

Gender Differences in Touch: An Empirical and Theoretical Review

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The literature on gender differences in touch is divided into the categories of observational studies of touch frequency, people's beliefs about frequency and meaning, data on qualitative differences in touch, and studies of response to touch. The observational studies reveal: (a) no overall tendency for males to touch females more than vice versa, though two studies of specifically intentional touch with the hand did find such asymmetry; (b) a tendency for females to initiate touch more than males; (c) a questionable tendency for females to receive touch more than males; (d) a tendency for more female same-gender touch than male same-gender touch (at least for white samples); and (e) a tendency for same-gender dyads to touch more than opposite-gender dyads, especially when the dyads are unlikely to be intimate. Some of these conclusions are debatable, owing to methodological problems: Data dealing with qualitative aspects of touch are found to be too sparse and inconsistent to yield much information about gender differences in the uses or meanings of particular types of touch. The literature shows a tendency for women to respond more positively to touch than men. Henley's power hypothesis, the primary hypothesis concerning gender differences in touch, is given special scrutiny as a possible explanatory framework.

Despite the psychological significance of touch as a means of communication, not a great deal is known about when and why touching occurs and what meaning it may have in same-gender and opposite-gender interaction. Studies on the topic of gender and touch have focused on observed occurrences of touch, self-reports of touch frequency, people's beliefs about the meanings of touch, observers' perceptions of interactions that involved touch, and empirically assessed response to touch. Relevant questions and methods are many and the literature smaller than we would wish, considering this variety. But the literature is actually much larger than most psychologists alluding to the topic seem to be aware of; a handful of studies at best, and usually the same ones, are generally cited. There has been only one substantial review of gender and touch, that of Major (1981), whose review differs from

ours in a number of respects. We do not review infant studies nor unpublished studies, but we address more of the published literature on children and adults, employ more quantification, and focus on somewhat different problems and implications.

There is one widely recognized theory of gender differences in touch. Nancy Henley (1973) proposed that men initiate touch with women more often than do women with men and that such asymmetry is due to a status difference between men and women. This status difference, maintained Henley, gives men a touching privilege that, in turn, contributes to their domination of women. Henley's ideas about status and gender have inspired workers in this field since 1973, serving as both assumption and interpretive guide, and have profoundly affected the thinking of psychologists who study other nonverbal behaviors as well. One aim of this article is to examine this influential theory in light of the empirical findings of recent years.

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Observational Studies of Touch Occurrence

In this section we present results relevant to several hypotheses about gender differences

in the occurrence of touch.¹ The literature shows considerable variation in the settings and measurement techniques employed, in the adequacy with which results are reported, and in the age and relationship of the individuals observed. Investigators have been hampered by the fact that interpersonal touch is a statistically rare event, at least in the public places where most observational research is done (Jourard, 1966; Perdue & Connor, 1978; Willis, Reeves, & Buchanan, 1976; Williams & Willis, 1978). And, as Major (1981) has noted, because observation has been mainly unobtrusive and anonymous, investigators have obtained very limited knowledge about the age, status, and relationship of the individuals and about the meanings of the observed touches, either as intended by the toucher or as perceived by the recipient.

Five questions are addressed in this section: (a) Is opposite-gender touch asymmetrical?; (b) Is there a gender main effect for the initiation of touch, over both male and female recipients?; (c) Is there a gender main effect for the receipt of touch, over both male and female initiators?; (d) Do females touch each other more than males touch each other?; and (e) Do same-gender dyads touch more than opposite-gender dyads?² Table 1 describes the 43 independent studies reviewed in this section, in terms of their attributes but not their results; Table 2 gives the results for each of the five basic questions mentioned, for each study; and Table 3 summarizes the results across studies. The gaps in Table 2 indicate that not all of the samples yielded data for all five questions.³

Is Opposite-Gender Touch Asymmetrical?

The best-known study addressing this question is Henley's (1973) observational study of intentional touches with the hand, in which young adult men were seen to touch young adult women significantly more than vice versa (study 2 in Tables 1 and 2). In that article, two other, smaller, samples representing different age groups did not show such a difference (studies 3 and 4).⁴ Besides Henley's famous result, the literature yields a number of other pertinent results. Some of these were reported in terms of rates of touch, some in terms of frequency, some in terms of the number of opposite-gender dyads showing males

touching females (MF) versus females touching males (FM) (as in Henley's studies), and one in terms of duration. All are shown in Table 2.

Disregarding statistical significance, which was often unknown, all results for rate were consistent in indicating that females touched males at a higher rate than males touched females. All of these results involved preschool children, so generality to adults is unknown. For the results stated in terms of the number of opposite-gender dyads showing male versus female touch initiation (the main category of dependent variable used in these asymmetry comparisons), it is easy to do significance tests, whenever it is reasonable to assume that each opposite-gender dyad was counted only once. Expected values are set at 50% of sample size, because under the null hypothesis we would expect MF touching and FM touching to occur equally often. Three of the 10 such results were significant but inconsistent in direction (studies 2, 32, and 37). The remaining seven such results were generally very far from significance and were almost evenly split on which gender touched the other more frequently. The average effect size (g) was .02, which is extremely small (see note in Table 2

(text continues on page 447)

¹ In the text and tables, only published data are considered. The only partial exceptions to this are several of Henley's studies that are briefly described in Henley (1977) and the replication by Major and Williams (1980) of Henley's (1973) study, summarized in Major (1981).

² Questions 2, 3, and 5 correspond to the two main effects and the interaction, respectively, in a hypothetical 2×2 table where initiator gender and recipient gender are crossed; these three effects are independent. Questions 1 and 4, however, correspond to two-cell comparisons, each involving cells on the diagonal of such a table. These comparisons are not independent of the first three effects; the magnitude and direction of the female-female versus male-male difference (question 4) is implied, for example, by the nature of the two main effects. All five questions seem sufficiently relevant to theoretical issues to merit discussion with, we hope, adequate recognition of their nonindependence.

³ Further, though the direction of the result was usually apparent, a large proportion of the results were not subjected to significance testing. This is because in the majority of cases the original authors did not ask the same questions that we wished to pose. We performed our own significance tests when the necessary data were readily available.

⁴ A fourth group of dyads in which the toucher was much younger than the recipient is excluded from the tables because it included only seven instances, four of which were children touching older females.

