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COLLEGE STUDENTS' VIEWS OF MALE AND FEMALE COLLEGE TEACHERS: PART I—EVIDENCE FROM THE SOCIAL LABORATORY AND EXPERIMENTS

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A review of laboratory and experimental research on college students' preconceptions of male and female college teachers shows that, in the majority of studies, students' global evaluations of male and female college teachers as professionals were not different; in a minority of studies, however, male teachers received higher overall evaluations than did female teachers. For the most part, the perceptions and ratings of the two genders in most other areas either showed no differences or inconsistent differences across studies. Moreover, most studies found that male teachers and female teachers were not perceived differently by male and female students. Interaction effects found in a particular study between the teacher's gender and other factors (teacher's expressiveness, physical attractiveness, mode of teaching, academic field and the like) usually were not confirmed by findings in other studies. More studies found indications of students' perception of female teachers (compared to those of male teachers) being more heavily influenced by these other factors. Ratings of teachers were sometimes enhanced by gender-typical attributes and behaviors and sometimes by gender-atypical attributes and behaviors.

At the core of the present review, in both its parts, is the question of whether college students view male and female college teachers similarly or differently. Hardly unexpectedly, asking this question is much easier than answering it. Even when one puts aside anecdotal information, informed opinions, and uninformed speculation—concentrating instead on research evidence—the available data are sufficiently plentiful and their interpretation is complicated enough to necessitate a review in two separate parts. Relevant research has generally taken the form of either experimental and laboratory studies (with college students as subjects) or studies of the evaluations made by college students of their actual teachers. The present analysis focuses on the first sort of study.

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LABORATORY STUDIES: PHOTOGRAPHS, DESCRIPTIONS, AND SIMULATIONS

Under controlled conditions in pertinent laboratory research, college students (acting as subjects) have been asked their perceptions of persons said to be college teachers. These alleged teachers differ only in their gender and any other attributes systematically varied in the research, such as their academic field, age, physical attractiveness, expressivity of behavior, teaching style, or the like.

Some studies have used photographs to establish differences in the persons said to be teachers. For example, in a study by Lombardo and Tocci (1979), each of 60 male and 60 female undergraduate students in introductory psychology received the same short, general description of a college teacher and was shown a photograph of either a man or woman (said to be the teacher) who was either physically attractive or unattractive. Each student was asked to rate the "teacher" on a series of scales. In other studies, varied information about the alleged teacher or teachers has been given in descriptions only. For example, in a study by Kaschak (1978), 40 male and 40 female seniors and first-year graduate students completed a rating form, which described the teaching methods and practices of three male and three female "professors," two of whom were said to be in traditionally male fields (business administration and chemistry), two in traditionally female fields (home economics and elementary education), and two in relatively nongender-linked fields (psychology and history).

Somewhat different from what Bennett (1982) has called this "use of quasi-projective procedures and hypothetical descriptions" is the use of simulations to inform student-subjects about a "teacher." For example, in a study by Basow (1990), 40 male and 40 female undergraduates viewed a video tape of either an actor or actress (said to be a college teacher), matched for age and attractiveness, giving a short lecture about local history in either an expressive (with hand and body movements, facial and vocal variations) or a nonexpressive manner. After viewing the videotape, students completed forms measuring their perceptions of the teacher's instructional and personal characteristics.

The Appendix reports the results of the experimental studies located for the present analysis that created or manipulated gender and other differences among "teachers" through the use of photographs, descriptions, or simulations. As with other analyses in the present series on the assessment of college teaching and the correlates of effective instruction,[1] the set of studies reviewed here has been restricted to research projects that gathered data from undergraduate students (or a combined group of undergraduate and graduate students when the two kinds of students were not separated in the analysis) at colleges and universities in the United States and Canada; moreover, only studies where both male and female subjects participated and where both male and female "teachers"

were part of the experimental setup have been included. A list of studies excluded for not meeting these criteria is given in the Appendix.

In general, the various laboratory experiments have analyzed their data by using analysis of variance (ANOVA). For each rating scale, in each study, the Appendix reports information about the main effect (if any) of the teacher's gender and the interaction effects between the teacher's gender and other factors in the research that were varied experimentally and/or systematically. For example, in the study by Harris (1975), the experimentally manipulated factors were gender of the teacher, department of the teacher, and the teacher's mode of teaching, with the gender of the experimental subject (i.e., the student) serving as the fourth factor. Data were analyzed in $2 \times 2 \times 2 \times 2$ unweighted means analysis of variance. For each characteristic rated in this study, the Appendix shows the finding for the comparison between male and female teachers (main effect) as well as the following seven comparisons (interaction effects), all of which include the teacher's gender: the teacher's gender by (1) the student's gender, (2) the teacher's mode of teaching, (3) the teacher's department, (4) the student's gender by the teacher's mode of teaching, (5) the student's gender by the teacher's department, (6) the teacher's mode of teaching by the teacher's department, and (7) the student's gender by the teacher's mode of teaching by the teacher's department. A "yes" in the Appendix signifies that the main effect or interaction effect is statistically significant according to the research article (which effect is then described); a "no" means the effect is not statistically significant.

Findings in the various studies that are tangential to the purposes of the present review, even if interesting in themselves, are not included in the Appendix. Thus, not shown in the Appendix are the main effects for the factors other than the gender of the teacher or the interaction effects of these other factors with one another. To take one example from the just-mentioned Harris study (1975), the Appendix does not include the main effect on ratings of the teacher's mode of teaching—namely, the finding that the teacher using the "active" and "directive" mode of teaching (characterized by Harris as a "masculine" style of teaching) was rated higher on the various scales in the study than was the teacher using the "passive" and "facilitating" style of teaching (characterized by Harris as a "feminine" style of teaching).[2]

The entries in the Appendix have been numbered from 1 to 485. To make sense of this large amount of data, the findings have been brought together and are indexed in Table 1. In this table, the independent variables considered in the various studies have been combined somewhat, and the specific rating scales used in the studies have been categorized within 11 loosely constructed rating "areas." For each rating area in the table, the first panel contains information on the main effect of gender. The second panel is reserved for information about interaction effects between the teacher's gender and the student's

TABLE 1. Summary and Index of Statistically Significant and Nonsignificant Findings from Laboratory Research Given in the Appendix

Rating Area I: Overall Evaluation of the "Teacher"

t's gender

Yes: [377, 381, 385], 409, 425, [429, 433], [438, 442, 446]

No: 1, [5, 7], 13, 45, [70, 78, 86, 94], [120, 128, 136, 144], 152, [209, 217, 225, 233], 273, 325, [401, 405]

t's gender × *s's gender*

Yes: [378, 382, 386]

No: 2, [6, 8], 14, 46, [71, 79, 87, 95], [121, 129, 137, 145], [210, 218, 226, 234], 274, 326, [402, 406, 410], 426, [430, 434], [439, 44, 447]

t's gender × *t's department or field*

Yes:

No: [212, 220, 228, 236], 275, 327, [379, 383, 387], [403, 407, 411]

t's gender × *t's age or physical attractiveness*

Yes: 444

No: [154, 155], [440, 448]

t's gender × *t's sex-type or mode of teaching*

Yes:

No: [72, 80, 88, 96], [211, 219, 227, 235]

t's gender × *t's enthusiasm or expressiveness*

Yes:

No: 15, 47, 138

t's gender × *t's rapport, smiling, humor or outside-of-class social contact with students*

Yes: 427, [431, 435]

No: 146

t's gender × *s's gender* × *one or more other factors*

Yes: 140, 449

No: 16, 48, [74, 75, 77, 82, 83, 85, 90, 91, 93, 98, 99, 101], [124, 125, 127, 132, 133, 135, 141, 143, 148, 149, 151], [213, 214, 216, 221, 222, 224, 229, 230, 232, 237, 238, 240], 276, [380, 384, 388], [404, 408, 412], 428, [432, 436], [441, 445]

any other interaction effect

Yes: [123, but see 131, 139, and 147], 158

No: [73, 76, 81, 84, 89, 92, 97, 100], [122, 126, 130, 134, 142, 150], [215, 223, 231, 239]

Rating Area II: Likability, Appealingness, and Emotional Attractiveness of the "Teacher"

t's gender

Yes: 69g, 277, 337, 397, 482

No: 285, 329, 421

t's gender × *s's gender*

Yes: 286, 398

TABLE 1. (*continued*)

No: 278, [330, 338], 422, 483
t's gender × *t's department or field*
Yes: 423
No: [279, 287], [331, 339], 399
t's gender × *t's age or physical attractiveness*
Yes:
No:
t's gender × *t's sex-type or mode of teaching*
Yes:
No:
t's gender × *t's enthusiasm or expressiveness*
Yes:
No:
t's gender × *t's rapport, smiling, humor, or outside-of-class social contact with students*
Yes:
No:
t's gender × *s's gender* × *one or more other factors*
Yes: 288, 485
No: 280, 400, 424
any other interaction effect
Yes:
No:
Rating Area III: Knowledge of the Subject Matter, Intelligence, and Related Characteristics of the "Teacher"
t's gender
Yes: 365
No: 21, 57, 241, [293, 313], 345, [454, 458], 478
t's gender × *s's gender*
Yes:
No: 22, 58, 242, [294, 314], [346, 366], [455, 459], 479
t's gender × *t's department or field*
Yes:
No: 244, [295, 315], [347, 367]
t's gender × *t's age or physical attractiveness*
Yes:
No: [456, 460]
t's gender × *t's sex-type or mode of teaching*
Yes:
No: 243
t's gender × *t's enthusiasm or expressiveness*
Yes: 23
No: 59

TABLE 1. (*continued*)

t's gender × *t's rapport smiling, humor, or outside-of-class social contact with students*
Yes:
No: 480
t's gender × *s's gender x one or more other factors*
Yes:
No: 24, 60, [245, 246, 248], [296, 316], [457, 461], 481
any other interaction effect
Yes:
No: 247
Rating Area IV: Enthusiasm of the "Teacher"
t's gender
Yes: 69c
No: 25, 309, 361
t's gender × *s's gender*
Yes: 310
No: 26, 362
t's gender × *t's department or field*
Yes:
No: 311, 363
t's gender × *t's age or physical attractiveness*
Yes:
No:
t's age × *t's sex-type or mode of teaching*
Yes:
No:
t's gender × *t's enthusiasm or expressiveness*
Yes:
No: 27
t's gender × *t's rapport, smiling, humor, or outside-of-class social contact with students*
Yes:
No:
t's gender × *s's gender* × *one or more other factors*
Yes:
No: 28, 312
any other interaction effect
Yes:
No:
Rating Area V: The "Teacher's" Stimulation of Interest
t's gender
Yes: 69f, 333
No: 49, 281

TABLE 1. (*continued*)

t's gender × *s's gender*
Yes: 282
No: 50, 334
t's gender × *t's department or field*
Yes:
No: 283, 335
t's gender × *t's age or physical attractiveness*
Yes:
No:
t's gender × *t's sex-type or mode of teaching*
Yes:
No:
t's gender × *t's enthusiasm or expressiveness*
Yes: 51
No:
t's gender × *t's rapport, smiling, humor, or outside-of-class social contact with students*
Yes:
No:
t's gender × *s's gender* × *one or more other factors*
Yes: 284
No: 52
any other interaction effect
Yes:
No:
Rating Area VI: The "Teacher's" Encouragement of Class Questions and Discussion
t's gender
Yes:
No: 29, 192
t's gender × *s's gender*
Yes:
No: 30
t's gender × *t's department or field*
Yes:
No:
t's gender × *t's age or physical attractiveness*
Yes: 194
No: 195
t's gender × *t's sex-type or mode of teaching*
Yes:
No:
t's gender × *t's enthusiasm or expressiveness*
Yes:
No: 31

TABLE 1. (*continued*)

t's gender × t's rapport, smiling humor, or outside-of-class social contact with students
Yes:
No:
t's gender × s's gender × one or more other variables
Yes:
No: 32
any other interaction effect
Yes:
No: 198
Rating Area VII: Ability to Explain Clarity, Preparedness, Organization, and Related Characteristics of the "Teacher"
t's gender
Yes: [69a, 698h], 349
No: 17, 53, [160, 168], 249, [297, 301], 353, [450, 462]
t's gender × s's gender
Yes:
No: 18, 54, 250, [298, 302], [350, 354], [451, 463]
t's gender × t's department or field
Yes: 303
No: 252, 299, [351, 355]
t's gender × t's age or physical attractiveness
Yes: [170, 171]
No: [162, 163], [452, 464]
t's gender × t's sex-type or mode of teaching
Yes: 251
No:
t's gender × t's enthusiasm or expressiveness
Yes: 55
No: 19
t's gender × t's rapport, smiling, humor, or outside-of-class social contact with students
Yes:
No:
t's gender × s's gender × one or more other factors
Yes: 253, 304
No: 20, 56, [254, 256], 300, [453, 465]
any other interaction effect
Yes: [166, 174]
No: 255
Rating Area VIII: The Degree to Which the "Teacher" Is Active and Instrumental, Powerful, Self-Assured
t's gender
Yes: 102, 389, 413
No: 37, 305, 357

TABLE 1. (*continued*)

t's gender × *s's gender*
Yes:
No: 38, 306, 358, 390, 414
t's gender × *t's department or field*
Yes:
No: 307, 359, 391, 415
t's gender × *t's age or physical attractiveness*
Yes:
No:
t's gender × *t's sex-type or mode of teaching*
Yes:
No:
t's gender × *t's enthusiasm or expressiveness*
Yes: 39
No:
t's gender × *t's rapport, smiling, humor, or outside-of-class social contact with students*
Yes:
No:
t's gender × *s's gender* × *one or more other factors*
Yes: 308
No: 40, 392, 416
any other interaction effect
Yes:
No:

