Psychological Bulletin
1992, Vol. 111, No. 2, 304-341

0033-2909/92/$3.00

Good-Looking People Are Not What We Think

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Meta-analysis was used to examine findings in 2 related areas: experimental research on the physical attractiveness stereotype and correlational studies of characteristics associated with physical attractiveness. The experimental literature found that physically attractive people were perceived as more sociable, dominant, sexually warm, mentally healthy, intelligent, and socially skilled than physically unattractive people. Yet, the correlational literature indicated generally trivial relationships between physical attractiveness and measures of personality and mental ability, although good-looking people were less lonely, less socially anxious, more popular, more socially skilled, and more sexually experienced than unattractive people. Self-ratings of physical attractiveness were positively correlated with a wider range of attributes than was actual physical attractiveness.

Do good-looking people differ from unattractive people and, if so, why? Now consider self-perceptions of physical attractiveness. Do people who view themselves as physically appealing different from their counterparts who hold modest opinions of their own physical appearance and, if so, why? This article examines and integrates theories and empirical findings from the physical attractiveness literature to address these interesting questions.

Conceptualization and Measurement of Attractiveness

What is physical attractiveness? Social scientists, like laymen, believe that beauty is defined by social consensus (Berscheid & Walster, 1974; Hatfield & Sprecher, 1986). Accordingly, researchers measure physical attractiveness by use of judges, with each judge asked to provide an independent rating of the physical attractiveness of each subject, a procedure strikingly similar to the notorious 1-to-10 attractiveness-rating scale often used in the "real world" when people first observe strangers of the opposite sex. These assessments are then averaged over judges by subject to yield physical attractiveness ratings (e.g., Walster, Aronson, Abrahams, & Rottmann, 1966). Since the mid-1960s, scores of studies have correlated such pooled physical attractiveness judgments (sometimes called *objective physical attractiveness*) with other characteristics, including personality traits, cognitive ability, popularity, social skills, and sexual experience (see reviews by Bull & Rumsey, 1988; Cash, 1981; Hatfield & Sprecher, 1986; Patzer, 1985).

When the importance of physical attractiveness was becoming recognized by scholars in the early 1970s, researchers became interested in the degree to which people could appraise their level of physical attractiveness and about the relationships of such self-judgments to social behavior and personality. Self-concept of physical attractiveness (termed *self-rated physical attractiveness* or *subjective physical attractiveness*[1]) was measured by requesting subjects to rate themselves on the same kinds of scales used by judges to quantify objective physical attractiveness (e.g., Murstein, 1972). Self-ratings of physical attractiveness have also been correlated with affective, cognitive, and social measures (e.g., Cash, Cash, & Butters, 1983; Lerner & Karabenick, 1974; Major, Carrington, & Carnevale, 1984). It has long been known that the relationship between judge-rated physical attractiveness and self-rated physical attractiveness is small (Berscheid & Walster, 1974), with a recent meta-analysis finding a correlation of .24 for both sexes (Feingold, 1988), which indicates that the two types of attractiveness ratings are largely orthogonal. Thus, correlations of each attractiveness measure with other variables are very nearly statistically independent of one another, and different theories are needed to explain them.

Theoretical Issues

The theoretical rationale that is found in the attractiveness literature to explain possible differences between physically attractive people and physically unattractive people has been based on an *expectancy model*. Rosenthal and Jacobson (1968) sparked inquiries into the consequences of interpersonal expec-

I want to thank Ronald Mazzella for assistance in the preparation of data for meta-analysis, two anonymous reviewers for their helpful comments on a draft of this article, and the following researchers for providing me with unpublished findings for this review: Gerald Adams, Bem Allen, Diane Berry, John Brigham, James Calvert, Judith Conger, Marshall Dermer, Kenneth Dion, Stephen Franzoi, David Funder, Charles Hill, Jasna Jovanovic, Sally Kuhlenschmidt, Patricia MacCorquodale, Eugene Mathes, Lynn Miller, Harry Reis, Ronald Riggio, Milton Rosenbaum, Normal Schultz, Susan Sprecher, Judith Stein, J. Richard Udry, Carolyn Williams.