Table 1
Characteristics of Observational Studies

| Study | Sample | Setting | Acquainted | Type of touch |
|-----------------------------------|--|---|------------|---|
| 1. Berkowitz (1971) | people ages 1½-50+ | in public (six areas of the world) | yes | all, except accidental brushes |
| 2. Henley (1973) | people under 30, roughly equal in age, mainly W | in public | ? | intentional, with hand |
| 3. Henley (1973) | touchers 10 years or more older than recipient, mainly W | in public | ? | intentional, with hand |
| 4. Henley (1973) | people over 30, roughly equal in age, mainly W | in public | ? | intentional, with hand |
| 5. Langlois et al. (1973) | B preschool children | play in lab in dyads | yes | all, except hitting |
| 6. Gottfried & Seay (1974) | B & W preschool children | indoor play | yes | all, except hitting |
| 7. Gottfried & Seay (1974) | B & W preschool children | indoor play | yes | all, except hitting |
| 8. Savitsky & Watson (1975) | B & W preschool children | indoor play | yes | all |
| 9. Whiting & Whiting (1975) | B & W children, ages 3-5 | various activities (six areas of the world) | yes? | nonassaultive |
| 10. Whiting & Whiting (1975) | B & W children, ages 6-7 | various activities (six areas of the world) | yes? | nonassaultive |
| 11. Whiting & Whiting (1975) | B & W children, ages 8-11 | various activities (six areas of the world) | yes? | nonassaultive |
| 12. Willis & Hofmann (1975) | B & W grade school children | school cafeteria lines | ? | all, coded only when line not moving |
| 13. Shuter (1976) | adults | in public (Costa Rica) | yes? | all, coded only when conversing |
| 14. Shuter (1976) | adults | in public (Panama) | yes? | all, coded only when conversing |
| 15. Shuter (1976) | adults | in public (Colombia) | yes? | all, coded only when conversing |
| 16. Willis et al. (1976) | grades 10-12 in 2 W schools | school cafeteria lines | ? | all, coded only when line not moving |
| 17. Willis et al. (1976) | grades 10-12 in 2 B schools | school cafeteria lines | ? | all, coded only when line not moving |
| 18. Willis et al. (1976) | grades 10-12 in 2 B & W schools | school cafeteria lines | ? | all, coded only when line not moving |
| 19. Ford & Graves (1977) | M-A elementary school children | outdoor play | yes? | all, except aggressive touch and touch during organized games |
| 20. Ford & Graves (1977) | W elementary school children | outdoor play | yes? | all, except aggressive touch and touch during organized games |
| 21. Beier & Sternberg (1977) | married couples (with each other) | psychology laboratory | yes | all |
| 22. Foot, Chapman, & Smith (1977) | 7-8 year olds | watching cartoons in dyads | no | all? |

Table 1 (continued)

| Study | Sample | Setting | Acquainted | Type of touch |
|---|---|---------------------------------------|------------|--------------------------------------|
| 23. Foot et al. (1977) | 7-8 year olds | watching cartoons in dyads | yes | all? |
| 24. Maines (1977) | B & W people | riding subways | ? | hand-to-hand on overhead strap |
| 25. Lott (1978) | W preschool children | at play | yes | all? |
| 26. Lott (1978) | W preschool children | at play | yes | all? |
| 27. Perdue & Connor (1978) | preschool children (touching W teachers) | classroom | yes | all |
| 28. Perdue & Connor (1978) | W teachers (touching preschool children) | classroom | yes | all |
| 29. Williams & Willis (1978) | B & W children in six preschools | indoor play | yes | all |
| 30. Williams & Willis (1978) | B children in one preschool | outdoor play | yes | all |
| 31. Williams & Willis (1978) | W children in one preschool | outdoor play | yes | all |
| 32. Willis et al. (1978) | B & W college students | college cafeteria lines | ? | all, coded only when line not moving |
| 33. Willis et al. (1978) | W elderly people | recreation center cafeteria lines | ? | all, coded only when line not moving |
| 34. Shuter (1979) | W adults | socializing in church or synagogue | yes? | all, coded only when conversing |
| 35. Greenbaum & Rosenfeld (1980) | W adults | greeting and departing at airport | yes? | all? |
| 36. Heslin & Boss (1980) | people | greeting and departing at airport | yes? | all? |
| 37. Major & Williams (1980, reported in Major, 1981) | W adults | in public | ? | intentional, with hand |
| 38. Smith et al. (1980) | B & W, mainly adults | while bowling | yes | all |
| 39. Rinck, Willis, & Dean (1980) | B & W residents of four homes for elderly | general activities in the homes | yes | all? |
| 40. Noller (1980) | parents (touching their children ages 5-8) | waiting room | yes | positive touch |
| 41. Juni & Brannon (1981) | college students (touching confederates) | corridor | no | all? |
| 42. Juni & Brannon (1981) | college students (touching confederates) | psychology laboratory | no | all? |
| 43. Lochman & Allen (1981) | dating couples (with each other) | psychology laboratory | yes | positive touch |

Note. B = black; W = white; M-A = Mexican-American. When information on degree of acquaintanceship or type of touch was incomplete, but a reasonable guess could be made on the basis of the sample and setting, a question mark was added after the description.

Table 2
Results of Observational Studies

| Study number | Male-female versus female-male | Initiation | Receipt | Male-male versus female-female | Same-gender versus opposite-gender |
|--------------|---|---|---|---|--|
| 1. | — | F > M (30% vs. 18%, $p < .001$, $h = -.28$) | — | — | — |
| 2. | MF > FM (23 vs. 7, $p < .01$, $g = .27$) ^a | M > F (total frequency, 29 vs. 14) | F > M (total frequency, 30 vs. 13) | FF > MM (total frequency, 7 vs. 6) | OP > S (total frequency, 30 vs. 13) |
| 3. | FM > MF (11 vs. 10, ns , $g = -.02$) ^a | M = F (total frequency, 18 vs. 18) | F > M (total frequency, 19 vs. 17) | MM > FF (total frequency, 8 vs. 7) | OP > S (total frequency, 21 vs. 15) |
| 4. | FM = MF (5 vs. 5, ns , $g = .00$) ^a | M > F (total frequency, 8 vs. 7) | M > F (total frequency, 8 vs. 7) | MM > FF (total frequency, 3 vs. 2) | OP > S (total frequency, 10 vs. 5) |
| 5. | MF > FM (mean frequency, 14.6 vs. 13.8) | F > M (mean frequency, 17.0 vs. 12.2 ns) | F > M (mean frequency, 17.4 vs. 11.8, ns) | FF > MM (mean frequency, 20.2 vs. 9.8) | S > OP (mean frequency, 15.0 vs. 14.2, ns) |
| 6. | — | M > F (rate, ns) | — | — | — |
| 7. | — | M > F (rate, ns) | — | — | — |
| 8. | — | — | — | direction unknown (rate, ns) | — |
| 9. | — | F > M (mean frequency) | — | — | — |
| 10. | — | F > M (mean frequency) | — | — | — |
| 11. | — | F > M (mean frequency) | — | — | — |
| 12. | — | — | — | — | S > OP (mean frequency) |
| 13. | — | — | — | FF > MM (4.33/3 min vs. 1.46/3 min) ^b | S > OP (2.90/3 min vs. .65/3 min) |
| 14. | — | — | — | FF > MM (3.53/3 min vs. .22/3 min) ^b | S > OP (1.88/3 min vs. .59/3 min) |
| 15. | — | — | — | FF > MM (.39/3 min vs. .06/3 min) ^b | S > OP (.22/3 min vs. .00/3 min) |
| 16. | MF > FM (17 vs. 16, ns , $g = .02$) ^a | F = M (8% vs. 8%, ns , $h = .00$) | M = F (8% vs. 8%, ns , $h = .00$) | MM = FF (15% vs. 15%, ns , $h = .00$) | OP > S (18% vs. 15%, ns , $h = -.08$) |
| 17. | MF > FM (9 vs. 8, ns , $g = .03$) ^a | M > F (15% vs. 11%, $p < .10$, $h = .12$) | M > F (15% vs. 11%, $p < .15$, $h = .12$) | MM > FF (35% vs. 24%, $p < .05$, $h = .24$) | S > OP (29% vs. 17%, $p < .02$, $h = .29$) |
| 18. | FM > MF (8 vs. 6, ns , $g = -.07$) ^a | F > M (12% vs. 11%, ns , $h = -.03$) | M > F (12% vs. 11%, ns , $h = .03$) | MM > FF (30% vs. 28%, ns , $h = .04$) | S > OP (28% vs. 13%, $p < .01$, $h = .38$) |
| 19. | — | F > M (for longer touches, 5.2/10 min vs. .8/10 min, $p < .05$) | — | — | — |