Rating Area IX: Warmth, Friendliness, Rapport, and Related Characteristics of the "Teacher"

t's gender
Yes: [69d, 69e], 103, 393
No: 9, [33, 41], [61, 65], 200, 257, [317, 321], [369, 373], 417, [466, 470]
t's gender × *s's gender*
Yes: 394
No: 10, [34, 42], [62, 66], 258, [318, 322], [370, 374], 418, [467, 471]
t's gender × *t's department or field*
Yes: 419
No: 260, [319, 323], [371, 375], 395
t's gender × *t's age or physical attractiveness*
Yes: 202
No: 203, [468, 472]
t's gender × *t's sex-type or mode of teaching*
Yes:
No: 259
t's gender × *t's enthusiasm or expressiveness*
Yes:
No: [35, 43], [63, 67]

TABLE 1. (*continued*)

t's gender × t's rapport, smiling, humor, or outside-of-class social contact with students
Yes:
No:
t's gender × s's gender × one or more other factors
Yes:
No: [36, 44], [64, 68], [261, 262, 264], [320, 324], 396, 420, [469, 473]
any other interaction effect
Yes:
No: 206, 263
Rating Area X: Masculinity/Femininity of the "Teacher"
t's gender
Yes: 265, 474
No:
t's gender × s's gender
Yes: 266
No: 475
t's gender × t's department or field
Yes: 268
No:
t's gender × t's age or physical attractiveness
Yes: 476
No:
t's gender × t's sex-type or mode of teaching
Yes: 267
No:
t's gender × t's enthusiasm or expressiveness
Yes:
No:
t's gender × t's rapport, smiling, humor, or outside-of-class social contact with students
Yes:
No:
t's gender × s's gender × one or more other factors
Yes:
No: [269, 270, 272], 477
any other interaction effect
Yes:
No: 271
Rating Area XI: Miscellaneous Characteristics of the "Teacher"
t's gender
Yes: 11
No: [104, 112], [176, 184], 289, 341

TABLE 1. (*continued*)

t's gender × s's gender	
Yes:	
No:	12, [105, 113], 290, 342
t's gender × t's department or field	
Yes:	
No:	291, 343
T's gender × t's age or physical attractiveness	
Yes:	[178, 186]
No:	[179, 187]
t's gender × t's sex-type or mode of teaching	
Yes:	
No:	[106, 114]
t's gender × t's enthusiasm or expressiveness	
Yes:	
No:	
t's gender × t's rapport, smiling, humor, or outside-of-class social contact with students	
Yes:	
No:	
t's gender × s's gender × one or more other factors	
Yes:	
No:	[108, 109, 111, 116, 117, 119], 292
any other interaction	
Yes:	182
No:	[107, 110, 115, 118], 190

Note: The index numbers in this table are keyed to the entries in the Appendix. A "yes" signifies that the main or interaction effect is statistically significant; a "no" that it is not. Throughout, "t" is short for "teacher," and "s" is short for "student." Index numbers bracketed together mean that the findings all come from the same study. The exact factors being considered in any panel, and the exact content of a statistically significant result, are given in the Appendix.

gender. The next five panels present data on two-way interaction effects between the teacher's gender and various other factors: (1) the teacher's department or major field; (2) the teacher's age or physical attractiveness; (3) the teacher's so-called sex type (neutral/control, affective, instrumental, androgynous; see Basow and Howe, 1987) or mode of teaching (active and directive or passive and facilitating; see Harris, 1975); (4) the teacher's enthusiasm or expressiveness; and (5) various indicators of the teacher's good naturedness and friendliness (rapport, smiling, humor, or outside-of-class social contact with students). The second-to-the-last panel provides information on three-way or four-way interactions among teacher's gender, student's gender and one or more

other factors. The last panel is reserved for any interaction effects (two-way, three-way, four-way) not presented elsewhere.

As in the Appendix, a "yes" in Table 1 signifies that the main effect or interaction effect is statistically significant according to the research report, while a "no" means it is not. The exact factors being considered in any panel, and the exact content of a statistically significant result, can be found by using the index number in Table 1 to locate the information in the Appendix; findings from the same study are bracketed together. The patterns of findings that emerge from the systematic consideration of the results of various studies follow.

Overall Evaluation of the "Teacher"

With the exception of the study by Tamborini and Zillman (1981), each of the experimental or laboratory studies under review (and indexed in Table 1) had at least one item in the questionnaire or rating form completed by the student subjects that asked for an *overall* evaluation of the "alleged" teacher. These items (either designated as measuring overall evaluation in the research itself or so designated in the Appendix whether or not explicitly designated as such in the research) are the same or similar to those items found in evaluation forms in which students in actual ongoing classes are asked to rate their teachers' overall performance or instructional ability. Also considered here as an overall evaluation of the teacher is a subject's rating of the teacher's effectiveness or competence as well as the subject's answer to the question of whether he or she would want to take a course with the teacher.[3]

As seen in Table 1, a clear majority of the studies under review found no indication of differences between the overall ratings received by male and female teachers (see Barnett and Littlepage, 1979, Experiment 1; Barnett and Littlepage, 1979, Experiment 2; Basow, 1990; Basow and Distenfeld, 1985; Basow and Howe, 1987; Dukes and Victoria, 1989; Goebel and Cashen, 1979; Harris, 1975; Hesselbart, 1977, Study 1; Hesselbart, 1977, Study 2). In those fewer studies where a difference was found, male teachers received higher overall ratings than did female teachers (Lombardo and Tocci, 1979; Kaschak, 1978; Kierstead et al., 1988. Experiment 1; Kierstead et al., 1988, Experiment 2). Kaschak (1981) found no difference in the ratings of male and female teachers on overall excellence or in whether or not students would like to take a course with the instructor, but did find that male teachers were rated higher than female teachers on their effectiveness.

Whether male and female teachers are viewed the same or differently by male and female students is an important aspect of determining students' possible preconceptions of teachers. All studies except Goebel and Cashen (1979) present data on whether or not the student's gender and the teacher's gender

interacted to affect overall teacher ratings. When an interaction effect is found, it is of interest to see whether female students rate female teachers higher than they do male teachers and male students rate male teachers higher than they do female teachers (a same-gender "bias") or whether female students rate male teachers higher than they do female teachers and male students rate female teachers higher than they do male teachers (a cross-gender "bias"). Of 14 different studies, all except Kaschak's (1978) found no interaction effect between gender of student and gender of teacher on overall rating of the teacher. The interaction effect found by Kaschak (1978) showed a same-gender bias for both male and female students on whether students would take a course with the instructor: Female students showed a greater preference for the female teacher, while male students showed a greater preference for the male teacher. A same-gender bias also appeared in this study for ratings of the teacher's excellence and effectiveness, but only for male students—that is, male students on average gave a higher evaluation on these general characteristics to male teachers than to female teachers, whereas female students rated male and female teachers equally. What it is about this particular study that produced an interaction effect between the student's and the teacher's gender, while none was found in any of the many other studies, is unknown.

Although student's gender and teacher's gender may not interact to affect students' perceptions of teachers' overall excellence, there may nevertheless be interaction effects between these two factors under certain conditions or for certain kinds of teachers. Technically, the search here is for a three-way (or even a higher-order) interaction. Most of the studies under review did check for a three-way interaction among the student's gender, the teacher's gender, and some other factor, but, with one clear exception and one partial exception, none was found in the many different studies. The clear exception is found in Dukes and Victoria (1989), where a cross-gender bias was evidenced for teachers described to students as enthusiastic: For enthusiastic teachers, but not for nonenthusiastic ones, male students rated female teachers higher in effectiveness than they did male teachers (cross-gender bias), whereas female students rated male teachers as more effective than they did female teachers (cross-gender bias). The partial exception is in Lombardo and Tocci (1979), where a three-way interaction (teacher's gender $\times$ student's gender $\times$ physical attractiveness) was not found for the rating of the teacher's overall teaching or whether the student would like to take a course from the teacher, but was found for the rating of the teacher's competence. The male students rated the male teacher as more competent than the female teacher (same-gender bias) but at the same time rated the attractive female teacher as more competent than the unattractive one, whereas the female students rated the attractive and unattractive male and female teachers as equally competent.

Apart from interacting with the student's gender, the teacher's gender might

interact with one or another personal or positional characteristic of the teacher to affect students' perceptions of overall excellence of teachers. Few of these two-way interactions have been found, however. Thus, in five different studies, the teacher's department or academic field did not interact with the teacher's gender to affect overall ratings (Harris, 1975; Hesselbart, 1977, Study 1; Hesselbart, 1977, Study 2; Kaschak, 1978, 1981). Neither did the teacher's enthusiasm or expressiveness (Basow, 1990; Basow and Distenfeld, 1985; Dukes and Victoria, 1989); "sex type" as neutral, affective, instrumental, or androgynous (Basow and Howe, 1987); mode of teaching as active and directive or passive and facilitating (Harris, 1975); organization (Dukes and Victoria, 1989); or knowledgeability (Dukes and Victoria, 1989). Nor did Harris (1975) find a three-way interaction among the teacher's gender, department, and mode of teaching. Lombardo and Tocci (1979) found no interaction between the teacher's age and gender. In Goebel and Cashen (1979), neither the teacher's age by itself nor the teacher's physical attractiveness by itself interacted with the teacher's gender to affect overall evaluation, but, in a three-way analysis of variance, the teacher's age *and* physical attractiveness did interact with the teacher's gender to affect evaluations (the middle-aged, attractive male teacher was rated particularly high on overall evaluation, whereas the middle-aged unattractive male teacher was rated particularly low). Dukes and Victoria (1989) did find an interaction effect between the teacher's gender and status. Female teachers were rated higher than male teachers in effectiveness when they were not described as being chairs of departments; when described as chairs, male teachers were rated higher than female teachers but only slightly so.

Three studies explored whether indicators of the teacher's friendliness and good naturedness (friendliness) interacted with the teacher's gender to affect overall evaluations. No interaction between the teacher's rapport with students and the teacher's gender was found in Dukes and Victoria (1989). In contrast, the ratings of male and female teachers were affected by whether or not the teacher smiled (Kierstead et al., 1988, Experiment 2) and by whether or not the teacher engaged in out-of-class contact and socializing with students (Kierstead et al., 1988, Experiment 1). Female teachers who did not smile or who did not have outside-of-class contacts with students received lower overall ratings than female teachers who did smile and did socialize with students outside of class.

Likability, Appealingness, and Emotional Attractiveness of the "Teacher"

Another type of rating item found in the studies under review can also be considered as asking for a global perception of the teacher, but less as a teacher qua teacher and more as a person. Thus, student subjects were asked to rate teachers presented to them in terms of how likable, appealing, or emotionally

attractive they seemed, and whether or not the students would like to meet them. Here the results of various studies are inconsistent as to whether male or female teachers (or neither) seem to be more likable and appealing to students. Hesselbart (1977, Study 1) and Basow and Distenfeld (1985) report that female teachers were rated higher on (emotional) attractiveness than were male teachers, but in the Hesselbart study, students were no more likely to want to meet the female teachers than the male teachers. A second Hesselbart study (1977, Study No. 2) did find that students were more likely to want to meet the female teacher than the male teacher, but in this case the ratings of the female teacher on (emotional) attractiveness were no higher than those for the male teacher. Inconsistent with these particular results is the finding in Kaschak (1978) that it was the male teachers who were rated as more likable; in a second study by Kaschak (1981), however, male and female teachers did not differ on likability. Finally, although Tamborini and Zillman (1981) report a main effect for teacher's gender on his or her appealingness, the exact direction of this effect is not given in their article.

As for an interaction between the teacher's and the student's gender on the teacher's likability or appeal, indications that it does not exist (Hesselbart, 1977, Study 1; Hesselbart, 1977, Study 2; Kaschak, 1978, 1981) slightly outweigh indications that it does (Hesselbart 1977, Study 1; Kaschak, 1978). Moreover, the two interaction effects that have been found are inconsistent. Thus, Hesselbart (1977, Study 1) found a cross-gender preference for wanting to meet the described teacher (the male students in her study wanted to meet the female teacher more than they did the male teacher, and the female students wanted to meet the male teacher more than they did the female teacher). However, at least in terms of the likability of the teacher, Kaschak (1978) reports a same-gender bias, but only for male students (the male students rated the male teacher as more likable than the female teachers, whereas the female students rated the male and female teachers as equally likable). Whether the inconsistency between these two studies can be accounted for by the shift in the dependent variable from wanting to meet the teacher to the likability of the teacher is unknown.

With the exception of a finding in Kaschak (1981), the teacher's gender and academic field have not been found to interact to affect the teacher's rating on likability and (emotional) attractiveness or whether students want to meet the teacher (Hesselbart, 1977, Study 1; Hesselbart, 1977, Study 2; Kaschak, 1978). In the Kaschak (1981) study, while the teachers in the field of elementary education were related as more likable than the teachers in other fields, the female teacher in elementary education was considered by students as even more likable than the male teacher. Tamborini and Zillman (1981) did not find a two-way interaction between the teacher's gender and the type of humor used in class, although they did find a three-way interaction when the student's gen-

der was added: When the teacher's humor in class was self-disparaging, the teacher's appeal was greatest when the teacher and the student were of the same gender, whereas when the teacher used sexual humor, the teacher's appeal was greatest when the teacher and the student were of opposite genders. Hesselbart (1977, Study 1) also found a three-way interaction effect for the teacher's gender, teacher's field, and the student's gender. The female students wished to meet the female science teacher least of the teachers, while the male students wished to meet the female teacher more than the male teacher regardless of whether the teacher taught science or humanities. In other studies or for other indicators of likability, a three-way interaction effect for the same three factors of teacher's gender, student's gender, and teacher's field was not found (Hesselbart, 1977, Study 1, Kaschak, 1978, 1981).

