interests (e.g., gender and touch, Major, 1981; Stier & Hall, 1984).

A final element in the background of touch research has been the "intimacy equilibrium hypothesis" (Argyle & Dean, 1965). This idea seeks to explain how different intimacy behaviors are balanced out by the interacting parties to keep the encounter at a particular level of emotional arousal comfortable for both. This perspective put touch into a larger conceptual category of behaviors that were monitored and adjusted by the interacting parties to regulate emotional arousal and keep intimacy within mutually acceptable boundaries.

How touch actually fits into the intimacy equation however

has not yet been studied. In contrast to studies of mixed messages that include words, facial expression, tone of voice, and so on (e.g., adults, Mehrabian & Ferris, 1967; children, Bugental, Kaswan, Love, & Fox, 1971), touch has not been examined for its relative contribution to the final impact of a message that contains either congruent or incongruent elements. Certainly there are situations that can be studied where touch alone, or manner of contact carries a greater or lesser part of a message depending upon other communicative behaviors.

What then are the strategies that can be used to study touch, and what are the special concerns and options that are part of touch research?

RESEARCH APPROACHES TO TOUCH

Research on touch can be divided into three strategies: (1) self-report, (2) observation of natural or arranged situations, and (3) controlled manipulations in a field or laboratory setting.

SELF REPORT

The self-report approach is best typified by Jourard's (1966) classic questionnaire study about who touches whom where on the body—a measure of what he called "body accessibility." The results he obtained with his respondents was the first systematic attempt to look at the psychology of touch—that is, the relationship correlates behind the variability and predictability of touch behavior. Comparative body maps of touch accessibility were devised which graphically and strikingly displayed the extent and location of the different body areas of males and females that had been touched in different kinds of relationships.

Why should these touch patterns be, and how did they get that way? How soon were they evident, and what route did they take throughout life? What role did touch play, and what functions did touch serve at different ages?

Jourard's research had raised a number of questions about closeness, both physical and emotional, and the factors that tied the two together. What was the connection between category of relationship, self disclosure, and physical intimacy?

At the heart of his research were questions about emotional

accessibility and openness, and the forces and factors that influenced these processes—touch in particular. With these first sytematically gathered self reports, Jourard had created a beginning data base relating gender and relationship to touch behavior. In doing so, Jourard's research also invited comparisons between different decades (e.g., Rosenfeld, Kartus, & Ray, 1976) and different cultures (e.g., Lomranz & Shapira, 1974; Barnlund, 1975).

Similar comparisons are needed with different age groupings, psychiatric and physical disorders and disabilities to add to our understanding of the role of touch norms in the lives of different categories of people.

Self report was again used in another landmark study about how men and women interpret different kinds of touch applied to different parts of their body (Nguyen, Heslin, & Nguyen, 1975). With this research shift, an important step had been taken beyond frequency counts or the typical "touched" versus "not touched" coding dichotomy. Quality of touch was being considered. Here for the first time was an attempt to consider the variety of touches individuals used with each other from stroke to pat and so on, and how they were interpreted. Although touching in and of itself was important, how someone was touched often carried most of the message. New research has extended this self-report approach by considering a broader range of possible touch interpretations attached to a wider variety of types of touch from two different perspectives—toucher or recipient (Pisano, Wall, & Foster, 1985).

A different sort of innovative method captured self report in vivo by having respondents keep records of touch as they were received (Willis & Rinck, 1983). Split personality or no, this technique at least captured the immediate details surrounding the touch encounter, rather than trust the more typical generalities and errors of retrospective recall.

Recently, more studies have begun to code for quality of touch as a dependent variable (e.g., Greenbaum & Rosenfeld, 1980; Heslin & Boss, 1980), a practice long followed by ethologists (e.g., Hinde, 1972), and reflected most particularly by the elaborate notational systems used by dance therapists for whom form is as important as frequency (e.g., Davis, 1979).

Finally, systematic self report through questionnaire has also naturally been the preferred technique for exploring matters about touch that were too private or too personal. Indeed, details about intimacies have been the topic of many studies aimed at surveying contemporary sexual practices (e.g., Curran, 1975), marital

satisfaction (e.g., Tolstedt & Stokes, 1983), and professional sexual
misbehavior (e.g., Holroyd & Brodsky, 1980).