Table 2 (continued)

| Study number | Male-female versus female-male | Initiation | Receipt | Male-male versus female-female | Same-gender versus opposite-gender |
|--------------|---|---|--|---|--|
| 20. | — | F > M (for longer touches, 1.6/10 min vs. 1.2/10 min, <i>ns</i>) | — | — | — |
| 21. | FM > MF (mean frequency, 2.42 vs. 1.95, <i>ns</i>) | — | — | — | — |
| 22. | — | — | — | MM = FF (mean frequency, .0 vs. .0) | OP > S (mean frequency, .4 vs. .0) |
| 23. | — | — | — | FF > MM (mean frequency, 5.2 vs. 2.6) | S > OP (mean frequency, 3.9 vs. .2) |
| 24. | — | — | — | — | S > OP (64% vs. 45%, <i>ns</i> , $h = .38$) |
| 25. | — | M > F (rate, $p < .05$) | — | — | — |
| 26. | — | direction unknown (rate, <i>ns</i>) | — | — | — |
| 27. | FM > MF (7.8/hr vs. 6.3/hr) | M > F (12.2/hr vs. 8.6/hr) | M > F (13.0/hr vs. 7.9/hr) | MM > FF (18.1/hr vs. 9.5/hr) | S > OP (13.8/hr vs. 7.0/hr, probably $p < .05$) |
| 28. | FM > MF (8.6/hr vs. 7.6/hr) | F > M (12.0/hr vs. 11.3/hr) | M > F (11.8/hr vs. 11.4/hr) | FF > MM (15.3/hr vs. 15.0/hr) | S > OP (15.2/hr vs. 8.1/hr, probably $p < .05$) |
| 29. | FM > MF (.39/min vs. .38/min) | F > M (.50/min vs. .44/min) | F > M (.50/min vs. .45/min, <i>ns</i>) | FF > MM (.61/min vs. .51/min) | S > OP (.56/min vs. .38/min, $p < .06$) |
| 30. | FM > MF (.49/min vs. .22/min) | F > M (1.66/min vs. 1.32/min) | F > M (1.52/min vs. 1.46/min) | FF > MM (2.83/min vs. 2.43/min) | S > OP (2.63/min vs. .36/min, probably $p < .05$) |
| 31. | FM > MF (.33/min vs. .31/min) | F > M (.67/min vs. .38/min) | F > M (.66/min vs. .39/min) | FF > MM (1.01/min vs. .45/min) | S > OP (.73/min vs. .32/min) |
| 32. | FM > MF (38 vs. 20, $p < .02$, $g = -.16$) ^a | F > M (8% vs. 6%, $p < .10$, $h = -.08$) | M > F (8% vs. 6%, <i>ns</i> , $h = .08$) | FF > MM (15% vs. 14%, <i>ns</i> , $h = -.03$) | S > OP (14.1% vs. 13.6%, <i>ns</i> , $h = .03$) |
| 33. | FM > MF (6 vs. 3, <i>ns</i> , $g = -.17$) ^a | F > M (16% vs. 7%, $p < .05$, $h = -.29$) | F > M (15% vs. 10%, <i>ns</i> , $h = -.15$) | FF > MM (37% vs. 29%, <i>ns</i> , $h = -.17$) | S > OP (36% vs. 13%, $p < .001$, $h = .55$) |
| 34. | — | — | — | MM > FF (rate, <i>ns</i>) | S > OP (rate, <i>ns</i>) |
| 35. | — | — | — | FF > MM (86% vs. 84%, <i>ns</i> , $h = -.06$) | OP > S (86% vs. 85%, <i>ns</i> , $h = -.03$) |
| | | | | FF > MM (overall rate of bodily contact, duration of contact, and number of touch components per episode, $p < .05$) | |

Table 2 (continued)

| Study number | Male-female versus female-male | Initiation | Receipt | Male-male versus female-female | Same-gender versus opposite-gender |
|--------------|--|--|---|---|--|
| 36. | MF > FM (10 vs. 4, <i>ns</i> , $g = .21$) ^a | — | — | FF > MM (mean frequency of contact, solid hugs, degree of touch intimacy, and touches on head, arms, or back, $p < .05$) | — |
| 37. | MF > FM (232 vs. 170, $p < .01$, $g = .08$) ^a | M > F (total frequency, 331 vs. 309, <i>ns</i>) | F > M (total frequency, 371 vs. 269, $p < .05$) | FF > MM (total frequency, 139 vs. 99) | OP > S (total frequency, 402 vs. 238) |
| 38. | MF = FM (B & W, total frequency, 60 vs. 60) | M > F (B & W, mean frequency, 2.0 vs. 1.9, <i>ns</i>) | M > F (B & W, mean frequency, 2.0 vs. 1.9, <i>ns</i>) | MM > FF (B & W, total frequency, 40 vs. 22) | OP > S (B female touchers, total frequency, $p < .05$) OP > S (W female touchers, total frequency, $p < .05$) OP > S (B male touchers, total frequency, <i>ns</i>) OP > S (W male touchers, total frequency, $p < .05$) |
| 39. | FM > MF (total frequency, 73 vs. 48) | F > M (2.55/hr vs. 1.91/hr, $p < .05$) | F > M (mean frequency, 1.20 vs. .82) | FF > MM (total frequency, 409 vs. 16) | S > OP (total frequency, 425, vs. 121) |
| 40. | MF > FM (total duration, 2.13 vs. 1.20 s) | F > M (total duration, 3.02 vs. 2.45 s, <i>ns</i>) | F > M (total duration, 3.49 vs. 1.99 s, <i>ns</i>) | FF > MM (total duration, 4.85 vs. 2.78 s) | S > OP (total duration, 3.82 vs. 1.66 s) |
| 41. | — | direction unknown (mean frequency, <i>ns</i>) | direction unknown (mean frequency, <i>ns</i>) | — | — |
| 42. | — | direction unknown (total duration, <i>ns</i>) | F > M (proportion of time touched, .33 vs. .26, <i>ns</i>) | — | — |
| 43. | FM > MF (mean frequency, 3 vs. 2) | — | — | — | — |

Note. M = male, F = female, S = same-gender, OP = opposite-gender, B = black, W = white, *ns* = not significant. If a significance test is not stated, it is unknown. Definitions of effect size are (Cohen, 1969): g is the difference between the MF proportion and .50. Positive sign indicates MF; negative sign indicates FM. An effect size g of .05 is considered small; h is the difference between the arc-sin transformations of the two proportions in question. Positive sign indicates M > F, MM > FF, or S > OP; negative sign indicates the reverse. An effect size h of .20 is considered small.

^a Number of opposite-gender dyads showing M versus F touch initiation.

^b Over all three groups, FF > MM, $p < .05$.