Knowledge of the Subject Matter, Intelligence, and Related Characteristics of the "Teacher"

People presumed to be teachers in the various studies were also evaluated by student subjects on *specific* instructional dimensions and personal traits. One set of such characteristics encompasses the teacher's knowledge of the subject matter, intelligence, scholastic ability, scholarship, and innovation. Relevant studies show almost no impact of the teacher's gender on students' perceptions of these characteristics. In Basow (1990), Basow and Distenfeld (1985), Harris (1975), Hesselbart (1977, Study 1), Hesselbart (1977, Study 2), Lombardo and Tocci (1979), and Tamborini and Zillman (1981), male and female teachers were rated equally on knowledge, intelligence, scholastic ability, and scholarship. The only exception—a partial one—is found in Hesselbart (1977, Study 1), where male and female teachers did not differ in their ratings of scholastic ability, but female teachers were seen as more innovative than male teachers.

The same seven studies also found no two-way interaction effects between teacher's gender and student's gender on students' perceptions in this area. Nor did any of these studies find a three-way interaction effect when a third factor—either the teacher's academic field, mode of teaching, physical attractiveness, expressiveness, or type of humor—was added to the consideration of the student's and the teacher's gender. Several other possible two-way interactions between the teacher's gender and some other characteristic of the teacher were also found *not* to be so in actuality in these studies. Only Basow (1990) found an interaction effect. In her study, the expressive female teacher was rated much higher in scholarship than was the expressive male teacher, whereas the nonexpressive male teacher was rated somewhat higher in scholarship than was the nonexpressive female teacher—which Basow interpreted as expressiveness appearing "to enhance the ratings of scholarship for a female instructor, whereas it impaired those ratings for a male instructor" (p. 601).

Enthusiasm of the "Teacher"

Although Basow and Distenfeld (1985) found that the female teacher was seen as more enthusiastic than was the male teacher, three other studies (Basow, 1990; Hesselbart, 1977, Study 1; Hesselbart, 1977, Study 2) found no differences in the perceived enthusiasm of female and male teachers. With one exception across these four studies, perception of the teacher's enthusiasm was not affected by the interaction between the teacher's gender and any of the factors examined in these studies (namely, the student's gender, the teacher's academic field, and the teacher's expressiveness). The exception is found in the first of Hesselbart's two studies (Hesselbart, 1977, Study 1), where the student's gender appeared to influence the student's perception of the teacher's enthusiasm. Female students saw the female teacher as more enthusiastic than they did the male teacher, whereas the male students saw male and female teachers as equally enthusiastic. Thus, this study showed evidence of a same-gender bias for female students but not for male students. Note, however, that a teacher-gender by student-gender interaction was not found in Basow (1990) or in the second of Hesselbart's two studies (Hesselbart, 1977, Study 2).

The "Teacher's" Stimulation of Interest

In the second of two studies, Hesselbart (1977, Study 2) found that the female teacher was rated as more interesting than was the male teacher, although in her first study (Hesselbart, Study 1) no differences appeared in the rating of the two. Basow and Distenfeld (1985) also found that the female teacher rated higher on a single-item measure of interestingness than did the male teacher; however, on a multi-item scale measuring the extent to which the teacher stimulated students' interest, no difference appeared between the female teacher and the male teacher.

These researchers did find certain interaction effects. Basow and Distenfeld (1985) report that the expressiveness of the teacher was more important for the male teacher than for the female teacher: The expressive male teacher was rated as the most stimulating of the teachers; the nonexpressive male teacher was seen as the least stimulating. In examining the ratings of male and female students, Hesselbart (1977, Study 1) found a cross-gender bias: The highest ratings on interestingness were given by female students to the male teacher, followed by the male students to the female teacher. However, Hesselbart's second study (Hesselbart, 1977, Study 2) did not find an interaction effect between the student's gender and the teacher's gender on the teacher's interestingness; neither did the study by Basow and Distenfeld (1985) for the teacher's stimulation of interest.

In neither of the Hesselbart studies (Hesselbart, 1977, Study 1, Study 2) was there an interaction between the teacher's gender and academic field. However,

in the first study (Hesselbart, 1977, Study 1), a three-way interaction was found when the student's gender was added: The female students considered the female science teacher the least interesting teacher, whereas the male students considered the male science teacher and the female humanities teacher the least interesting teachers. Basow and Distenfeld (1985), in checking for a three-way interaction among teacher's gender, student's gender, and teacher's expressiveness, found none.

The "Teacher's" Encouragement of Class Questions and Discussion

In only two of the studies under review did students rate teachers on their encouragement of class questions and discussion (Basow, 1990; Goebel and Cashen, 1979). Neither of these studies found that male and female teachers were perceived any differently in this area. Further, interactions between the teacher's gender and other factors were not found—with one exception. In the study by Goebel and Cashen (1979), the teacher's gender and his or her age interacted to affect student perceptions. The teacher's age was more important for male teachers than for female teachers: The young and middle-aged male teachers were rated higher in encouraging class questions than was the old male teacher.

Ability to Explain, Clarity, Preparedness, Organization, and Related Characteristics of the "Teacher"

This section considers those studies with data on the teacher's organization, preparation, ability to explain or communicate, and related pedagogical characteristics or personal traits (logical, hard-working, conscientious, serious). For the most part, male and female teachers did not differ on these characteristics and traits—as shown in Basow (1990), Goebel and Cashen (1979), Harris (1975), Hesselbart (1977, Study 1), and Lombardo and Tocci (1979). Basow and Distenfeld (1985) found that the male teacher and female teacher were not rated by students as different in their organization; however, the female teacher was rated higher than was the male teacher on preparedness while the male teacher was rated higher than was the female teacher on seriousness. In a study by Hesselbart (1977, Study 2), the female teacher was rated as more conscientious than the male teacher, but neither teacher was seen as more logical than the other.

None of the several studies with relevant data found an interaction effect between the teacher's gender and the student's gender on the ratings under consideration (Basow, 1990; Basow and Distenfeld, 1985; Harris, 1975; Hesselbart, 1977, Study 1; Hesselbart, 1977, Study 2; Lombardo and Tocci, 1979). However, interaction effects were found between the teacher's gender and certain other positional and personal characteristics of the teacher. Thus, Harris

(1975) found an interaction effect between the teacher's gender and his or her mode of teaching on how hard-working the teacher was seen to be. The teacher's mode of teaching affected the ratings of female teachers more than it did the rating of male teachers: The female teacher using an active and directive mode of teaching was rated the hardest-working of all the teachers, whereas the female teacher using a passive and facilitating mode of teaching was rated the least hard-working; in between fell the ratings of the male teacher, who was rated as only somewhat harder-working if he used the first style of teaching rather than the second.

Basow (1990) did not find an interaction effect between the teacher's gender and the teacher's expressiveness on ratings of the teacher's organization/clarity, but in a different study, Basow and Distenfeld (1985) did find such an effect on ratings of the teacher's organization. Expressiveness was more important for the ratings of the male teacher than for the ratings of the female teacher: The expressive male teacher was seen as the most organized of the teachers and the nonexpressive male teacher was seen as the least organized, with the ratings of the expressive and nonexpressive female teachers falling between these two.

Other studies have explored possible interactions between the teacher's gender and academic field. Harris (1975) did not find an interaction of these two factors affecting how hard-working the teacher was taken to be. Similarly, in the second of the Hesselbart studies (Hesselbart, 1977, Study 2), no interaction effect was found on either how logical or how conscientious the teacher was seen to be. In the first of the Hesselbart studies (Hesselbart, 1977, Study 1), while the teacher's gender and the teacher's field did not interact to affect perceptions of the teacher's conscientiousness, they did interact to affect how logical the teacher was seen to be. Students rated the male humanities teacher as more logical than the female humanities teacher, whereas the students rated the female science teachers as more logical than the male science teacher. It was as though students saw the teacher as more logical when he or she was in a relatively atypical field. Moreover, adding the student's gender produced a three-way interaction showing that it was the male students in particular who saw the male humanities teacher as more logical than the female humanities; there was little difference in the female students' perceptions of the male and female teachers of humanities on this characteristic.

In a study by Lombardo and Tocci (1979), the teacher's gender and the teacher's physical attractiveness did not interact to influence student perceptions of the teacher's communication skills. In the Goebel and Cashen (1979) study, in which student subjects rated the teacher's explanatory skills, the teacher's gender and age did not interact to influence these ratings, and neither did the teacher's gender and physical attractiveness. However, the teacher's gender, age, and physical attractiveness did produce a three-way interaction effect: The middle-aged, attractive male teacher was rated particularly high on

explanatory skills whereas the middle-aged, unattractive male teacher was rated particularly low.

Goebel and Cashen (1979) also found an interaction effect between the teacher's gender and physical attractiveness on ratings of the teacher's structure or organization (the attractive male teacher was considered much better organized than was the unattractive male teacher, whereas the attractive female teacher was considered only a little better organized than the unattractive female teacher). In this same study, the teacher's age was also shown to interact with the teacher's gender to affect ratings of the teacher's organization (if young or old, the male teacher was considered better organized than was the female teacher, but if middle-aged, the female teacher was condsidered better organized than was the male teacher). Moreover, there was a three-way interaction effect of the teacher's gender, age, and physical attractiveness (the old, unattractive male teacher was rated particularly high on organization whereas both the young and middle-aged male teachers who were unattractive were rated particularly low on organization).

Finally, several studies checked for three-way interaction effects between the teacher's gender, the student's gender, and one or more other positional or personal characteristics of the teacher. As mentioned earlier, Hesselbart (1977, Study 1) found a three-way interaction effect of the teacher's gender, the student's gender, and the teacher's academic field on the rating of how logical the teacher was perceived. Harris (1975) also found a three-way interaction effect—for the teacher's gender, student's gender, and the teacher's mode of teaching on rating of how hard-working the teacher was seen to be; however, the direction and the specifics of the results are not reported. Harris (1975) did not find an interaction between the teacher's gender, the student's gender, and the field of the teacher on ratings of how hard-working the teacher was; nor was a four-way interaction found when mode of teaching was added to these three. Studies checking for interaction effects for the teacher's gender, the student's gender, and one or more other characteristics of the teacher found none (Basow, 1990; Basow and Distenfeld, 1985; Hesselbart, 1977, Study 1; Lombardo and Tocci, 1979).

The Degree to Which the "Teacher" Is Active and Instrumental, Powerful, Self-Assured

In two different studies, Kaschak (1978, 1981) found that the male teacher was considered more powerful than was the female teacher, but Basow and Howe (1985) found that female teachers were rated higher than were male teachers on activity and instrumentality, while Hesselbart (1977, Study 1) and Basow (1990) found no differences between male and female teachers on their ratings of self-assurance or activity/instrumentality traits, respectively.

No interaction effect influencing these sorts of traits was found between the teacher's gender and the student's gender (Hesselbart, 1977, Study 1 and Study 2; Kaschak, 1978, 1981; Basow, 1990) or between the teacher's gender and academic field (Hesselbart, 1977, Study 1 and Study 2; Kaschak, 1978, 1981). Kaschak (1978, 1981) did not find, in either of two studies, a three-way interaction effect among the teacher's gender, the student's gender, and the teacher's academic field on how powerful the teacher was seen to be. By contrast, in a study by Hesselbart (1977, Study 1), female students rated the male science teacher higher on self-assurance than they did the female science teacher, but rated the female humanities teacher higher on self-assurance than they did the male humanities teacher, whereas the male students rated the male and female science teachers higher on self-assurance than they did either the male or female humanities teacher. It was as though the female students determined self-assurance by the presumed fit between the female or male teacher and the field in which he or she was teaching, while the male students felt that teachers in the science field would have higher self-assurance, regardless of whether they were men or women.

Finally, Basow (1990) found a two-way interaction effect between the teacher's gender and the teacher's expressiveness on his or her ratings on activity/instrumentality, but did not find a three-way interaction effect on these ratings when the student's gender was added. The two-way effect was as follows: The expressive female teacher was rated higher than the expressive male teacher on instrumental/active personality traits, whereas the nonexpressive male teacher was rated higher than the nonexpressive female teacher on these traits.

Warmth, Friendliness, Rapport, and Related Characteristics of the "Teacher"

Most studies found no difference in students' perceptions of male and female teachers' warmth, friendliness, rapport, understanding, nurturance, attentiveness, and the like (Barnett and Littlepage, 1979, Experiment 2; Basow, 1990; Goebel and Cashen, 1979; Harris, 1975; Hesselbart, 1977, Study 1; Hesselbart, 1977, Study 2; Kaschak, 1981; Lombardo and Tocci, 1979). In a study by Basow and Howe (1987), the female teacher was seen as warmer and more expressive than was the male teacher. Basow and Distenfeld (1985) also found the female teacher to be rated higher than was the male teacher on warmth and personableness but not on rapport and student orientation; and in a study by Kaschak (1978), it was the male teacher who was seen by students as the more concerned.

With the exception of this study by Kaschak (1978)—where female students rated the male and female teachers as equally concerned but the male students

rated the male teachers as more concerned than they did the female teachers—studies with relevant data found no interaction effects between the teacher's gender and the student's gender on the ratings in this area (Barnett and Littlepage, 1979, Experiment 2; Basow, 1990; Basow and Distenfeld, 1985; Harris, 1975; Hesselbart, 1977, Study 1; Hesselbart, 1977, Study 2; Kaschak, 1980; Lombardo and Tocci, 1979). Moreover, none of these studies, including Kaschak (1978), found a three-way interaction among the teacher's gender, the student's gender, and one or another third factor.