OBSERVATION

Finding situations to observe is an interesting prospect that
raises three issues. The first is *where* to look? Without peeking
through windows one is limited to situations where touch and
physical contact are by definition, of a public sort. What kinds of
situations are these? The second issue is *how* to look at touch. That
is, which observational strategy to choose from those available?
The last issue is connected to the level of data analysis—*what* to
look at? That is, which touch behaviors to observe, at which level
of behavioral organization, and with what degree of observational
precision.

On the most basic level, no sort of sophisticated procedure is
needed for anecdotal reports about the nature of touch in
everyday life as people come and go about their business.
Hospitals and nursing homes, for example, were natural places to
observe the functions and power of touch since physical
examinations and procedures were so much a part of the depen-
dent patient's circumstance while at the same time caring human
touch was rare and lost in the fast-paced business of efficient
caretaking. For this reason, sensitive nurses were among the first to
notice how important touch seemed to be in promoting patient
health and healing. Their casual observations (e.g., Aguilera, 1967)
and early attempts at data collection (Krieger, 1975) were the
groundwork for later, more rigorously controlled research on the
health-promoting benefits of touch (e.g. Whitcher & Fisher, 1979).

Anthropologists too have been prime sources of this descrip-
tive-impressionistic level of observation and continue to provide
valuable cross-cultural perspectives on the nature of touch in dif-
ferent circumstances around the world (e.g., greeting and
separation, LaBarre, 1947; child care, Mead & Macgregor, 1951).

More rigorous observational methods have also been used to
study these same naturally occurring touch situations. The dif-
ference is a more elaborated level of description and analysis of
the behavioral elements and sequences of entire events or en-
counters than is found in the familiar anthropological report (e.g.,
greeting, Kendon & Ferber, 1973). Other observational methods are
equally rigorous but are involved more in categorizing and count-

ing touch in different contexts and for different relationships (e.g., cafe, Jourard, 1966; greeting and separation, Heslin & Boss, 1980; beach play, Clay, 1966), than in more global and comprehensive descriptions and analyses.

A compromise research variation observes a naturally occurring social situation where patterns of touch are coded for information about touch quality (e.g., body part touched) as well as for initiator and recipient characteristics (e.g., sex and race) (Smith, Willis & Gier, 1980).

A final observational method seeks to create "natural" situations rather than wait for them to occur. By selecting different populations to observe, and arranging for them to come together where touch opportunities are possible, subject samples with different characteristics can be studied for differences in touch (e.g., conversations, Noesjirwan, 1978).

Infant and child behaviors have also provided rich opportunity for observing the role of touch in development. In fact, developmental psychologists have been in the forefront of touch research with their tradition of observing nonverbal social behaviors especially as critical communication channels for preverbal children (e.g., Bowlby, 1969; Stern, 1977).

Among the human ethologists, Blurton-Jones (1972) and McGrew (1972) were the first to make systematic fine-grained morphological-behavioral descriptions of natural social situations that captured the forms and functions of touch behaviors in context with other social signals. For young children in particular, physical interaction was a frequent element in their social dealings with peers and caretakers, even though peer touching dropped significantly between one and two years of age (Swift, 1964). Patterns of touch and contact have also been intensively studied for the particularly critical role they play in attachment and bonding, since touch and handling are predictive of a wide range of adaptive behaviors (e.g., Ainsworth, 1979).

Observational research of premature infants has also added to a wider focus on the role of touch stimulation for these incubator babies by showing how enhanced physical contact for the premature infants may be both beneficial (e.g., Korner, 1984) or harmful (e.g., Lucey, 1984) to these hypersensitive babies.

Observation of infants and young children interacting with their parents has also tracked touch beginning soon after birth, as one shaper of sex-role behavior (e.g., Leiderman, Leifer, Seashore, Bartnett & Grobstein, 1973). Mothers and fathers have been ob-

served for the different qualities and kinds of touch each tends to use with sons and daughters, as well as for the different occasions and activities when parents use touch with sons and daughters (e.g., Lamb, 1977). Observational studies have focused on gender-related touch behaviors between individuals beginning in early infancy (e.g., Goldberg & Lewis, 1969) and continuing throughout the life cycle. This approach is best exemplified by Willis' programmatic series of observational studies that follow touch patterns in natural situations through preschool (Williams & Willis, 1978), early childhood (Willis & Hoffman, 1975), early (Willis & Reeves, 1976) and late adolescence (Willis, Reeves & Buchanan, 1976) into adulthood (Willis, Rinck & Dean, 1978) and old age (Rinck, Willis, & Dean, 1980). Willis' fine beginnings are trailblazers that invite additional research with a wider range of situations and subjects.