Table 3
Summary of Observational Studies

| Index of outcome | Male-female versus female-male | Initiation | Receipt | Male-male versus female-female | Same-gender versus opposite gender |
|---|---|---|---|---|--|
| Direction (excluding studies for which direction unknown) | MF > FM in 37% (7/19) FM > MF in 63% (12/19) | M > F in 36% (9/25) F > M in 64% (16/25) | F > M in 61% (11/18) M > F in 39% (7/18) | FF > MM in 71% (17/24) MM > FF in 29% (7/24) | S > OP in 63% (19/30) OP > S in 37% (11/30) |
| Number of significant results of each kind | MF > FM, 2 FM > MF, 1 | M > F, 1 F > M, 4 | F > M, 1 M > F, 0 | FF > MM, 2 MM > FF, 1 | S > OP, 6 OP > S, 3 |
| Effect size | $g = .02$ ($n = 10$) | $h = -.09$ ($n = 6$) | $h = .02$ ($n = 5$) | $h = .00$ ($n = 6$) | $h = .22$ ($n = 7$) |

Note. See Table 2 for definitions of effect size and abbreviations. Positive values of effect sizes mean MF > FM, M > F on initiation and receipt, MM > FF, and S > OP; negative values mean the reverse.

for explanation of effect size). The combined probability of these 10 results, by using the Stouffer method (Mosteller & Bush, 1954; Rosenthal, 1978) was only .22, two-tail, and favored males.⁵

For all studies addressing opposite-gender asymmetry, excluding ties, a slight preponderance (63%) showed more female initiation in opposite-gender dyads (Table 3). Excluding both ties and studies involving children as touchers, the proportion is more even: 57% (8/14) showed more female initiation.

Although they stand alone in showing significant asymmetry favoring males, the results of Henley (study 2) and Major and Williams (study 37) are important. Unfortunately, Henley did not say what kind of touch was involved (other than that it was intentional, with the hand), what relationship, if any, the people had to each other, what the people were doing, or their exact ages. In the preliminary report on the Major and Williams study (Major, 1981), such information is also lacking. The age group of Henley's significant result is roughly similar to that of Willis, Rinck, & Dean (1978; study 32), who found a significant result in the opposite direction. Thus, what we know about age alone cannot explain the inconsistent results.

In Henley's sample, male-female asymmetry occurred only outdoors. Henley proposed that men use manual control over women outdoors and some other method of control indoors. Willis et al.'s (1978) finding of significantly more FM touching was in an indoor setting, and Major and Williams found no difference between indoors and outdoors. The indoor-outdoor issue is thus unresolved.

Henley's and Major and Williams' studies are also set apart in that they coded only touches that were considered intentional by the observers; all others either coded all touches or made no mention of intentionality. It is certainly possible that MF asymmetry can be observed only for intentional touches and that such an effect may be swamped when the data are merged with accidental touches. This is a

⁵ Though low statistical power affects *p*-values, it does not affect estimates of effect size. An average effect size of $h = .02$ would be the same even if all the studies on which it was based were much larger, assuming the differences remained proportional.

very important possibility because Henley's theory assumes intentionality. Unfortunately, we do not know much about the ratio of intentional to unintentional touches in the other studies, with the exception that Willis et al. (1976) commented that touch in their data was frequently inadvertent (their samples showed little asymmetry). Clearly, therefore, the intentionality issue merits further research.⁶

Do Men Initiate Touch More in General Than Women?

Henley (1977) suggested that men, by virtue of their status in society, are freer than women to touch others and therefore do so. The results bearing on this hypothesis appear in Tables 2 and 3. Measurement techniques varied; they included the percentage of individuals seen to touch, number of touches per individual, rate of touch, and total frequency. Total frequency is difficult to interpret because it does not take into account the number of males versus females observed. Thus, if the total frequency of female touches is higher than the total frequency of male touches, it could reflect the presence of more females in the population observed rather than different proportions of females versus males seen to touch. Analogous difficulty with the total frequency measure occurs for each of the three remaining research questions to be considered; for example, if total female-female touches exceed total male-male touches, it could simply reflect the presence of more female-female dyads than male-male dyads. The field studies summarized here did not always state the numbers of males and females observed (or of dyads of different gender compositions).

The tables show that the majority of results showed females to initiate touch more than males. The limited results for statistical significance and effect size are consistent with this conclusion, though the average known effect size is very small.

Although shown as one entry in the tables, the study of Berkowitz (1971; study 1) actually included four distinct age groups in six areas of the world (observation of over 20,000 people). In these 24 independent samples, there was only *one* reversal of the tendency for females to touch more than males, and this reversal was only very slight (for U.S. children).

If these samples were to be counted separately, the overall percentage of studies showing females to touch more would be considerably higher than shown in Table 3.

This main effect for female touch initiation presents some problems of interpretation, however. First, studies in field settings (e.g., Berkowitz, 1971, and Whiting & Whiting, 1975) must be interpreted cautiously because naturally occurring groups show a marked tendency for gender segregation (Batchelor & Goethals, 1972; Sommer, 1967; Willis & Hofmann, 1975; Willis & Reeves, 1976; Willis et al., 1976, 1978). Because observation may actually have been mainly of same-gender dyads, it is sometimes impossible to distinguish between an apparent tendency for females to touch others more in general and a tendency for female-female touching to exceed male-male touching. The literature bearing specifically on the latter comparison will be discussed later.

The second problem with interpreting the apparent main effect of female touch initiation is that even in studies where gender segregation was not a problem, as in experiments where dyads were paired by the experimenter, the reports sometimes did not present enough data for us to tell whether the effect may actually have been due to high levels of female-female touch rather than to high levels of females touching both males and females. The data for asymmetry discussed earlier suggest that this could be the case, because the incidence of females touching males was not strikingly higher than males touching females. Further, several studies that did report complete data showed exactly such a pattern of especially high female-female touch (e.g., Langlois, Gottfried, & Seay, 1973; Williams & Willis, 1978). It is therefore possible that some of the touch initiation main effect is actually due to female-female touch.

⁶ Additionally, Henley found that significantly more MF touches went unreciprocated than did FM touches. Henley interpreted this to mean that women tacitly acknowledged the legitimacy of men's touch by not responding to it. We would question this assumption; it seems as likely that ignoring someone's touch is a put-down or a sign of lack of interest. However, it may be premature to debate the proper interpretation of this result because Major and Williams actually found that more FM touches went unreciprocated than MF touches, though this difference did not reach significance.

Yet another consideration is that most and conceivably all of the touches reported in our tables are nonaggressive. Evidence on physical aggression in adults certainly favors males, not females, as initiators, and research on children has found higher levels of assault, either playful or aggressive, in boys than in girls (e.g., DiPietro, 1981; Whiting & Whiting, 1975). Thus the touch initiation gender difference would seem dependent on the nature of the ongoing interpersonal interaction.

A study not included in the tables because it is not strictly observational is by Willis and Rinck (1983), who asked college students to keep a log of touches they received and to note the toucher's gender. Because subjects were asked to record touches immediately after they occurred, it has more empirical value, on the face of it at least, than studies based on general self-report and belief. Analysis of the toucher's gender showed that females initiated significantly more touch than did males.