Harris (1975) did not find an interaction effect between the teacher's gender and the teacher's mode of teaching on ratings of warmth, nor was a three-way interaction effect found when the teacher's academic field was added. Neither Basow (1990) nor Basow and Distenfeld (1985) found an interaction between the teacher's gender and the teacher's enthusiasm or expressiveness on rapport, nurturance, or friendliness. Likewise, Goebel and Cashen (1979) and Lombardo and Tocci (1979) did not find that the teacher's gender and the teacher's physical attractiveness interacted to affect students' ratings on these sorts of traits. Goebel and Cashen (1979), however, did find an interaction between the teacher's gender and age on rapport (friendliness): The old male teacher was rated less positively than were either the young male teacher or the middle-aged male teacher on friendliness (while female teachers were rated more or less equally on the trait regardless of their age). There was no three-way interaction among the teacher's gender, age, and physical attractiveness.

Masculinity/Femininity of the "Teacher"

Although Basow and Howe (1987) refer to certain "instrumental/agentic" traits as "masculine" and certain "expressive/warm" traits as "feminine," only studies by Harris (1975) and Lombardo and Tocci (1979) had student subjects directly rate teachers in terms of their masculinity/femininity. Not surprisingly, both studies found that, as a main (one-way) effect, male teachers were seen as more masculine than female teachers (or, alternatively put, that female teachers were seen as more feminine than male teachers). Lombardo and Tocci (1979) report an interaction between the teacher's gender and physical attractiveness that affected the teacher's rating of masculinity/femininity (the attractive female teacher was thought by students to be more feminine than was the unattractive female teacher), but not between the teacher's gender and the student's gender or among the teacher's gender, the student's gender, and the teacher's physical attractiveness.

Harris (1975) found three different two-way interaction effects. The academic field of the teacher affected the perceptions of the male teacher more than it did the female teacher in that the male teacher was viewed as far more masculine if he was in the department of engineering rather than nursing, but

the female teacher was viewed only slightly more feminine in the department of engineering. By contrast, the effect of mode of teaching was greater on the ratings of the female teacher than the male teacher: The female teacher was rated as far more feminine when using the passive and facilitating mode of teaching, whereas the male teacher was rated as only slightly more feminine (that is, as only slightly less masculine) when using this mode of teaching. Finally, an interaction between the gender of the teacher and that of the student appeared: The female students rated the male teacher as more masculine and the female teacher as more feminine than did the male students. Adding either the academic field or the teacher's mode of teaching to the consideration of the teacher's gender and the student's gender did not produce a three-way interaction, nor was there a four-way interaction when the teacher's field and mode of teaching were simultaneously added to the genders of students and teachers.

Miscellaneous Other Characteristics of the "Teacher"

The remaining personal or instructional characteristics considered in one or another of the studies under review are the amount of work given by the teacher (overload), the teacher's expectations for the quality of students' work, the difficulty and relevance of the course, the extent to which the teacher is interested in research rather than teaching (or vice versa), and the willingness of the student to discuss either career plans or personal concerns with the teacher. For none of these characteristics did the gender of the teacher produce a main effect, nor was an interaction between the teacher's and student's gender found (Barnett and Littlepage, 1979, Experiment 2; Basow and Howe, 1987; Goebel and Cashen, 1979; Hesselbart, 1977, Study 1, Study 2).

Moreover, Hesselbart (1977, Study 1, Study 2) found no interaction effect between the teacher's gender and other factors on students' ratings of the teacher's interest in research compared to interest in teaching; nor did Basow and Howe (1987) find any interaction effects between the teacher's gender and other factors on the student's willingness to discuss either career plans or personal concerns with the teacher. Goebel and Cashen (1979), however, did find three different interaction effects between the teacher's gender and the teacher's age and/or physical attractiveness. The young male teacher and the middle-aged male teacher were rated more "positively" on the work overload variable than was the old male teacher (although the researchers do not make clear whether this finding meant that the old male teacher was seen as giving or not giving an overload). The young and the old male teachers were seen by students as having somewhat higher expectations for students' work than were the young female teacher and the old female teacher, respectively, whereas the middle-aged female teacher was seen as having somewhat higher expectations than was the middle-aged male teacher. Finally, in a three-way interaction among

the teacher's gender, age, and attractiveness, the young unattractive male teacher and the middle-aged unattractive male teacher were rated more positively in terms of expecting good work from students than was the old unattractive male teacher.

MISCELLANEOUS STUDIES

Before discussing and elaborating the findings of the laboratory studies just reviewed, a few other studies may be briefly summarized. Unlike the laboratory studies, where college students were asked to estimate particular, but unknown, "teachers" from photographs, descriptions, or lectures, these other studies gathered information about the more generalized impressions and conceptions students have about college teachers. In these studies, students were asked, usually in a questionnaire, to indicate their impressions of male and female college teachers in general.

In a study by Mackie (1976), 181 University of Calgary students (enrolled in introductory, intermediate, and graduate sociology courses) rated the conceptual categories of male and female professors on 21 seven-point, bipolar semantic differential scales by responding to the statement that, "Female (male) professors in general tend to be . . . " Mackie found that compared to male teachers, female teachers were viewed as more competent in both task and socioemotional spheres, although they were viewed as less powerful and aggressive. Female students rated female professors higher than they did male professors on many of the ratings scales (especially those measuring task competency).

Babladelis (1973) studied the perceptions of 58 "experienced" students (22 male and 36 female students in upper-division classes) and 106 "inexperienced" students (41 male and 65 female lower-division students in introductory classes) at California State University, Hayward. Using semantic differential scales, this researcher investigated the students' ratings of the concepts of Men, Women, Male Professors, and Female Professors, analyzing the results in terms of "evaluative," "potency," and "activity" factors. Babladelis used what she called a "straightforward, everyday definition of stereotyping," writing that, "If a factor, such as potency, organized the rater's view of men regardless of the man's role, then it is said the rater sex-stereotyped; if the potency factor was used to organize the rater's view of professors, regardless of sex, it is said that the rater role-stereotyped" (p. 47). This research found that both experienced and inexperienced male students tended not to give gender-stereotyped ratings; they viewed occupants of the same position as significantly similar regardless of the role-occupant's gender. The "experienced" female students also tended not to gender-stereotype (with the exception of a positive correla-

tion between their conceptions of Males and Male Professors on the activity factor). By contrast, gender-stereotyping did appear in the ratings made by inexperienced female students. (For these female students, significant positive correlations were found between their concepts of Female Professors and Women on the evaluative factor and between Male Professors and Men on all three factors; and a significant negative correlation was found between Female Professors and Male Professors on the potency factors.) The exact contents of the gender-stereotyped and role-stereotyped ratings are not given in the article.

Rubin (1981, Experiment 1) asked 37 students in an introductory, cross-disciplinary course at a midwestern university to indicate from a list of 34 traits the 5 most important traits that an ideal male professor should have; 49 students were asked to indicate the top 5 traits for a female college professor; and 41 students were asked to indicate which traits an ideal college professor (unspecified gender) should possess. After coding the individual traits into different categories of traits, Rubin found that, in general, students seemed to be more concerned with the role of the professor than the gender of the person occupying the role, although a few gender-linked differences were found. The traits assigned to the three groups of professors did not differ for the category of traits referred to as "knowledge/intellect/ability," the "professionalism" category, and the "ability to communicate" category. The ideal female teacher was less likely than the ideal male teacher to be assigned traits indicating an openness to hear and accept students' viewpoints and readiness to meet with students but was more likely to be assigned nurturing traits (that is, "supportive characteristics"; "traits of professors who have a deep interest in students"). Breaking down the results by gender of the student showed that it was the male students in particular who identified nurturing traits as more important for female teachers and the characteristics of openness to students' viewpoints and willingness to meet with students as more important for male professors.

In the aforementioned study by Mackie (1976), the students were also asked to judge the prestige of male and female professors—as part of judging the prestige of 20 other university occupations. Considering the students' attributions as a whole, neither male nor female teachers were seen as having greater prestige than the other. Female students, however, did attribute greater prestige to female professors than to male professors. Inconsistent with these results—perhaps due to the shift of the dependent variable from prestige to status, perhaps not—are the results by Lott and Sommer (1967). These researchers asked students to use paper-and-pencil diagrams supplied to them to indicate where they would sit vis-à-vis another person whose gender was given by the researchers and who was said to be either a "professor," "another student in the class," or "a freshman who is doing poorly in school." The researchers found that the students tended to implicitly attribute higher status to the male professor than the female professor by choosing a seating arrangement for him that

reflected his presumed high status; the female professor's implied status was more likely to equal that of a peer or a low-status person.

OVERVIEW, ELABORATION, AND DISCUSSION

This section briefly overviews the results of laboratory and experimental studies in which college students, under various controlled conditions, gave their impression of people said to be college teachers. The discussion considers the extent to which the findings form interpretable patterns and are consistent and mutually confirmatory. Incidentally, describing (in previous pages) the main gender effects and the interaction effects (where gender is a factor) found in the reviewed research may have made these effects appear to be more prevalent than in fact they were. These effects did not occur with great frequency; less than 15 percent of the possible effects were statistically significant.

Main Effects of the "Teacher's" Gender

Most of the laboratory studies reviewed here (and summarized in the Appendix) found that male and female teachers did *not* differ in college student's *overall* evaluation of them as professionals (as indicated by students' perceptions of their overall teaching performance, their instructional ability, their effectiveness, and their competence and by whether or not students would take a course with them). In the minority of studies where gender differences were found, male teachers received higher overall ratings than did female teachers; in no studies did female teachers receive a higher overall evaluation than did male teachers. For the general likability, emotional attractiveness, and global appeal of the teacher—also indications, presumably, of an overall evaluation of teachers, but more in terms of them as people than as professionals—findings are inconsistent; across studies, the various possibilities are all represented (female teachers higher, male teachers higher, no difference between the two groups).

As for more *specific* instructional dimensions and personal characteristics, male and female teachers were found *not* to differ in students' views of them in the following areas: knowledge of the subject matter, intelligence, and the like; ability to explain, clarity, preparedness, organization (and related characteristics); enthusiasm; encouragement of class questions and discussion; interest in research rather than teaching; expectations for quality of students' work and the amount, difficulty, and relevance of work assigned; and the student's willingness to discuss either career plans or personal decisions with teachers. Across these several rating areas and across the number of studies with data about them, only a few exceptions to this no-difference result appeared. (In one study, the female teacher was seen as more innovative than the male teacher; in

another, the male teacher was rated as more conscientious than the female teacher; and in a third, the female teacher was seen as more prepared and more enthusiastic but less serious than the male teacher.)

The two studies with data on students' views of how interesting the teachers were showed either no difference between the genders on one or another of the indicators of this dimension or female teachers being rated as higher on the indicator. Although it might be thought that students would be predisposed to see male teachers as more active, instrumental, powerful, and self-assured than female teachers—presumably characteristics traditionally attributed more to men than to women—such was not found: Two studies did find that the male teacher was considered as more powerful, but another that the female teacher was more active and instrumentally oriented, and two others that the two genders did not differ on these sorts of traits. Likewise, contrary to what might be thought given the conventional views of men and women, most studies with relevant data did not find any difference between male and female teachers in students' perceptions of their warmth, friendliness, rapport with students, understanding, nurturance, attentiveness, and the like. (For those few studies where differences were found, the female teacher was perceived in one study as warmer than the male teacher, in another study as both warmer and more personable, but in a third study as less concerned.) When, in two different studies, students were asked directly about their perceptions of the teacher's masculinity or femininity, the hardly unexpected finding was that male teachers were seen as more masculine and female teachers as more feminine.

Interaction Effects: "Teacher's" Gender and Student's Gender

Only three of the many studies with relevant data found indications of a two-way interaction effect between the student's gender and the teacher's gender; and results are not particularly consistent across these studies. Data in Kaschak (1978) show a same-gender bias for male and female students on whether the students would take a course with the instructor (female students would prefer to take a course with the female instructor, male students with the male instructor) as well as a same-gender bias, for male students only, on ratings of the teacher's excellence, effectiveness, likability, and concern (male students rated male teachers higher than they did female teachers on each of these characteristics, whereas female students rated the teachers the same on each of them). In contrast, Hesselbart (1977, Study 1) found a cross-gender bias, for both male and female students, in wanting to meet the teacher and for perceptions of the teacher's interestingness; this research also found, for female students only, a same-gender bias for perceptions of the teacher's enthusiasm. Harris (1975) reports that the female students saw the male teacher as more masculine and the female teacher as more feminine than did the male students.

Certain of the findings just mentioned were further specified when one or another additional factor was added to the analysis, thereby producing a three-way interaction (see Hesselbart, 1977, Study 1). Also in Hesselbart (1977, Study 1), as well as in Lombardo and Tocci (1979) and Tamborini and Zillman (1981), are one or more instances where the study did not find an initial two-way interaction between teacher's gender and student's gender in a rating area, but adding a third factor produced a three-way interaction. As with the two-way interaction between the teacher's gender and the student's gender, these few three-way interactions were not consistently same-gender or cross-gender biased, nor did they show up consistently for male students or female students (or both).

Interaction Effects: Searching for Replication and Confirmation Within Rating Areas

Interaction effects between the gender of the teacher and other factors (excluding the gender of the student) were also found scattered among the studies reviewed. A problematic aspect of these particular interactions—as well as for the aforementioned interactions between the teacher's gender and the student's gender—is nonconfirmation within a rating area. Typically, when a statistically significant interaction is found in a particular rating area for a particular factor, the same or similar interactions in other studies are not statistically significant. In a few cases, it is unknown whether an interaction effect is confirmed or not confirmed, for the other studies did not have information on comparable factors for the rating area.