EXPERIMENTAL STUDIES

The final strategy is one where investigators have controlled or manipulated touch to examine its impact on behavior. We study touch because it is so primitive, so physical, so private. Ethically it is a hard area to manipulate experimentally in a laboratory setting and still have the results mean much. At best it can describe reactions to fleeting touch between strangers because it is hard to create a legitimacy for contact in the laboratory. Touch other than for attention or assistance is a rare act between adult strangers, perhaps less so for children, and in most cases uninvited touch from a stranger is experienced as offensive, intrusive, or threatening (Sussman & Rosenfeld, 1978).

One of the earliest studies to wrestle with these problems was the now famous field experiment that measured how a casual touch by a librarian could shape borrowers' attitudes toward the library and its personnel (Fisher, Rytting & Heslin, 1976). The results were startling. Here was the first experiment to show that even a fleeting touch could influence attitudes and feelings between total strangers. The experimental gate to touch research had been opened by this simple and elegant experiment.

For a while it seemed as though making skin contact as an experimental variable could accomplish just about anything. Experimentally manipulated touch for example enhanced prosocial behavior (Kleinke, 1977), compliance (Willis & Hamm, 1980), responsiveness to a marketing request (Smith, Gier & Willis, 1982),

increased the size of a restaurant tip (Crusco & Wetzel, 1984), and the good feelings between members of a personal growth group (Cooper & Bowles, 1973), and willingness to help an overworked college peer (Patterson, Powell, & Lenihan, 1985). Recently, touch quality has been manipulated as an independent variable, adding an important element of complexity and reality to the touch stimulus situation (Paulsell & Goldman, 1984).

Were these results a commentary on the so-called "skin hunger" of many individuals cut off and insulated against human contact in their depersonalized jobs in an impersonal society? Could an accidental brush of skin break down barriers so fast, even for a brief period of time?

A related experimental research track has been the impact of touch in psychotherapy, the cure that traditionally only used talk. Despite the advocacy of touch by eminent therapists (e.g., Reich, 1949; Lowen, 1966), touch has been largely avoided in modern therapy because of sexual taboos in the highly self-disclosing intimate atmosphere of the treatment setting (e.g., Mintz, 1969).

The first experiment to chance manipulating something as personal and ethically problematic as touch in a psychotherapy situation was conducted by Pattison 1973. Her general intent was to see how touch, in fact a very brief and light arm touch, might break down discomfort barriers early in therapy and enhance rapport and patient self disclosure. Since this original study, other investigators have continued to use the format of slight touch as the independent variable to study its impact on client disclosure and progress (e.g., Alagna, Whitcher, Fisher, & Wicas, 1979; Hubble, Noble, & Robinson, 1981).

Although healing by touch had a long and rich history among many cultures and religions (e.g., Kaplan & Johnson, 1964; Murphy, 1964), modern evidence had been exclusively anecdotal. Indeed the earliest observational studies of the positive effects of touch by nurses were provocative in their conclusions but weak in their controls (e.g., Aguilera, 1967). Subsequent quasi-experimental work in a nursing setting (Krieger, 1975) encouraged study of the benefits of touch and paved the way for later more rigorously controlled research.

The application of experimentally manipulated touch finally gave empirical support to the value of the "laying on of hands." The appearance of Whitcher and Fischer's (1979) experimental study provided the first important documentation on the healing value of touch. Particularly impressive and unique was the range

of response measures they used — behavioral, physiological and evaluative — as well as the extended time period over which they monitored their patient-subjects.

Experiments on touching have also put ordinary people into the role of judges viewing an encounter to assess how experimentally controlled variations in touching influence impressions about the qualities of the people shown or the nature of their relationship (e.g., Forden, 1981, with adults; Raiche, 1977, with children).

A last, radically different perspective on touch research has come from experiments on self touching, what Ekman and Friesen (1972) called "self-adapters" and Freedman (1971) called "body-focused movements," where touch has been studied as a reflection of cognitive processing and emotional state (e.g., Barroso, Freedman & Grand, 1980). Here the role of self touch has been examined by manipulating the circumstances and states of mind designed to affect self touching (Barroso & Feld, 1985). Although self touching had long been observed in infant studies for its self-calming, self-exploring, and self-stimulating effects, these were the first studies to examine similar process in adults. Apparently touch served some similar cognitive and affective functions whether it was done by others or oneself.