A final set of results for touch initiation comes from a role-play study not included in the tables because of its artificiality (Riggio, Friedman, & DiMatteo, 1981). Males touched more than females during greetings, as defined by hugging, touching on arm or shoulder, or shaking hands ($p < .05$). However, the authors noted that this result was mainly due to the difference in shaking hands ($p < .001$), with men both initiating this behavior more and engaging in it more with other males than with females. This is consistent with results from two of the observational results in Table 1 (studies 35 and 36); in both of these, male-male handshaking was significantly more frequent than female-female.

Are Women Touched More In General Than Men?

Henley (1977) suggested that women are touched more than men, implying that women are more approachable and more vulnerable to personal violation by virtue of their lower status. Tables 2 and 3 show the results bearing on this hypothesis. The results show a supportive trend. However, several of these results were based on the measure of total touch frequency, which was discussed earlier as problematic because one does not know whether the observed frequencies are out of proportion

with the number of individuals of each sex observed. When the total frequency results are excluded, the gender difference is not apparent. Willis and Rinck's (1983) study based on students' personal logs of touches received, described earlier, also had data on touch as a function of the recipient's gender. The authors found no difference in receipt of personal touch by male versus female college students.

Do Women Touch Each Other More Than Men Touch Each Other?

A frequent result of observational studies on personal space is that female dyads interact at closer distances than do male dyads (e.g., Baxter, 1970). A correlate of this closer interaction among females could be greater amounts of touching, as Ford and Graves (1977) have suggested. The results for this comparison are shown in Tables 2 and 3). A clear majority of results favor female-female over male-male touch, but the average effect size (available for only a small subset of studies) was zero and the results for statistical significance were mixed. Although two recent and thorough studies found significant differences favoring female dyads for a variety of measures of touch (studies 35 and 36), one found male dyads to touch significantly more (study 17). Because this was a sample of black teenagers, it may represent a subcultural difference. Further, as noted earlier, male dyads do exceed female dyads in the frequency of handshakes, a finding also of Kendon and Ferber (1973). Overall, at least among whites, the gender difference probably does favor female dyads, though the data available are not entirely conclusive.

Do Same-Gender Dyads Touch More Than Opposite-Gender Dyads?

Tables 2 and 3 show the data bearing on this question. Again, some studies counted total frequency of touches, so that frequency differences could reflect the proportions of same-gender and opposite-gender dyads available for observation rather than the individuals' touch preferences. Gender segregation is a possible problem in some studies as well—as Williams and Willis (1978) have suggested. For example, in the Williams and Willis (1978)

and Perdue and Connor (1978) studies, observers noted the activities of a given child over a specified length of time; if that child interacted mainly with his or her own gender, then the rate of opposite-gender touch would inevitably be low. Another interpretational problem arises if, in field studies, opposite-gender dyads were better acquainted than same-gender ones, as could be the case if the former tended to be married couples (then a touch difference could be due to degree of intimacy, not gender composition). In studies in which dyads were the units of analysis rather than individuals, as in all the studies reporting percentages, gender segregation is no problem but acquaintanceship may be; in experiments where subjects were paired arbitrarily, neither is a problem.

Over all of the studies, 63% showed more same-gender touch, and 37% showed more opposite-gender touch. But, interestingly, eight studies showing more opposite-gender touch employed the total frequency measure that does not control for possible differences in the numbers of same-gender and opposite-gender dyads observed, whereas only one showing more same-gender touch did. Further, several studies that showed more opposite-gender touch were conducted in field settings where differential intimacy could also be involved, as in mixed-league bowling. Studies showing more same-gender touch tended to involve, by contrast, better controlled comparisons of non intimate or stranger dyads, and/or dyads in public places where opposite-gender touch might be avoided (on the subway, in church or synagogue, in school, in cafeteria lines).

Self-Report and Beliefs About Frequency of Touch

People's notions about the frequency of touch gleaned from their personal experience and perceptions of interactions around them add an important dimension to the study of touch frequency. Jourard first introduced the self-report approach in 1966, but was not in this first study actually examining frequency of contact (as a number of later psychologists have inferred) but, rather, range or extent of contact that young, unmarried adults had engaged in with their friends of the same or opposite gender.⁷ Subjects were asked to indicate

whether or not they had touched or had been touched on a certain part of the body by a specified other in the last 12 months. Both men and women reported touching and being touched on more regions of their bodies by opposite-gender friends than same-gender, which led Jourard to suggest the importance of sexuality as a factor in touch. A replication of Jourard's study 9 years later (Rosenfeld, Kartus, & Ray, 1976) showed, as the most dramatic change, an increase in the extent of opposite-gender touch reported.

Later studies included a measure of the *frequency* of contact for given body regions by weighting subjects' responses accordingly. Two studies (Alagna, Whitcher, Fisher, & Wicas, 1979; Jourard & Rubin, 1968) found that opposite-gender touch was considered far more frequent than same-gender touch between college-age friends. According to Jourard and Rubin, there was virtually no difference between males' and females' self-reported overall amounts of touching and being touched among friends. A very slight and nonsignificant asymmetry favoring male initiation in opposite-gender dyads was found. Lomranz and Shapira (1974), by using similar methodology, found in an Israeli high school sample that subjects reported the most touch with an opposite-gender friend and that males reported engaging in significantly more touching behavior than females.

Henley asked people which gender they believed did more same-gender touching and which engaged in more opposite-gender touching (unpublished study summarized in Henley, 1977). Both females and males reported that females engaged in more same-gender touch, but males and females did not agree on who did more opposite-gender touching: Females believed it was males, but males offered no clear-cut response. Finally, both males and females believed that touch was more frequent in opposite-gender than same-gender dyads.

⁷ Jourard (1966) and several other authors using similar methodology obtained ratings of touch with mother and father as well as with friends. These ratings are not discussed here because it is questionable that the specialized roles of mother and father can be considered synonymous with generic male and female others.

Radecki and Jennings (Walstedt) (1980) gave a checklist of seven kinds of touch to employees in universities. Though the differences were small and nonsignificant, men said they touched female co-workers more than women said they touched male co-workers, and symmetrically, men said they were touched by female co-workers less than women said they were touched by male co-workers. Subjects were also asked about touch with superiors, but the results were inconsistent.

Friedman, Riggio, & DiMatteo (1980) explored people's perceptions of the frequency of touch initiation by giving subjects a booklet of interaction descriptions listing the gender composition of the dyad, the gender of the initiator, and the type of touch. Subjects rated males as more likely to initiate nonintimate greetings (pat, rise, handshake) with same-gender others and intimate greetings (kiss, hug) with opposite-gender others. Female-initiated touch, on the other hand, was seen as more frequently intimate with other females and nonintimate with males. Also, by averaging the mean ratings over intimate and nonintimate greetings, it is apparent that subjects saw males as initiating touch more than females in opposite-gender dyads.

In sum, these studies show that people believe that men initiate touch in opposite-gender interactions more than vice versa and believe that opposite-gender touch is more common than same-gender touch. Though the latter finding may seem inconsistent with overall tendencies toward more same-gender touch suggested in Table 3, it is possible that in self-reports people envision more intimate types of heterosexual interactions in which touch frequency may indeed be high.