It might be argued that, in some cases, nonconfirmation of a finding in one study by findings in other studies is merely a product of the present analysis's use of "loose" aggregations of only partially similar instructional dimensions or personal traits to create rating areas rather than tightly homogeneous categories; the lack of confirmation might be due to the difference in different studies of the exact characteristics rated by students. As an example, consider Kaschak's (1981) finding of an interaction between the teacher's gender and the teacher's field on the students' perception of the teacher's "concern." In the other relevant studies where an interaction effect between the teacher's gender and the teacher's field was not found, only an earlier study by Kaschak (1978) used ratings of the teacher's "concern"; the exact characteristics rated in the other studies were "warm" (Harris, 1975), "friendly" (Hesselbart, 1977, Study 1, Study 2), and "attentive" (Hesselbart, 1977, Study 1, Study 2). Perhaps this variation in the characteristic students were asked to rate accounts for differences in results. Yet, in other cases, even when the characteristic being rated is essentially the same across studies, nonconfirmation of a particular interaction effect still holds. For example, Hesselbart (1977, Study 1) found an interaction

between the teacher's gender and the student's gender on the student's rating of how "enthusiastic" the teacher was seen to be, but Hesselbart (1977, Study 2) did not find one for exactly the same variable, nor did Basow (1990) for the very similar characteristic of "enthusiasm/dynamism."

When a particular result in a particular rating area is found not to be confirmed by other studies with at least roughly comparable (if not exactly comparable) data, any interpretation of the result, no matter how interesting, is obviously not directly or easily generalizable past the particular study. Certain results in the research by Kaschak (1978) furnish good examples. Finding that male students rated male teachers higher than female teachers on several scales (excellence, effectiveness, likability, and concern), whereas female students rated male and female teachers about equally on these scales, Kaschak wrote that, "In summary, males, to a greater extent than females, are clearly biased by supposedly irrelevant information—the sex of the professor. Such results may require careful replication using the same research design in a variety of university settings and may be sensitive to consciousness-raising as a function of time" (p. 242). In calling for replication in other settings and for other time periods, Kaschak was quite right to be cautious about generalizing her findings and interpretations. As mentioned earlier in this section, most studies did not find a two-way interaction between the teacher's gender and the student's gender, and those that did—besides the Kaschak study—did not find a same-gender bias for male students only (see Hesselbart, 1977, Study 1; Harris, 1975).

Kaschak (1978) did find one instance of a same-gender bias for female students (paralleling that found for male students in the study): Female students wanted to take a course with female teachers (just as male students wanted to take a course with male teachers). Kaschak has an interesting interpretation for this preference on the part of female students:

> It would seem that female students did not discriminate on the basis of sex, except in choosing to take a course from a female professor. This unexpected result may reflect the female student's opinions that a female professor will treat her more fairly, more leniently, with greater sympathy for the obstacles she faces, or without seductiveness. (p. 241)

This interpretation, while presumably reasonable for the female students in Kaschak's study, has never needed to be used again to explain results in experimental or laboratory studies. A number of these other studies checked for statistically significant two-way interaction effects of the teacher's gender and the student's gender on whether or not the student wanted to take a course with the male or female teacher in the study (Basow and Howe, 1985; Harris, 1975; Hesselbart, 1977, Study 1; Hesselbart, 1977, Study 2; Kierstead et al., 1988, Experiment 2; Lombardo and Tocci, 1979; Barnett and Littlepage, 1979, Experiment 2). Not one of them found such an effect. What it was about the

particular students, the university, and/or the time period that produced this interaction in Kaschak's study but not in other studies remains unknown. Because Kaschak's particular finding (and its interpretation) is only one of a number of unreplicated or unconfirmed findings that have surfaced in the laboratory research, there is a larger point to be made. The conditions under which a given interaction effect can be expected for a rating area when studying students' preconceptions of male and female college teachers, and for which certain interpretations are consequently generalizable, have yet to be determined.

Interaction Effects Across Rating Areas: Searching for Consistencies and Patterns

Moving away from a consideration of interaction effects *within* a rating area, one can search for consistencies or patterns of interaction effects *across* rating areas. The results of the reviewed studies show that, in some cases, perceptions of male teachers were more heavily influenced by the factor (or factors) under investigation than were the ratings of the female teacher. For instance, Basow and Distenfeld (1985) found that the teacher's expressiveness was more important to students' perceptions of the male teacher than to their perceptions of the female teacher. (The expressive male teacher was seen as the most stimulating and the most organized of the teachers while the nonexpressive male teacher was seen as the least stimulating and least organized; the ratings of the female teacher on stimulation of interest and organization fell between these two, with the nonexpressive female teacher being rated somewhat higher than the expressive one.) In other cases, the factor under consideration was found to influence the students' perceptions of the female teacher more than it did the male teacher. (For example, Harris, 1975, found that the female teacher described to students as using an "active" mode of teaching was seen as the hardest-working of the teachers, whereas the female teacher described as using a "passive" mode of teaching was seen as the least hardest-working.)

These sorts of interaction effects presumably tell us something about students' preconceptions of male and female teachers. Thus, the Basow and Distenfeld study (1985) might be seen as showing that the teacher's expressivity is more likely to differentiate the perceptions of male teachers than female teachers; students may be predisposed to believe that expressive male teachers are especially likely to be stimulating and organized and nonexpressive males are especially likely to be unstimulating and unorganized. Likewise, the Harris study (1975) might be seen as showing that the teacher's "activity" is more likely to differentiate the perceptions of female teachers than male teachers; students may be predisposed to think of the "active" female teacher as especially hard-working and the "passive" teacher as not especially so.

Now, considering just those studies finding an interaction effect between

teacher's gender and one or more personal or positional factors of the teacher, it may be asked if these factors consistently have greater influence on the perception of male or female teachers. While it is true that the perceptions of neither gender of teacher are *exclusively* more heavily influenced by these other factors, a somewhat larger number of studies have found indications of one or another of such factors being more important for certain perceptions of the female teacher compared to the male teacher (Basow, 1990; Dukes and Victoria, 1989; Harris, 1975; Kaschak, 1981; Kierstead et al., 1988, Experiment 1; Kierstead et al., 1988, Experiment 2; Lombardo and Tocci, 1979) than have found indications of factors being more important for the perceptions of male teachers compared to female teachers (Basow and Distenfeld, 1985; Goebel and Cashen, 1979; Harris, 1975). The difference in number of studies (in the two sets of studies) is obviously not very great, so that not too much reliance should be placed on the differential; still, the pattern of results conceivably shows that students' preconceptions of female teachers are more susceptible to the influence of other factors than are their preconceptions of male teachers (if it can be ruled out that the studies under review did not happen to include those factors that were more likely to influence the perceptions of female teachers than male teachers). At the very least, further research on this issue seems warranted.

The possibility of another sort of pattern across studies can also be considered. In the two examples used in this section—one from Basow and Distenfeld (1985), the other from Harris (1975)—ratings seemed to be enhanced if the teacher evidenced gender-atypical attributes, assuming traditional sex-typing (the "expressive" male in the first study, "the "active" female in the second study). As Basow and Distenfeld (1985) put it in their analysis: "Expressiveness worked to the benefit of male instructors, but nonexpressiveness worked best for female instructors, perhaps because students paid differential attention to the nontraditional as opposed to sex-typed teachers" (p. 52).

But this pattern of higher ratings for the teacher with certain gender-atypical attributes—or its obverse, lower ratings for teachers with certain gender-typical attributes—does not hold across studies or even within certain studies. Thus, some studies (Kaschak, 1981; Kierstead et al., 1988, Experiments 1 and 2) found instances of ratings being enhanced only for teachers who met gender-appropriate expectations (or ratings being "depressed" for teachers who did not meet these expectations). For example, Kierstead et al. (1988, Experiment 2) found that the smiling female teacher received the most favorable overall rating and the unsmiling female teacher the least favorable rating. Other studies (Basow, 1990; Hesselbart, 1977, Study 1; Dukes and Victoria, 1989) found within them instances of enhancement of ratings by both gender-typical as well as gender-atypical attributes—results presumably determined in part by the content of particular rating scales and by whether male or female students were doing the rating. For example, Dukes and Victoria (1989) found that female

students gave the highest overall evaluations to the enthusiastic male teacher (presumably because of his gender-atypical attributes), whereas male students gave highest overall evaluation to the enthusiastic female teacher (presumably because of her gender-typical attributes). Perhaps there are certain conditions under which gender-typical attributes enhance the favorability of students' perceptions of teachers and other conditions under which gender-atypical attributes do so; what these conditions are have yet to be determined, however.

A Statistical Note

Fletcher et al. (1989) have pointed out a statistical problem with multifactor ANOVAs that bears on the studies reviewed in the present analysis. The authors begin their analysis by noting that multiple statistical tests among levels of a *single* factor in a simple ANOVA design (i.e., tests among group means) lead to errors of false rejection of the null hypothesis well above the normal alpha level. Uncontrolled testing of means leads to an unacceptably high number of findings incorrectly declared statistically significant. Different control procedures exist for this problem, one of which requires that there be an initially significant overall F test of all means before pairwise testing is permitted.

Fletcher et al. (1989) then theoretically extend the problem associated with multiple comparisons among means to multiple F tests of effects in multifactor ANOVAs (the kind of ANOVAs that have been used in the studies reviewed here). They show that the probability of one or more false rejections of the null hypothesis increases as the number of factors in the complex ANOVA design increases, and suggest, as a control procedure, not testing for the statistical significance of either main and interaction effects of a multifactor ANOVA unless the overall F ratio is statistically significant. In their analysis, the authors empirically confirm the prediction of errors of false rejection through an experiment, in which 32 percent of 100 random computer-generated three-factor ANOVAs had one or more false rejections of the usual seven F tests of the main and interaction effects (30% were expected by the formula they present), yet only 6 percent of the overall F ratios—which test all effects simultaneously—were falsely declared significant (5% were expected). The authors also describe and use the Bonferroni method, a control procedure requiring that alpha be distributed over the number of tests to be made (if seven tests are to be made, then $.05/7$ or .0071 would be the corrected alpha level); they found that this procedure produced false rejects in 11 percent of the ANOVAs.

In general, the studies summarized in the Appendix of the present analysis have not controlled for multiple F-test errors, which means that at least some of the findings in these studies claimed to be statistically significant at the .05 level or better are, in fact, not.[4] Only Harris (1975) controlled for multiple F-test errors. She not only presented the results of all multiple F tests—which

have been incorporated into the present analysis when the teacher's gender is one of the factors—but also noted which of the results are statistically significant by the Bonferonni method. Basow and Distenfeld (1985) warn the reader to be cautious in interpreting results (also see Basow, 1990), but otherwise did not institute a control procedure. The other studies reviewed here did not raise the issue. The import of all this for the present review is that any "errors" (incorrectly accepting certain effects as statistically significant) may, in part, account for some of the inconsistencies in findings across studies as well as for certain of the instances where a particular finding in one study is not confirmed in other studies (the particular finding may, in fact, be an error).

College Students' Evaluations of Their Actual Teachers

As will be documented in the second part of this two-part review, a substantial number of analyses of students' ratings of their actual college teachers (in their ongoing classes) contain information about global and specific evaluations of male and female college teachers.[5] Some of these analyses also explore possible interaction effects between these ratings and the gender of the student as well as various characteristics of the teacher. Were the results of these studies merely to duplicate the laboratory or experimental findings, a synthesis of them would show that the global evaluations of male and female college teachers typically do not differ, although in a minority of cases male teachers receive higher overall evaluations than do female teachers; that, for the most part, the ratings of the two genders on specific instructional dimensions either show no differences or inconsistent differences across studies; that male and female teachers generally do not receive different ratings from male and female students (and thus little, if any, same-gender or cross-gender bias is evidenced); that for overall evaluations of teachers as well as for their evaluations on specific instructional dimensions, any interaction effects found in a particular study between the teacher's gender and other factors are not necessarily confirmed by findings in other studies; that across overall and specific evaluations, the ratings of female teachers are somewhat more likely than the ratings of male teachers to be influenced by various factors; and, finally, that ratings of teachers are sometimes enhanced by their gender-typical attributes and behaviors and sometimes by their gender-atypical attributes and behaviors (and thus are not exclusively enhanced by either).

There is little reason, however, to expect the findings in the two settings to duplicate one another, since the realities of the two situations are very different. Thus, any predispositions of students to view male and female college teachers differently that are found in laboratory research may well be modified by students' actual experiences with their teachers in the classroom or lecture hall. By the reverse token, any differential biases that students display in actual class-

room settings toward male and female professors may not show up in laboratory settings. Comparing the results of the second part of the present review with those of this first part, then should be especially informative. Furthermore, it should be of particular interest to examine the distinctive issues and other matters that arise when research moves from the college laboratory to the college classroom.

APPENDIX

This appendix reports the results of laboratory studies that created or manipulated (through the use of photographs, descriptions, or simulations) gender differences and other differences among people said to be college teachers. In general, the various laboratory experiments analyzed their data by means of analysis of variance (ANOVA). Reported in this Appendix, for each rating scale of each study, is information about the main effect of the teacher's gender and the interaction effect between the teacher's gender and other factors that were varied experimentally and/or systematically in the research.

Statistically significant main or interaction effects according to the particular study are designated in the Appendix by a "yes," and then briefly described. A "no" signifies that the main or interaction effect was not statistically significant. In some cases, certain possible effects were not examined in the analysis or data were not given, and these occurrences have been noted. Throughout, "t" means "teacher" and "s" means "student." Entries in the Appendix have been numbered so that the findings could be collected and indexed in Table 1 in the text. Research results in Goebel and Cashen (1985) and certain ones of those in Kierstead et al. (1988) were not presented in sufficient detail to be put in the format used here. Although the results are reported in the Appendix—see Entries 208 and 437—they have not been incorporated in Table 1.