A totally new face of touch was exposed by considering the self touching behaviors of *both* parties in an interview situation — in this case, a job interview — as these behaviors predict impression formation and subsequent behavior (Goldberg and Rosenthal, 1985).

CULTURAL FACTORS IN TOUCH

Throughout all of these findings, the spectre of culture cast a long shadow. No experiment was safe, no conclusion secure, unless cultural and ethnic factors were considered. Important differences emerged from systematic laboratory (e.g., Noesjirwan, 1978) and field observation (e.g., Hanna, 1984) as well as clinical (e.g., Huang, Phares & Hollander, 1976) and cross-cultural comparisons (e.g., Ramsey, 1984).

Culture provided a framework where intimacy and social structure were expressed and maintained by norms and forms of touch (e.g., Hoffer & Santos, 1977). Hall (1966) was the first to speak of "contact" and "noncontact" cultures where touch was

more or less common and acceptable as part of everyday life, and early studies tried to back up these anecdotal impressions with facts gathered by systematic observation of different situations (e.g., Watson & Graves, 1966, conversations), and groups (e.g., Willis & Reeves, 1976, Blacks and Whites), but not without challenge to overgeneralized stereotypoes (e.g., Shuter, 1976).

Sex and status also came in quite early as cultural reflections of the power to touch another (Henley, 1973) as issues about the greater liberty of higher status individuals (e.g., males, bosses) to touch lower status individuals (e.g., females, secretaries) were examined by observational (e.g., Goldstein & Jeffords, 1981) and experimental work (Major & Heslin, 1982), and a recent major literature review (Steir & Hall, 1984).

SOME IDEAS FOR THE FUTURE

Touch research is 20 years old now, just out of adolescence if we mark its beginning with Jourard's (1966) exploratory study of body accessibility. During that time we have become more sophisticated in our observation techniques and field experiments, have paid increased attention to touch qualities and have selected from an ever wider range of settings, populations and cultures. Our understanding of status and gender aspects of touch is more complex with better appreciation for the circumstances and functions of touch. Age factors have been well explored, particularly for the younger end of the age spectrum, although clearly more work needs to be done with our ever increasing elderly population for whom touch absence confirms isolation, physical deterioration and loneliness.

Similar research needs are evident for the role of personality factors in touch. After Schaffer and Emerson's (1964) early observational dichotomy which characterized infants as "cuddlers" and "noncuddlers," with rare exception (Silverman, Pressman, & Bartel, 1973), personality correlates of touch have been relatively ignored. Recently a new line of research has appeared that seeks to identify an adult version of this comfort/discomfort attitude toward touching and being touched (e.g., Anderson & Leibowitz, 1978; Deethardt & Hines, 1983).

The domains of touch are open and inviting. We need a better picture of friendly touch in adulthood to learn more about the kinds of people who are more or less comfortable with touching

and/or being touched in friendly, romantic and sexual relationships. We need to learn more about how moods and other states affect the initiation, interpretation and reaction to touch.

Body image and accessibility to touch is also an unexplored area. Jourard's (1966) sectioned, human figures showed which areas had been touched in different relationships. If his male and female figure-charts had been shaped in different body shapes (like endomorph, ectomorph, and mesomorph for example), different touch experiences might have been reported by people with different body types, body images or disabilities (e.g., Fisher, 1973).

Change over time in reactions to touch experiences might also be charted for those going through changes in body image caused by physical or psychological circumstance. Given the investment people generally have in their own bodies, one would expect state of health, appearance or general attitudes toward one's body to play a part in shaping perceptions and reactions to touching and being touched.

A related question asks whether and in what ways attitudes toward touch change with age? Do the meanings and interpretations stay the same? And how might identity and experiential factors be related to change and stability in these attitudes?

A last call for research comes from recent educational interventions provided for children as preventative efforts against sexual abuse. The consequences of these special programs on childrens' attitudes toward their bodies, sex or physical intimacy in general is at some risk, as educators seek, for the first time, to prepare children to discriminate between so-called "good touch" and "bad touch." Assessment of the impact of these communitywide programs for children at different ages is necessary to carefully evaluate the impact of these programs.

As a research area touch is unique. It is the touchstone of all relationships. It is the gatekeeper of intimacy and remains the final bond between people, even after words fail. Above all communication channels, touch is the most carefully monitored and guarded, the most vigorously proscribed and infrequently used, and the most primitive, immediate and intense of all communicative behaviors.

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