Power, Status, and Touch

The most influential interpretation of touch—at least in its impact on the study of gender differences—was offered by Henley (1973, 1977). Henley's theory can be represented in syllogistic form:

Men are more socially powerful than women.
 The more powerful initiate touch with the less powerful more often than vice versa.
 Therefore, men initiate touch with women more than women initiate touch with men.

So far we have considered evidence for the

conclusion that MF asymmetry exists. Now let us examine the literature bearing on the second premise, that high status implies the prerogative to touch.

Observational Studies

Both Henley (1973) and Major and Williams (1980, reported in Major, 1981) inferred the socioeconomic statuses (SES) of people touching in public. It is hard to tell what was meant by SES in either study, because the only example given (by Henley) was waitress-customer, which does not necessarily imply a difference in SES, and which is ambiguous even if we consider it a situationally determined status difference: though a waitress serves a customer, which implies low power, she in fact has sufficient expertise and control in the situation that a customer can easily feel helpless and dominated. In any case, Henley reported that the higher in SES touched the lower significantly more frequently than vice versa (14 versus 5 times, $g = .24$). Major and Williams obtained a nonsignificant ratio of 24 to 16 in the same direction ($g = .10$). The combined significance of this and Henley's result is $p < .02$, two tail.

Another study found a different pattern, however. Goldstein and Jeffords (1981) recorded intentional touch (excluding handshake) between male legislators in a state house of representatives while the legislature was in session. Unlike Henley's and Major and Williams' studies, status was determined objectively by using information on committee membership, committee standing, and past government service. The authors found that the higher in status initiated touch with the lower in 62 cases, whereas the lower did so in 84 cases, a difference that was nearly significant ($p = .07$, $g = -.08$). Goldstein and Jeffords also noted that although the Governor was touched by many, he did not himself initiate touch with his subordinates.⁸

⁸ A study by Rago and Cleland (1978) found a moderate ($r = -.25$) but nonsignificant tendency for less dominant (i.e., aggressive) institutionalized retarded men to touch others in a nonaggressive manner more than did more dominant men. Though the original authors viewed this result as running counter to Henley's hypothesis by showing that less dominant individuals initiated more rather than less touch, the research methodology brings this interpre-

Yet other research on status yielded mixed results. Juni and Brannon (1981) performed two experiments in which status was manipulated by dress or by title. In the first, the potential recipient of touch posed as a blind person seeking directions. Subjects touched the low status blind person relatively more frequently than the high status ($p = .07$, $h = .36$). In the second experiment, subjects had to guide a blind-folded confederate across a floor maze. Here there was no status main effect for the proportion of time subjects spent touching the confederate, but there was a tendency for the male high-status confederate to be touched *more* than the male low-status confederate.

We turn now to age as a definition of status. Henley (1973) classed toucher and recipient as older and younger and found that older touched younger significantly more than vice versa (36 versus 7, $g = .34$). Heslin and Boss (1980), recording touches during airport greetings and departures, reported that those who were categorized as older initiated touch significantly more frequently with the younger in opposite-gender dyads (12 versus 2, $g = .36$). There was no apparent difference for same-gender dyads. Heslin and Boss suggested that the older-younger asymmetry may not be related to status but to younger people's avoiding touch with their elders on some other grounds such as distaste. In Major and Williams' (1980) study, reported in Major (1981), older individuals touched younger individuals more than vice versa, and this was significant both with and without the inclusion of children (no figures given). In Goldstein and Jeffords (1981), age was determined using archival data; here there was little age effect (75 for older versus 71 for younger, $g = .01$). Assuming a z of zero of Heslin and Boss's same-gender dyads and $p = .05$, two tail, for Major and Williams' result, the combined p for the five studies on touching as a function of age is .00006, two tail.

Finally, Whiting and Whiting (1975), observing touches by children ages 3-11, found

that nonaggressive touch increased as a function of the recipient's age, with adults receiving more than children, and children more than infants. This does not necessarily contradict the preceding, because *within* dyads the older could still have touched the younger more than vice versa.

Self-Report and Belief

The idea that power implies the prerogative to touch was proposed by Goffman (1967), who described the "touch system" in a research hospital. There, doctors could initiate touch with lower ranks, but lower ranks did not initiate such interaction. The first systematic study of this issue was by Brown and Ford (1961), who found that in response to a questionnaire, people said they were more willing to put their hands on the shoulder of a subordinate rather than of a superior if that person was unhappy.

Later, Henley (unpublished study reported in Henley, 1977) found that when presented with a list of 29 relationships, each involving a pair of hypothetical interactants differing in status, respondents reported a greater likelihood of touching subordinates and co-workers than bosses, as well as a higher probability of being touched by the higher status individuals. The latter belief was confirmed in a questionnaire study by Radecki and Jennings (Walstedt) (1980) in which university employees reported on their own experience for seven different kinds of touches (e.g., hand on arm, hug).

In some studies, subjects rated the dominance of individuals portrayed in experimental stimuli. Summerhayes and Suchner (1978) used magazine photographs to portray dyads that varied on gender, touch (touch, no touch), and relative status (male higher, female higher, same status). When either a male or female initiated touch, the touch generally reduced the perceived dominance of the person being touched while raising the perceived dominance of the toucher, though the latter effect was not significant. Forden (1981) reported slightly different findings in a study in which subjects rated videotapes of conversing opposite-gender dyads under conditions of no touch, male-initiated, and female-initiated touch. When a female touched a male, her dominance was

tation into doubt. Because dominance was defined as amount of aggressive behavior, most of which involved touch, the result seems to mean simply that those who used more aggressive touch used less nonaggressive touch and vice versa.

judged to go up, but no comparable effect occurred when a male touched a female. Finally, Major and Heslin (1982) employed a method similar to Summerhayes and Suchner's, but used slides rather than photographs and left out the status manipulation. Touch was operationalized as hand-to-shoulder contact. An excellent aspect of this design was its evaluation of the interactants along dimensions of instrumentality and warmth as well as dominance. Touching significantly lowered the perceived dominance of the recipient and significantly raised the perceived dominance of the toucher. Ratings of instrumentality and warmth showed similar effects.

To summarize, the pattern that emerges from the literature dealing with power implications of touch is largely but not entirely consistent. People's beliefs on the matter, anecdote, self-report, observational studies of "SES" and "age," and one true experiment favor either the power privilege hypothesis or the hypothesis that relative dominance increases as a consequence of touch initiation. However, one study that employed usually accurate measurement of status hinted at a reversal of the power privilege hypothesis. Although the power privilege hypothesis is supported in the aggregate, it is worth noting that most of the evidence is ambiguous, either because the operationalizations of the status/power variable are questionable, or because the data are based on belief and self-report. This ambiguity is surprising considering the importance of the issue and the confidence with which it is generally described in the literature.

Qualitative Aspects of Touch

Under the word *touch* falls a wide variety of behaviors ranging from the most aggressive to the most intimate and from the most inconsequential to the most psychologically salient. No discussion of touch can therefore be complete without considering factors that go beyond overall frequency. The most important gender differences may lie in a more differentiated discussion of the nature, context, and participants' perceptions of touch. Work relating gender of an individual to self-reported meaning attributed to manner and location of touch underscores the importance of qualitative aspects of touch. Nguyen, Heslin, & Nguyen (1975) found that when subjects were

asked to respond to questionnaires asking what it would mean to them if a close friend of the opposite gender touched them in a certain manner (e.g., stroke versus pat) on a given part of their body, males and females interpreted various touches differently. Males appeared to pay more attention to the manner of the touch whereas females seemed more attuned to its location.