To increase the comparability of findings, the research summarized herein has been restricted to laboratory or experimental studies that gathered data from undergraduate students (or a combination of undergraduate and graduate students when the two kinds of students were not separated in the analysis) at college and universities in the United States and Canada; moreover, only studies where both male and female subjects participated and where both male and female "teachers" were part of the experimental setup have been included. Thus, excluded from consideration are studies of the following: high school students (including combined samples of high school and college students where the two groups were not separated in the analysis), even when these students were asked about their impressions of people said to be college teachers (Harris, 1976; Romano and Bordieri, 1989); students in graduate schools or postundergraduate professional schools (O'Reilly, 1988); college students who were asked to rate people said to be high school teachers (Buck and Tiene, 1989); students in colleges and universities outside the United States and Canada (Winocur, Schoen, and Sirowatka, 1989); students who were asked to rate teachers of one gender only so that the study contained no comparison group of opposite-gendered teachers (Gittes, 1987; Gittes and Veith, 1986; McCarthy and Schmeck, 1982).

Barnett and Littlepage (1979, Experiment 1): 47 male and 52 female college students at "a regional state university in the southeastern U.S." The students chose courses in a mock registration requiring a choice between a course in introduction to environmental physics or community nutrition as taught by a male or a female professor.

Overall evaluation: course/teacher chosen

1. t's gender: no
2. t's gender × s's gender: no

3. t's gender × type of course: not examined
4. t's gender × s's gender × type of course: not examined

Barnett and Littlepage (1979, Experiment 2): 26 college males and 27 college females (name of university not given). The students evaluated a male and female teacher on the basis of biographical and professional descriptions.

Overall evaluation: would like to take a course taught by the teacher

5. t's gender: no
6. t's gender × s's gender: no

Overall evaluation: competence

7. t's gender: no
8. t's gender × s's gender: no

Tolerant and understanding of student's problems

9. t's gender: no
10. t's gender × s's gender: no

Difficulty and relevance of course

11. t's gender: no
12. t's gender × s's gender: no

Basow (1990): 40 male and 40 female undergraduates, mainly first-year students, from "a private college in the northeastern United States." The students viewed a videotape of either a male or female teacher (actor or actress) giving a short lecture using either an expressive (hand and body movements, facial and vocal variations, and eye contact) or a nonexpressive manner.

Overall evaluation: overall teaching ability

13. t's gender: no
14. t's gender × s's gender: no
15. t's gender × t's expressiveness: no
16. t's gender × s's gender × t's expressiveness: no

Organization/Clarity factor score

17. t's gender: no
18. t's gender × s's gender: no
19. t's gender × t's expressiveness: no
20. t's gender × s's gender × t's expressiveness: no

Scholarship factor score

21. t's gender: no
22. t's gender × s's gender: no
23. t's gender × t's expressiveness: yes (the expressive female teacher was rated much higher in scholarship than was the expressive male teacher, whereas the nonexpressive male teacher was rated somewhat higher in scholarship than was the nonexpressive female teacher)
24. t's gender × s's gender × t's expressiveness: no

Dynamism/Enthusiasm factor score

25. t's gender: no
26. t's gender × s's gender: no
27. t's gender × t's expressiveness: no
28. t's gender × s's gender × t's expressiveness: no

Instructor-Group Interaction factor score

29. t's gender: no
30. t's gender × s's gender: no
31. t's gender × t's expressiveness: no
32. t's gender × s's gender × t's expressiveness: no

Instructor-Individual Interaction factor score

33. t's gender: no
34. t's gender × s's gender: no
35. t's gender × t's expressiveness: no
36. t's gender × s's gender × t's expressiveness: no

Instrumental/active personality traits ("masculinity" score)

37. t's gender: no
38. t's gender × s's gender: no
39. t's gender × t's expressiveness: yes (the expressive female teacher was rated higher on instrumental/active personality traits than was the expressive male teacher, whereas the nonexpressive male teacher was rated higher on these traits than was the nonexpressive female teacher)
40. t's gender × s's gender × t's expressiveness: no

Nurturant/expressive personality traits ("femininity" score)

41. t's gender: no
42. t's gender × s's gender: no
43. t's gender × t's expressiveness: no
44. t's gender × s's gender × t's expressiveness: no

Basow and Distenfeld (1985): 55 male students and 62 female students attending "a small private college in northeastern United States." The students viewed a videotape of either a male or female teacher (actor or actress) giving a short lecture using either expressive communication (hand gestures, smiles, vocal inflection, facial expressiveness, physical movement) or nonexpressive communication (no hand gestures or physical movement, and minimal vocal inflection and facial expressiveness).

Overall evaluation: total score on 18 questionnaire items about the teacher's instruction

45. t's gender: no
46. t's gender × s's gender: no
47. t's gender × t's expressiveness: no
48. t's gender × s's gender × t's expressiveness: no

Stimulate Interest factor score

49. t's gender: no
50. t's gender × s's gender: no
51. t's gender × t's expressiveness: yes (expressiveness was more important for the ratings of the male teacher than for the ratings of the female teacher; the expressive male teacher was rated as the most stimulating teacher whereas the nonexpressive male teacher was rated as the least stimulating teacher)
52. t's gender × s's gender × t's expressiveness: no

Organization factor score

53. t's gender: no
54. t's gender × s's gender: no
55. t's gender × t's expressiveness: yes (expressiveness was more important for the ratings of the male teacher than for the ratings of the female teacher; the expressive male teacher was rated as the most organized teacher whereas the nonexpressive male teacher was rated as the least organized teacher)
56. t's gender × s's gender × t's expressiveness: no

Knowledge factor score

57. t's gender: no
58. t's gender × s's gender: no
59. t's gender × t's expressiveness: no
60. t's gender × s's gender × t's expressiveness: no

Rapport factor score

61. t's gender: no
62. t's gender × s's gender: no
63. t's gender × t's expressiveness: no
64. t's gender × s's gender × t's expressiveness: no

Student Orientation factor score

65. t's gender: no
66. t's gender × s's gender: no
67. t's gender × t's expressiveness: no
68. t's gender × s's gender × t's expressiveness: no

Traits

69. As a manipulation check, the male and female teachers were compared on their ratings by students on eight traits. The female teacher was rated as lower on (a) seriousness than the male teacher, but higher on (b) expressiveness, (c) enthusiasm, (d) warmth, (e) personableness, (f) interestingness, (g) attractiveness, and (h) preparedness. Interaction effects with s's gender and t's expressiveness were not examined by the researchers.

Basow and Howe (1987): 713 students at a "small private college in northeastern USA." The students evaluated one of eight written profiles of a college professor that differed

by the teacher's gender and "sex-type," the latter being: neutral/control (factual data only); affective (factual data plus information that the teacher was a concerned and likable person); instrumental (factual data plus information that the teacher was a powerful person who was effective in his or her work); and androgynous (factual data plus information that the teacher was concerned, likable, powerful, and effective).

Overall evaluation

70. t's gender: no
71. t's gender × s's gender: no
72. t's gender × t's sex-type: no
73. t's gender × instructor's/experimenter's gender: no
74. t's gender × s's gender × t's sex-type: no
75. t's gender × s's gender × instructor's/experimenter's gender: no
76. t's gender × t's sex-type × instructor's/experimenter's gender: no
77. t's gender × s's gender × t's sex-type × instructor's/experimenter's gender: no

Overall evaluation: willingness to take course with the teacher

78. t's gender: no
79. t's gender × s's gender: no
80. t's gender × t's sex-type: no
81. t's gender × instructor's/experimenter's gender: no
82. t's gender × s's gender × t's sex-type: no
83. t's gender × s's gender × instructor's/experimenter's gender: no
84. t's gender × t's sex-type × instructor's/experimenter's gender: no
85. t's gender × s's gender × t's sex-type × instructor's/experimenter's gender: no

Overall evaluation: recommend teacher for rehiring

86. t's gender: no
87. t's gender × s's gender: no
88. t's gender × t's sex-type: no
89. t's gender × instructor's/experimenter's gender: no
90. t's gender × s's gender × t's sex-type: no
91. t's gender × s's gender × instructor's/experimenter's gender: no
92. t's gender × t's sex-type × instructor's/experimenter's gender: no
93. t's gender × s's gender × t's sex-type × instructor's/experimenter's gender: no

Overall evaluation: recommend awarding teacher tenure in another three years

94. t's gender: no
95. t's gender × s's gender: no
96. t's gender × t's sex-type: no
97. t's gender × instructor's/experimenter's gender: no
98. t's gender × s's gender × t's sex-type: no
99. t's gender × s's gender × instructor's/experimenter's gender: no

100. t's gender × t's sex-type × instructor's/experimenter's gender: no
101. t's gender × s's gender × t's sex-type × instructor's/experimenter's gender: no

Active and instrumental

102. t's gender: yes (the female teacher was rated more active and instrumental than was the male teacher)

Note: Data for this scale were used as a manipulation check for the sex-type variable; interaction effects of t's gender and the other independent variables of the study were not examined by the researchers.

Warm and expressive

103. t's gender: yes (the female teacher was rated warmer and more expressive than was the male teacher)

Note: Data for this scale were used as a manipulation check for the sex-type variable; interaction effects of t's gender and the other independent variables of the study were not examined by the researchers.

Willingness to discuss career plans with the teacher

104. t's gender: no
105. t's gender × s's gender: no
106. t's gender × t's sex-type: no
107. t's gender × instructor's/experimenter's gender: no
108. t's gender × s's gender × t's sex-type: no
109. t's gender × s's gender × instructor's/experimenter's gender: no
110. t's gender × t's sex-type × instructor's/experimenter's gender: no
111. t's gender × s's gender × t's sex-type × instructor's/experimenter's gender: no

Willingness to discuss personal concerns with the teacher

112. t's gender: no
113. t's gender × s's gender: no
114. t's gender × t's sex-type: no
115. t's gender × instructor's/experimenter's gender: no
116. t's gender × s's gender × t's sex-type: no
117. t's gender × s's gender × instructor's/experimenter's gender: no
118. t's gender × t's sex-type × instructor's/experimenter's gender: no
119. t's gender × s's gender × t's sex-type × instructor's/experimenters gender: no

Dukes and Victoria (1989): 144 male and female undergraduates in four sociology and two political science classes (name of university not given). The students rated four teachers, each of whom was either a male or female teacher of differing statuses (either a department chairperson or not labeled as such) who was described in a scenario as either knowledgeable or nonknowledgeable, enthusiastic or unenthusiastic, having or not having rapport with students, and organized or unorganized.

Overall evaluation of the teacher: effectiveness of the teacher

Scenarios differing on the teacher's organization

120. t's gender: no
121. t's gender × s's gender: no
122. t's gender × t's organization: no
123. t's gender × t's status: yes (female teachers were rated higher than were male teachers in effectiveness when they were not chairs; among department chairs, male teachers were rated higher than were female teachers, but only slightly so)
124. t's gender × s's gender × t's organization: no
125. t's gender × s's gender × t's status: no
126. t's gender × t's organization × t's status: no
127. t's gender × s's gender × t's organization × t's status: no

Scenarios differing on the teacher knowledgeability

128. t's gender: no
129. t's gender × s's gender: no
130. t's gender × t's knowledgeability: no
131. t's gender × t's status: no
132. t's gender × s's gender × t's knowledgeability: no
133. t's gender × s's gender × t's status: no
134. t's gender × t's knowledgeability × t's status: no
135. t's gender × s's gender × t's knowledgeability × t's status: no

Scenarios differing on the teacher's enthusiasm

136. t's gender: no
137. t's gender × s's gender: no
138. t's gender × t's enthusiasm: no
139. t's gender × t's status: no
140. t's gender × s's gender × t's enthusiasm: yes (for enthusiastic teachers, but not for nonenthusiastic ones, male students rated female teachers higher in effectiveness than they did male teachers, whereas female students rated male teachers higher in effectiveness than they did female teachers).
141. t's gender × s's gender × t's status: no
142. t's gender × t's enthusiasm × t's status: no
143. t's gender × s's gender × t's enthusiasm × t's status: no

Scenarios differing on the teacher's rapport

144. t's gender: no
145. t's gender × s's gender: no
146. t's gender × t's rapport: no
147. t's gender × t's status: no
148. t's gender × s's gender × t's rapport: no
149. t's gender × s's gender × t's status: no
150. t's gender × t's rapport × t's status: no
151. t's gender × s's gender × t's rapport × t's status: no

Goebel and Cashen (1979): 10 freshman male and 10 freshman female students from a general psychology class (name of university not given). The students viewed 12 black-and-white slides of male and female "teachers" varying in age (young, middle-aged, or old) and physical attractiveness (attractive or unattractive). No other information concerning the pictured teachers was given to the students.

Overall evaluation ("The person would be a good teacher")

152. t's gender: no
153. t's gender × s's gender: not examined
154. t's gender × t's age: no
155. t's gender × t's attractiveness: no
156. t's gender × s's gender × t's age: not examined
157. t's gender × s's gender × t's attractiveness: not examined
158. t's gender × t's age × t's attractiveness: yes (the middle-aged attractive male teacher was rated particularly high on overall evaluation while the middle-aged unattractive male teacher was rated particularly low)
159. t's gender × s's gender × t's age × t's attractiveness: not examined

Skill ("The teacher explains things so that students can understand them")

160. t's gender: no
161. t's gender × s's gender: not examined
162. t's gender × t's age: no
163. t's gender × t's attractiveness: no
164. t's gender × s's gender × t's age: not examined
165. t's gender × s's gender × t's attractiveness: not examined
166. t's gender × t's age × t's attractiveness: yes (the middle-aged attractive male teacher was rated particularly high on explanatory skills whereas the middle-aged unattractive male teacher was rated particularly low)
167. t's gender × s's gender × t's age × t's attractiveness: not examined

Structure ("The teacher has things well organized")

168. t's gender: no
169. t's gender × s's gender: not examined
170. t's gender × t's age: yes (if young or old, the male teacher was considered better organized than was the female teacher; if middle-aged, the female teacher was considered better organized than was the male teacher)
171. t's gender × t's attractiveness: yes (the attractive male teacher was considered much better organized than the unattractive male teacher, whereas the attractive female teacher was considered a little better organized than the unattractive female teacher)
172. t's gender × s's gender × t's age: not examined
173. t's gender × s's gender × t's attractiveness: not examined
174. t's gender × t's age × t's attractiveness: yes (the old unattractive male teacher was rated particularly high on organization, whereas both the young and middle-aged unattractive male teachers were rated particularly low on organization)

175. t's gender × s's gender × t's age × t's attractiveness: not examined

Evaluation ("This teacher expects students to do good work")

176. t's gender: no
177. t's gender × s's gender: not examined
178. t's gender × t's age: yes (the young male teacher and the old male teacher were seen as having somewhat higher expectations for students to do good work than were the young female teacher and the old female teacher, respectively, whereas the middle-aged female teacher was seen as having somewhat higher expectations than was the middle-aged male teacher)
179. t's gender × t's attractiveness: no
180. t's gender × s's gender × t's age: not examined
181. t's gender × s's gender × t's attractiveness: not examined
182. t's gender × t's age × t's attractiveness: yes (the old unattractive male teacher was rated less positively on expecting good work for students than were the young unattractive male teacher and the middle-aged unattractive male teacher)
183. s's gender × t's age × t's attractiveness: not examined

Overload ("The teacher gives students too much work to do")

184. t's gender: no
185. t's gender × s's gender: not examined
186. t's gender × t's age: yes (the old male teacher was rated less positively than were the young male teacher and the middle-aged male teacher on workload)
187. t's gender and t's attractiveness: no
188. t's gender and t's age: not examined
189. t's gender and s's gender × t's attractiveness: not examined
190. t's gender × t's age × t's attractiveness: no
191. t's gender × s's gender × t's age × t's attractiveness: not examined

Interaction ("The teacher encourages students to ask questions and give their own ideas")

192. t's gender: no
193. t's gender × s's gender: not examined
194. t's gender × t's age: yes (the old male teacher was rated less positively than were the young male teacher and the middle-aged male teacher on encouraging interaction)
195. t's gender × t's attractiveness: no
196. t's gender × s's gender × t's age: not examined
197. t's gender × s's gender × t's attractiveness: not examined
198. t's gender × t's age × t's attractiveness: no
199. t's gender × s's gender × t's age × t's attractiveness: not examined

Rapport ("The teacher is friendly to students")

200. t's gender: no
201. t's gender × s's gender: not examined

202. t's gender × t's age: yes (the old male teacher was rated less positively than were the young male teacher and the middle-aged male teacher on friendliness)
203. t's gender × t's attractiveness: no
204. t's gender × s's gender × t's age: not examined
205. t's gender × s's gender × t's attractiveness: not examined
206. t's gender × t's age × t's attractiveness: no
207. t's gender × s's gender × t's age × t's attractiveness: not examined

Goebel and Cashen (1985): 168 students enrolled in introductory courses at "a large midwestern university." Students were shown photographs of teachers, controlled for age (young, middle-aged, old), gender, and attractiveness (attractive, unattractive) under three information conditions: (1) no information given about the teacher; (2) information given that the teacher had personal characteristics (nonprofessional) fitting the stereotype of old age; and (3) counterage-stereotyped information about the teacher.

208. Note: Results given in the article are not sufficient in detail to put in the format used in the present Appendix. In general, the researchers found that for younger and more attractive teachers, age-stereotyped information impaired and counterstereotyped information failed to improve overall ratings and ratings on explaining (communicating) clearly, encouraging student participation in class, and rapport; however, for older and more unattractive teachers, counterstereotyped information improved and age-stereotyped information failed to impair these ratings. An interesting gender difference was found: Ratings for the young, unattractive female teacher followed the pattern for those of older, less attractive teachers in contrast to ratings of the young, unattractive male teacher, which followed the pattern for those of young, more attractive teachers. Ratings on the teacher's organization, expectations of high-quality work from students, and work overload were minimally affected by information concerning teachers' personal characteristics.

Harris (1975): 70 male and 80 female students enrolled in one of four sections of introductory psychology, or in a section of social psychology (name of university not given). The students rated either a male or female teacher of engineering or nursing who was described as using either an "active" and "directive" model of teaching (described with such stereotypically "masculine" characteristics as self-confident, independent, objective, logical, aggressive, active) or a "passive" and "facilitating" mode of teaching (described with such stereotypically "feminine" characteristics as sensitive, aware, gentle, tactful, passive).

Overall evaluation: evaluation of overall teaching performance

209. t's gender: no
210. t's gender × s's gender: no
211. t's gender × t's mode of teaching: no
212. t's gender × t's department: no
213. t's gender × s's gender × t's mode of teaching: no
214. t's gender × s's gender × t's department: no
215. t's gender × t's mode of teaching × t's department: no
216. t's gender × s's gender × t's mode of teaching × t's department: no

Overall evaluation: would like to take a course from the teacher

217. t's gender: no
218. t's gender × s's gender: no
219. t's gender × t's mode of teaching: no
220. t's gender × t's department: no
221. t's gender × s's gender × t's mode of teaching: no
222. t's gender × s's gender × t's department: no
223. t's gender × t's mode of teaching × t's department: no
224. t's gender × s's gender × t's mode of teaching × t's department: no

Overall evaluation: would give the teacher tenure

225. t's gender: no
226. t's gender × s's gender: no
227. t's gender × t's mode of teaching: no
228. s's gender t's department: no
229. t's gender × s's gender × t's mode of teaching: no
230. t's gender × s's gender × t's department: no
231. t's gender × t's mode of teaching × t's department: no
232. t's gender × s's gender × t's mode of teaching × t's department: no

Overall evaluation: Competent/not competent

233. t's gender: no
234. t's gender × s's gender: no
235. t's gender × t's mode of teaching: no
236. t's gender × t's department: no
237. t's gender × s's gender × t's mode of teaching: no
238. t's gender × s's gender × t's department: no
239. t's gender × t's mode of teaching × t's department: no
240. t's gender × s's gender × t's mode of teaching × t's department: no

Intelligent/not intelligent

241. t's gender: no
242. t's gender × s's gender: no
243. t's gender × t's mode of teaching: no
244. t's gender × t's department: no
245. t's gender × s's gender × t's mode of teaching: no
246. t's gender × s's gender × t's department: no
247. t's gender × t's mode of teaching × t's department: no
248. t's gender × s's gender × t's mode of teaching × t's department: no

Hard-working/not hard-working

249. t's gender: no
250. t's gender × s's gender: no
251. t's gender × t's mode of teaching: yes (the female teacher using an "active" ("masculine") mode of teaching was rated the hardest-working of the teachers whereas the female teacher using a "passive" ("feminine") mode of teaching

was rated the least hard-working, with the male teacher being rated as working only somewhat harder if he used the "active" mode rather than the "passive" mode)

252. t's gender × t's department: no
253. t's gender × s's gender × t's mode of teaching: yes (direction and specifics of results not given)
254. t's gender × s's gender × t's department: no
255. t's gender × t's mode of teaching × t's department: no
256. t's gender × s's gender × t's mode of teaching × t's department: no

Warm/cold

257. t's gender: no
258. t's gender × s's gender: no
259. t's gender × t's mode of teaching: no
260. t's gender × t's department: no
261. t's gender × s's gender × t's mode of teaching: no
262. t's gender × s's gender × t's department: no
263. t's gender × t's mode of teaching × t's department: no
264. t's gender × s's gender × t's mode of teaching × t's department: no

Masculine/feminine

265. t's gender: yes (the male teacher was rated as more masculine)
266. t's gender × s's gender: yes (the male students rated the female teacher as more masculine and the male teacher as more feminine than did the female students)
267. t's gender × t's mode of teaching: yes (the effect of teaching style was greater for the female teacher than for the male teacher; the female teacher was rated as far more feminine when using the "passive" ("feminine") mode of teaching, whereas the male teacher was rated as only slightly more feminine when using this mode of teaching)
268. t's gender × t's department: yes (the male teacher was viewed as far more masculine if he was in the department of engineering rather than nursing, but the female teacher was viewed as only slightly more feminine in the department of engineering)
269. t's gender × s's gender × t's mode of teaching: no
270. t's gender × s's gender × t's department: no
271. t's gender × t's mode of teaching × t's department: no
272. t's gender × s's gender × t's mode of teaching × t's department: no

Hesselbart (1977, Study 1): 224 college students from north Florida in introductory physics, chemistry, English, sociology, and anthropology classes (name of university not given). The students rated a very competent male or female junior college teacher who was labeled as either a science teacher or a humanities teacher.

Overall evaluation: would like to take a course from the teacher

273. t's gender: no
274. t's gender × s's gender: no

275. t's gender × t's academic field: no
276. t's gender × s's gender × t's academic field: no

Attractiveness of the teacher

277. t's gender: yes (the female teacher was rated as more attractive than was the male teacher)
278. t's gender × s's gender: no
279. t's gender × t's academic field: no
280. t's gender × s's gender × t's academic field: no

How interesting the teacher is

281. t's gender: no
282. t's gender × s's gender: yes (the highest ratings on this scale were given by female students to the male teacher, followed by the male students to the female teacher)
283. t's gender × t's academic field: no
284. t's gender × s's gender × t's academic field: yes (the female students considered the female science teacher the least interesting teacher, whereas the male students considered the male science teacher and the female humanities teacher the least interesting teachers)

Would like to meet the teacher

285. t's gender: no
286. t's gender × s's gender: yes (the male students wanted to meet the female teacher more than they did the male teacher, whereas the female students wanted to meet the male teacher more than they did the female teacher)
287. t's gender × t's academic field: no
288. t's gender × s's gender × t's academic field: yes (the female students wanted to meet the female science teacher least of all teachers, while the male students wanted to meet the female teachers more than the male teachers regardless of the teacher's academic field)

Interest in research rather than teaching

289. t's gender: no
290. t's gender × s's gender: no
291. t's gender × t's academic field: no
292. t's gender × s's gender × t's academic field: no

Scholastic ability

293. t's gender: no
294. t's gender × s's gender: no
295. t's gender × t's academic field: no
296. t's gender × s's gender × t's academic field: no

Conscientiousness

297. t's gender: no
298. t's gender × s's gender: no

299. t's gender × t's academic field: no
300. t's gender × s's gender × t's academic field: no

Logical

301. s's gender: no
302. t's gender × s's gender: no
303. t's gender × t's academic field: yes (the students rated the male humanities teacher as more logical than they did the female humanities teacher, whereas the students rated the female science teacher as more logical then they did the male science teacher)
304. t's gender × s's gender × t's academic field: yes (the male students in particular saw the male humanities teacher as more logical than they did the female humanities teacher; there was little difference in the female students' ratings of the male teacher of humanities and the female teacher of humanities)

Self-assured

305. t's gender: no
306. t's gender × s's gender: no
307. t's gender × t's academic field: no
308. t's gender × s's gender × t's academic field: yes (the female students rated the male science teacher as more self-assured than they did the female science teacher but rated the female humanities teacher as more self-assured than they did the male humanities teacher, whereas the male students rated the male and female science teachers as more self-assured than they did either the male or female humanities teacher)

Enthusiastic

309. t's gender: no
310. t's gender × s's gender: yes (the female students rated the female teacher as more enthusiastic than the male teacher, whereas the male students rated the female and male teachers as equally enthusiastic)
311. t's gender × t's academic field: no
312. t's gender × s's gender × t's academic field: no

Innovative

313. t's gender: no
314. t's gender × s's gender: no
315. t's gender × t's academic field: no
316. t's gender × s's gender × t's academic field: no

Friendly

317. t's gender: no
318. t's gender × s's gender: no
319. t's gender × t's academic field: no
320. t's gender × s's gender × t's academic field: no

Attentive

321. t's gender: no
322. t's gender × s's gender: no
323. t's gender × t's academic field: no
324. t's gender × s's gender × t's academic field: no

Hesselbart (1977, Study 2): 81 Florida State University students. The students rated either a male or female junior college teacher of unknown competence who was labeled as either a science teacher or a humanities teacher.