We have already noted that handshaking is a distinctively male habit. With regard to other hand-to-hand touching, the literature is limited and mixed. Willis and Hofmann (1975) reported that hand-to-hand contact was observed in female-female but not in male-male dyads among students in grades K-6 waiting in school cafeteria lines. For a sample of preschoolers playing indoors or outdoors, however, hand-to-hand contact in male-male dyads was frequently observed by Williams and Willis (1978). Shuter (1976), in observing Latin American people interacting in public settings, found no cases of male-male hand-holding, and female-female hand contact was far more frequent than opposite-gender hand contact. Finally, Greenbaum and Rosenfeld (1980) found no significant differences in hand-holding for male-male and female-female dyads, though instances of this type of contact were rare.

Some data pertain to holding and hugging. A study by Shuter (1979) of people in churches and synagogues found that only male-male dyads engaged in mutual holding, though this result was not significant. Kendon and Ferber (1973) found equal, but low, frequencies of male-male versus female-female embracing. Both results contrast with those of Heslin and Boss (1980) who, in observing airport greetings and departures, found that female-female dyads gave more "solid hugs" and touched more intimately than did male-male dyads.

Some studies include data pertaining to differences in male-initiated versus female-initiated touch, disregarding gender of recipient. Williams and Willis (1978) reported that among preschoolers at play, the hand was used to initiate contact by girls more than boys and interpreted this as more personal than boy-initiated touch. Ford and Graves (1977) observed Mexican-American and white second graders in outdoor play and, excluding touches that were aggressive or were part of an orga-

nized game, found that girls initiated contact of both long and short duration more frequently than boys. Willis and Reeves (1976) noted the prevalence of aggressive touch in junior high school students in cafeteria lines and reported that girls frequently used their fists to initiate contact. For high school students in a similar setting, Willis et al. (1976) reported that touch was often inadvertent and that this was especially true for cases involving female touch initiation. On the other hand, Silverman, Sprafkin, & Rubinstein (1979) found a much higher proportion of apparently accidental touches initiated by men rather than women on prime-time television shows (a result which must be treated cautiously due to the stereotyped nature of television portrayals).

In contrast to these studies which, for the most part, found gender differences in the body parts used to initiate contact, Smith, Willis, & Gier (1980) found no such differences in observing black and white adults engaged in mixed-league bowling. The differences in area of body touched were not striking either, with one exception: White females were touched 10 times by white males on the shoulder, whereas white females never touched white males on the shoulder. The authors entertained the possibility that the finding reflects the subordinate position of women. This does not, however, take into account the possibility of a chance difference due to multiple comparisons, or height differences between men and women; nor does it account for the lack of a gender asymmetry in shoulder-touching among black dyads.

The final study to be considered here categorized touch not according to manner and location but rather according to the context in which the touching took place. Perdue and Connor (1978) observed the classroom behavior of preschool children and their teachers and classified touches as friendly, helpful, attentional, or incidental (i.e., accidental). Thus, a touch that occurred while a teacher was helping a child would be termed helpful, whereas what could be an identical touch occurring in the context of a game would be coded as friendly. In this study, touches initiated by male teachers tended to be helpful when the child was female and friendly when the child was male. Female teachers did not use touch in markedly different contexts with boys and girls. Child-initiated touch was more

likely to be incidental than friendly when interaction was with an opposite-gender teacher.

What we would like to come away with from this discussion is some knowledge of how the touches initiated by males and females may be qualitatively different: Might males and females express the same things with different types of touch, or perhaps different things with the same type of touch? Unfortunately, the literature we have considered does not offer much insight into these issues. Some studies described the gender differences in manner or location of touch only, without offering any close definition of the contexts in which this touching occurred, whereas some relied on observers' inferences about intentions derived, presumably, from noting the manner or location of touch, or touch context. In order really to understand qualitative differences in touch, it would seem that manner and location, context, and yet a third factor—the perceptions of the participants—must all be established, as Major and Heslin (1982) have pointed out. This would be no small feat. But without more systematic treatment, it will be difficult to ascertain what a particular type of touch may mean to males versus females, both as initiators and as recipients.

Response to Touch

The next set of studies manipulated touch as an independent variable and observed subjects' responses unobtrusively. Such an approach is valuable, for if subjects are not aware that touch is being manipulated, their reaction may be a good index of the meaning of that touch to them, unfiltered by stereotypical beliefs or expectancies.

Four such studies did not find differential response by males versus females, but did uncover positive main effects for the touch/no-touch manipulation, as measured by subjects' ratings of slides on their aesthetic qualities, subjects' compliance to a request, or evaluation of a counselor (Alagna et al., 1979; Kleinke, 1977; Silverthorne, Noreen, Hunt, & Rota, 1972; Willis & Hamm, 1980).⁹

The following studies found significant gen-

⁹ Stockwell and Dye (1980) employed a methodology similar to Alagna et al. (1979), yet found that clients' ratings of counselor effectiveness did not vary significantly as a function of the touch/no-touch conditions, nor of the counselor and client sex.

der differences in response to touch. Fisher, Rytting, & Heslin (1976) manipulated the touching behavior of a library clerk as he or she returned library cards to borrowers. The touch manipulation, which consisted of a momentary touch on the hand by the clerk, was consciously perceived by only about half the subjects according to a postexperimental questionnaire. The questionnaire also included evaluations of the library clerk, the library environment, and the subjects' own affective state. A positive main effect for touch was found for all dependent measures, but analysis by subject gender showed that the touch was perceived more favorably by females in each case. There was no effect of clerk gender.

Confederate (toucher) gender again did not affect subject response in Sussman and Rosenfeld's (1978) study on the effects of justified versus unjustified touch. Subjects were given a task on which they were told they would be timed. Those in the justified touch condition were informed that a timekeeper (confederate) would keep one hand on their shoulder during the task and would squeeze it if they worked too slowly. Those in the nonjustified touch condition were told only that a timekeeper would remain in the room. A no-touch condition was also included. Subjects performed better on the cognitive task in the no-touch condition, perhaps because they were less distracted. Males liked the confederates best in the no-touch condition, whereas females liked the confederates best in the touch condition. In addition, males performed more poorly and liked the confederate less in the nonjustified touch condition, but there were no significant differences across the justification manipulation for females in task performance nor in degree of liking.

Females were again found to react more favorably to touch than males in a study dealing with patients' responses to touch by female nurses in a hospital (Whitcher & Fisher, 1979). In the touch condition, the nurse touched the patient's hand for a few seconds while introducing herself and placed her hand on the patient's arm for about a minute while presenting an informational booklet. Though not all results were significant, females favored touch more than males across affective, behavioral, and physiological dependent measures. These results may be of limited generality, however, because all the touchers were female.