Overall evaluation: would like to take a course with the teacher

325. t's gender: no
326. t's gender × s's gender: no
327. t's gender × t's academic field: no
328. t's gender × s's gender × t's academic field: data not given

Attractiveness of the teacher

329. t's gender: no
330. t's gender × s's gender: no
331. t's gender × t's academic field: no
332. t's gender × s's gender × t's academic field: data not given

How interesting the teacher is

333. t's gender: yes (the female teacher was rated as more interesting than was the male teacher)
334. t's gender × s's gender: no
335. t's gender × t's academic field: no
336. t's gender × s's gender × t's academic field: data not given

Would like to meet the teacher

337. t's gender: yes (the students wanted to meet the female teacher more than they did the male teacher)
338. t's gender × s's gender: no
339. t's gender × t's academic field: no
340. t's gender × s's gender × t's academic field: data not given

Interest in research rather than teaching

341. t's gender: no
342. t's gender × s's gender: no
343. t's gender × t's academic field: no
344. t's gender × s's gender × t's academic field: data not given

Scholastic ability

345. t's gender: no
346. t's gender × s's gender: no

347. t's gender × t's academic field: no
348. t's gender s's gender × t's academic field: data not given

Conscientiousness

349. t's gender: yes (the female teacher was rated as more conscientious than was the male teacher)
350. t's gender × s's gender: no
351. t's gender × t's academic field: no
352. t's gender × s's gender × t's academic field: data not given

Logical

353. t's gender: no
354. t's gender × s's gender: no
355. t's gender × t's academic field: no
356. t's gender × s's gender × t's academic field: data not given

Self-assured

357. t's gender: no
358. t's gender × s's gender: no
359. t's gender × t's academic field: no
360. t's gender × s's gender × t's academic field: data not given

Enthusiastic

361. t's gender: no
362. t's gender × s's gender: no
363. t's gender × t's academic field: no
364. t's gender × s's gender × t's academic field: data not given

Innovative

365. t's gender: yes (the female teacher was rated as more innovative than was the male teacher)
366. t's gender × s's gender: no
367. t's gender × t's academic field: no
368. t's gender × s's gender × t's academic field: data not given

Friendly

369. t's gender: no
370. t's gender × s's gender: no
371. t's gender × t's academic field: no
372. t's gender × s's gender × t's academic field: data not given

Attentive

373. t's gender: no
374. t's gender × s's gender: no
375. t's gender × t's academic field: no
376. t's gender × s's gender × t's academic field: data not given

Kaschak (1978): 50 male and 50 female seniors and first-year graduate students at San Jose State University. The students completed a rating form entitled Philosophy of Education, which described the teaching methods and practices of three male and three female professors, two in traditionally male fields (business administration and chemistry), two in traditionally female fields (home economics and elementary education), and two in relatively nongender-linked fields (psychology and history).

Overall evaluation: excellent/poor

377. t's gender: yes (the male teachers were rated higher than were the female teachers on this scale)
378. t's gender × s's gender: yes (the male students assigned higher ratings on this scale to the male teachers than they did to the female teachers, whereas the female students rated the male and female teachers equally on this scale)
379. t's gender × t's field: no
380. t's gender × s's gender × t's field: no

Overall evaluation: would definitely/would definitely not take a course from the instructor

381. t's gender: yes (the male teachers were rated higher than were the female teachers on this scale)
382. t's gender × s's gender: yes (the female students rated the female teachers higher on this scale than they did the male teachers, whereas the male students rated the male teachers higher on this scale than they did the the female teachers)
383. t's gender × t's field: no
384. t's gender × s's gender × t's field: no

Overall evaluation: effective/ineffective

385. t's gender: yes (the male teachers were rated higher than were the female teachers on this scale)
386. t's gender × s's gender: yes (the male students rated the male teachers as more effective than they did the female teachers, whereas the female students rated the male teachers and the female teachers as equally effective)
387. t's gender × t's field: no
388. t's gender × s's gender × t's field: no

Powerful/powerless

389. t's gender: yes (the male teachers were seen as more powerful than was the female teacher)
390. t's gender × s's gender: no
391. t's gender × t's field: no
392. t's gender × s's gender × t's field: no

Concerned/unconcerned

393. t's gender: yes (the male teachers were rated higher than were the female teachers on this scale)

394. t's gender × s's gender: yes (the male students rated the male teachers as more concerned than they did the female teachers, whereas the female students rated the male teachers and the female teachers as equally concerned)
395. t's gender × t's field: no
396. t's gender × s's gender × t's field: no

Likable/unlikable

397. t's gender: yes (the male teachers were rated as more likable than were the female teachers)
398. t's gender × s's gender: yes (the male students rated the male teachers as more likable than they did the female teachers, whereas the female students rated the male teachers and the female teachers as equally likable)
399. t's gender × t's field: no
400. t's gender × s's gender × t's field: no

Kaschak (1981): 40 male and 40 female undergraduates and first-year graduate students at San Jose State University. As in Kaschak (1978), the students completed a rating form entitled Philosophy of Education, which described the teaching methods and practices of three male and three female professors, two in traditionally male fields (business administration and chemistry), two in traditionally female fields (home economics and elementary education), and two in relatively nongender-linked fields (psychology and history). Unlike in Kaschak (1978), the professors were presented as the previous year's winners of the "Professor of the Year Award" for excellence in teaching, as based (allegedly) on a majority vote of the students at the university.

Overall evaluation: excellent/poor

401. t's gender: no
402. t's gender × s's gender: no
403. t's gender × t's field: no
404. t's gender × s's gender × t's field: no

Overall evaluation: would/would not take course

405. t's gender: no
406. t's gender × s's gender: no
407. t's gender × t's field: no
408. t's gender × s's gender × t's field: no

Overall evaluation: effective/ineffective

409. t's gender: yes (the male teachers were seen as more powerful than were the female teachers)
410. t's gender × s's gender: no
411. t's gender × t's field: no
412. t's gender × s's gender × t's field: no

Powerful/powerless

413. t's gender: yes (the male teachers were seen as more effective than were the female teachers)

414. t's gender × s's gender: no
415. t's gender × t's field: no
416. t's gender × s's gender × t's field: no

Concerned/unconcerned

417. t's gender: no
418. t's gender × s's gender: no
419. t's gender × t's field: yes (students rated teachers of elementary education and home economics more highly on this scale than they did the teachers of the other fields, and even more highly when the teachers in these two fields were women rather than men)
420. t's gender × s's gender × t's field: no

Likable/nonlikable

421. t's gender: no
422. t's gender × s's gender: no
423. t's gender × t's field: yes (while the teachers in the field of elementary education were rated as more likable than were the teachers in other fields, the female teachers in this field were considered even more likable than were the male teachers)
424. t's gender × s's gender × t's field: no

Kierstead, D'Agostino, and Dill (1988, Experiment 1): 20 male and 20 female college students (name of university not given). The students read a description of course-related factors for either a male or female teacher who either had or did not have out-of-class contact and socializing with students.

Overall evaluation: evaluation of the teacher using one of six possible adjectives ranging from outstanding to poor

425. t's gender: yes (the male teacher was rated more favorably than was the female teacher)
426. t's gender × s's gender: no
427. t's gender × t's outside-of-class social contact with students: yes (for the male teacher, social contact made almost no difference in rating; the female teacher with social contact was rated similar to the male teacher, but the female teacher who did not socialize received relatively unfavorable ratings)
428. t's gender × s's gender × t's outside-of-class social contact with students: no

Kierstead, D'Agostino, and Dill (1988, Experiment 2): 20 male and 20 female college students (name of university not given). Students watched a slide tape presentation of a lecture on the anatomy of the eye given by either a male or a female teacher either smiling or not smiling

Overall evaluation (evaluation of the teacher using one of six possible adjectives ranging from outstanding to poor)

429. t's gender: yes (the male teacher received the more favorable rating)

430. t's gender × s's gender: no
431. t's gender × t's smiling: yes (the smiling female teacher was rated much more favorably than was the unsmiling female teacher, whereas the unsmiling male teacher was rated somewhat more favorably than was the smiling male teacher)
432. t's gender × s's gender × t's smiling: no

Overall evaluation: would take a course with the teacher

433. t's gender: yes (more students would take a course with the male teacher than with the female teacher
434. t's gender × s's gender: no
435. t's gender × t's smiling: yes (the students were least likely to want to take a course with the unsmiling female teacher)
436. t's gender × s's gender × t's smiling: no

437. Note: The researchers also asked subjects to list a few adjectives that described the instructors. These adjectives were also found to vary with the smile factor, although results are not given in sufficient detail to put in the format used in the present Appendix. The researchers found that although the unsmiling male instructor was described with adjectives such as "unexciting" and "unenthusiastic," he was still viewed as very knowledgeable and professional. The smiling male teacher was also considered to be knowledgeable and well informed as well as cheerful and happy. The smiling female teacher was described with adjectives such as "happy," but she received fewer adjectives than did the male teacher referring to her intellectuality. The unsmiling female teacher appeared to make little impression as to her knowledge, but she did strike students as being unfriendly, humorless, dry, and monotonous.

Lombardo and Tocci (1979): 60 male and 60 female undergraduate students in introductory psychology (name of university not given). The students were shown a photograph (and given a short description) of either a male or female teacher who was either physically attractive or unattractive.

Overall evaluation: rating on overall teaching performance of the teacher

438. t's gender: yes (the study implies that the male teacher was rated higher on overall performance than was the female teacher)
439. t's gender × s's gender: no
440. t's gender × t's attractiveness: no
441. t's gender × s's gender × t's attractiveness: no

Overall evaluation: would like to take a course from the teacher

442. t's gender: yes (the students preferred to take a course from the male teacher)
443. t's gender × s's gender: no
444. t's gender × s's attractiveness: yes (specifics of interaction not given in the study)
445. t's gender × s's gender × t's attractiveness: no

Overall evaluation: competent/not competent

446. t's gender: yes (the male teacher was seen as more competent than the female teacher)
447. t's gender × s's gender: no
448. t's gender × t's attractiveness: no
449. t's gender × s's gender × t's attractiveness: yes (the male students rated the male teacher as more competent than they did the female teacher and they rated the attractive female teacher as more competent than they did the unattractive female teacher, whereas the female students rated the attractive and unattractive male and female teachers as equally competent)

Good communication/poor communication

450. t's gender: no
451. t's gender × s's gender: no
452. t's gender × t's attractiveness: no
453. t's gender × s's gender × t's attractiveness: no

Knowledge of subject matter

454. t's gender: no
455. t's gender × s's gender: no
456. t's gender × t's attractiveness: no
457. t's gender × s's gender × t's attractiveness: no

Intelligence

458. t's gender: no
459. t's gender × s's gender: no
460. t's gender × t's attractiveness: no
461. t's gender × s's gender × t's attractiveness: no

Hard-working/not hard-working

462. t's gender: no
463. t's gender × s's gender: no
464. t's gender × t's attractiveness: no
465. t's gender × s's gender × t's attractiveness: no

Sensitive/insensitive

466. t's gender: no
467. t's gender × s's gender: no
468. t's gender × t's attractiveness: no
469. t's gender × s's gender × t's attractiveness: no

Cold/warm

470. t's gender: no
471. t's gender × s's gender: no
472. t's gender × t's attractiveness: no
473. t's gender × s's gender × t's attractiveness: no

Masculine/feminine

474. t's gender: yes (the female teacher was seen as more feminine than was the male teacher)
475. t's gender × s's gender: no
476. t's gender × t's attractiveness: yes (the attractive female teacher was thought to be more feminine than was the unattractive female teacher)
477. t's gender × s's gender × t's attractiveness: no

Tamborini and Zillman (1981): 50 male and 50 female undergraduates from an introductory course in telecommunications (name of the university not given). The students listened to a taped lecture of either a male or a female teacher who displayed either no humor, sexual humor, other-disparaging humor, or self-disparaging humor.

Intelligence factor score

478. t's gender: no
479. t's gender × s's gender: no
480. t's gender × t's humor: no
481. t's gender × s's gender × t's humor: no

Appeal factor score

482. t's gender: yes (direction of results not given)
483. t's gender × s's gender: no
484. t's gender × t's humor: no
485. t's gender × s's gender × t's humor: yes (when the teacher used self-disparaging humor, the teachers appeal was greatest when the teacher and the student were of the same gender, whereas when the teacher used sexual humor, the teacher's appeal was greatest when the teacher and the student were of opposite genders)

NOTES

1. See Feldman 1976a, 1976b, 1977, 1978, 1979, 1983, 1984, 1986, 1987, 1988, 1989a, 1989b, 1990).
2. Harris (1975) characterized the first style of teaching as "masculine" because the protocols given to student subjects relied heavily on adjectives described as stereotypically masculine by Broverman et al. (1972). Thus, the teacher was described as very self-confident and independent as he or she lectured, objective and logical in presenting material, aggressive and dynamic—a teacher who saw his or her role as active and directive rather than passive and facilitating. By contrast, the second style of teaching, characterized by Harris (1975) as "feminine," relied heavily on adjectives described as stereotypically feminine by Broverman et al. (1972). Among other things, the teacher was described as very sensitive to his or her students' feelings at all times and very aware of what students wanted to express, gentle and tactful as a person—a teacher who saw his or her role as passive and facilitating rather than active and directing. That the first rather than the second style of teaching produced more positive ratings from student subjects—quite apart from the labels of "masculine" or "feminine" (which were terms used in Harris's interpretation of results but not terms used in the protocols given to students)—is hardly surpris-

ing, given the instructional dimensions that have been found to be important to good teaching, both in the eyes of students and faculty as well as in actual learning and cognitive achievement by students (see Feldman, 1976, 1987, 1989b).

3. In student evaluations of actual teachers in ongoing classes, the parallel item to this last question is whether the student would like to take another course with the teacher.
4. According to Fletcher et al. (1989), the probability of one or more false rejections of the 7 *F* tests in a three-factor ANOVA is approximately 30 in 100; the number of one or more false rejections of the 15 *F* tests in a four-factor ANOVA is nearly 54 in 100. Recall that not all main and interaction effects in the multifactor ANOVAs in studies reviewed here have been represented in the Appendix, but only those that contain the teacher's gender as one of the factors. Thus, if any of these studies do have one or more errors of false rejections (and thus incorrectly accept certain findings as statistically significant), some of these errors may be in results not present in the Appendix.
5. The second part of the present review, which is currently in preparation, is tentatively entitled "College Students' Views of Male and Female College Teachers. Part II. Evidence from Students' Evaluations of Their Classroom Teachers."

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