Both confederate and subject gender proved important in the study of Silverthorne, Mickelwright, O'Donnell, & Gibson (1976), in which subjects were introduced to a confederate who greeted the subject with a nod, with a handshake, or with a handshake and a gentle squeeze of the upper arm. After this brief encounter, subjects rated the confederate on a variety of evaluative scales. With the exception of males touched by a female, a better evaluation was given to confederates the more they touched subjects. This was especially true for ratings on dating, marriage, and attractiveness given by women to the male confederate. When a man encountered a female confederate, his evaluations of her declined on most items the more she touched him. Because touch was a handshake, a gesture that is both masculine and businesslike, this result may be interpreted in several different ways: (a) as reflecting a man's negative evaluation of a woman who uses a masculine gesture, (b) his resentment of a woman who initiates touch with him at all, or (c) simply his disappointment when a woman communicates sexual disinterest by shaking his hand.

In sum, we find the female's response to touch less dependent on prior justification than that of the male and often more favorable. The latter conclusion is consistent with the finding of Major and Heslin (1982) that, among subjects rating slides, the highest ratings of attractiveness were given by women to touching dyads and by men to nontouching dyads. Major (1981), in reviewing the gender and touch literature, also noted that women responded more favorably to touch than men in a number of studies and argued that this was true chiefly when the toucher was of equal or ambiguous status relative to themselves and not when the toucher was of higher relative status. The suggestion that women's positive response to being touched may be due to their greater experience being touched (Fisher et al., 1976) is not strongly supported by the available data on touch frequency (Tables 2 and 3), and, in fact, seems to be undermined by the finding of Alagna et al. (1979) of no relation between subjects' self-report of body accessibility and their evaluative responses to being touched.

A final study to be considered under the topic of response to touch employed self-report rather than experimental methodology. An-

dersen and Leibowitz (1978) developed a "touch avoidance" scale on which subjects were asked the extent to which they agreed with 18 statements concerning same-gender and opposite-gender touch. Males scored higher than females on same-gender touch avoidance, whereas females scored higher than males on opposite-gender touch avoidance (both results highly significant and consistent over two age groups and two religious groups). By rearranging the data, it is also apparent that same-gender touch was avoided considerably more, overall, than opposite-gender touch, that subjects reported avoiding touch with men more than with women, and that men said they avoided touch in general more than women did. It is important to note that a firm interpretation of these results is difficult because (a) the touch avoidance scores did not distinguish between initiation and receipt (though separate subscores are possible), and (b) item content is very heterogeneous, raising the question of what construct is being measured. Items appear to reflect not just touch frequency, as is implied by the term *touch avoidance*, but also attribution of meaning to touch, affective response to witnessing touch, and especially relevant to the present argument, affective response to experiencing touch. Thus the results may further support the conclusion that women have more favorable reactions than men when touched.

Discussion

Observational studies on touch frequency are limited in number and are marked by ambiguities and inconsistencies in methodology and reporting of results. In general, touch in opposite-gender dyads did not appear to be strongly asymmetrical. Two results showed significant asymmetry favoring males, but another of a roughly equivalent age group was significant in the opposite direction, and the general trends were not supportive of the asymmetry hypothesis.

The evidence for a main effect of gender for touch initiation contradicted Henley's (1977) hypothesis that men do more touching than women, though the main effect presents interpretational difficulties as noted. Her hypothesis that women are touched more than men won ambiguous support. Female-female

and same-gender touch exceeded male-male and opposite gender touch, respectively.

To the extent that power or status is a factor in opposite-gender touch, one might be surprised that opposite-gender touch asymmetry is not a more consistent finding, because few would argue with the proposition that men are accorded more status than women in our society. But the research suggests the possibility that a countervailing factor could be masking such asymmetry. Summerhayes and Suchner (1978) and Major and Heslin (1982) both found that touch by either a man or a woman increased the relative dominance of the initiator, and Forden (1981) found this as well, but only for women touching men. The closing of the status gap thus accomplished is a plausible motivational basis for Goldstein and Jeffords' (1981) finding that the lower status individual in a dyad of legislators tended to touch the higher status individual more than vice versa. Under some circumstances, the higher status individual may have little need to express status or to control the other in an overt way, but the lower status individual may have a strong desire either to redress the status imbalance or to establish a bond of solidarity that could work to the lower status person's advantage at a later date. The argument that touch is the prerogative of the powerful should therefore perhaps be amended. Because touch may be used as a way to enhance one's relative power, it may not always be employed by the more powerful. Instead, at times the initiation of touch may be more important, and more common, in the less powerful. There is room here for much interesting research.

When male-female touch asymmetry is found, as in Henley (1973) and Major and Williams (1980), reported in Major (1981), there is a great need to try to document when, where, and in what relationships it occurs, and whether the phenomenon is limited to certain kinds of touches. When it does exist, however, we also think it is unwarranted to assume that it is due to a male-female status difference.¹⁰ Additional interpretations are possible.

First, studies reviewed here showed that

¹⁰ It is not difficult to find instances of authors entertaining only the power interpretation of a gender difference in nonverbal behavior. Examples include the following:

women often respond more positively to being touched than men do. Whether this could be due to women's being touched more over the course of their lives is not clear. At any rate, one must entertain the possibility that women enjoy being touched and that men, in touching them, are merely recognizing this fact. Indeed, they may be responding to some subtle eliciting cue. Women's greater enjoyment of touch could, of course, have a connection to their lower status, but, if so, status has only an indirect effect on touch asymmetry.

Second, men and women may differ in their preferential use of nonverbal and verbal channels of expression. Gender differences in the patterning of affective behavior have been documented by Buck and his associates (Buck, 1979): women register relatively more emotion spontaneously in their faces compared to their nervous systems, as measured by electrodermal response, whereas men show the opposite pattern. If more extensive patterning exists, then future research might show that men are more physical in their means of expressing affection or dominance than women, perhaps as a reflection of learned inhibitions about expression through more obviously emotional channels such as the face (Buck, 1977). Thus, a male-female asymmetry in touch could result even when men and women are expressing exactly equivalent messages, but in their preferred ways.

Even if male-female touch asymmetry is not pervasive and even if the asymmetry is not entirely due to power/status differences, it is both important and interesting that people think that men generally exercise touch privileges with women. Purely cognitive processes could enhance such a belief. Whenever a man-to-woman touch occurs in a manner or context that implies the exercise of power, it may have considerable saliency to the woman, assuming

she interprets it as such and experiences anger or indignation. Such an event may be unusually well remembered, becoming an archetype of male-female touch because of its ready availability in memory (Tversky & Kahneman, 1974).

Gender differences in touch appear to be somewhat different and theoretically more complex than has been previously stated. Unfortunately, sufficient empirical data are not available to shed much light on subtle qualitative differences in male and female touch. We do not know, for example, the proportions of power-connoting versus friendly touches exchanged between men and women, nor what may actually constitute a power-connoting versus a friendly touch. Research is additionally complicated by the fact that a given touch may be entirely and genuinely friendly but its very occurrence could reflect the actual or aspired status of the toucher. Finally, if touches that communicate or reflect power are not as common as other kinds, then research to document gender differences in their use will be extremely difficult to do, given that touch itself is rare in many easily observed situations.

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Borden and Homleid (1978) found that in same-handed, opposite-gender dyads (i.e., both left-handed or both right-handed), the man walked with his preferred hand toward the woman significantly more often than she walked with her preferred hand toward him. Silverthorne et al. (1976) found that men rated women who shook hands with them as less socially desirable than women who greeted them without doing so. Smith et al. (1980) found that white men touched white women on the shoulder more than vice versa.

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