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[1] Researchers and reviewers have often confused self-rated physical attractiveness with *body image*. Self-rated physical attractiveness is measured by such (self-report) items as, "How good-looking are you?" Body image, a dimension often studied by researchers of eating disorders (e.g., Striegel-Moore, Silberstein, & Rodin, 1986), focuses on satisfaction with one's attractiveness (e.g., "How happy are you with your looks?").

tations by leading teachers to believe that some of their students were late bloomers and finding that these experimentally induced expectations evoked higher subsequent achievement from the designated pupils, resulting in a self-fulfilling prophecy (for recent reviews, see Harris & Rosenthal, 1985; Jones, 1986; Jussim, 1986; Miller & Turnbull, 1986). Of particular importance, Rosenthal and Jacobson's results spurred research on stereotypes, which are naturally occurring expectations that could produce the same self-confirming phenomenon as experimentally generated expectations (Darley & Fazio, 1980; Deaux & Major, 1987; McArthur, 1982; Miller & Turnbull, 1986).

Dion, Berscheid, and Walster (1972) and A. G. Miller (1970) conducted prototypical studies of the physical attractiveness stereotype. In both studies, college students made trait attributions to attractive and unattractive students from photographs. Socially desirable characteristics were more often ascribed to attractive students than to unattractive students, implying a "beautiful-is-good" halo effect of attractiveness (Dion, 1986; Langlois, 1986). The existence of this stereotype equating beauty with personal worth suggests that physically attractive people may develop desirable qualities in response to others' expectations.

In a study of *behavioral confirmation* of the attractiveness stereotype, Snyder, Tanke, and Berscheid (1977) used bogus photographs to lead male college students (perceivers) to believe that female students (targets) with whom they would be conversing by telephone were physically attractive or physically unattractive. Ratings of transcripts of subsequent interactions between perceivers and targets by naive judges revealed that men were more responsive to "attractive" targets than to "unattractive" targets. As a result of their differential treatment, perceivers elicited greater responsiveness from the attractive targets, apparently confirming the physical attractiveness stereotype the perceivers were found to hold before the dyadic interactions.

Although Snyder et al.'s (1977) findings indicated that people's attractiveness may affect others' self-presentation (cf. Baumeister, 1982) and can explain the causes of transitory behavior that may maintain unfounded stereotypes, it did not demonstrate that attractiveness stereotyping affects human development through induced expectations. Snyder et al. examined the linkage between perceivers' attributions of *traits* to targets and the behaviors, or *states*, subsequently displayed by the targets in interactions with the perceivers, but the study did not assess whether dispositional beliefs inferred by perceivers from targets' attractiveness alter dispositions of targets.[2] In contrast, Rosenthal and Jacobson (1968) demonstrated the self-confirming effects of teachers' expectations on the intellectual ability, a trait, of their pupils.

The mechanism by which stereotype-based expectations may shape personality development has not been specified. One general hypothesis is that the self-concept mediates expectancy outcomes (Darley & Fazio, 1980). For example, if individuals of a certain group (e.g., beautiful people) are expected to be sociable, the behaviors of others may influence them to become sociable people by gradually inducing them to internalize sociability as a part of their self-concept (Cooley, 1900; Mead, 1934) and to behave in accordance with their self-image (Swann, 1984).

Surprisingly, an expectancy model has not been advanced to postulate correlates of self-rated physical attractiveness. People's expectations for themselves may also generate self-fulfilling prophecies. For instance, a man who thinks he is unattractive will probably expect to be unsuccessful with women. This expectation may result in socially awkward behavior that will confirm his prophecy. People who feel physically attractive or physically unattractive might also attempt to conform to behavior expected of attractive people (as manifested in the physical attractiveness stereotype), ultimately becoming the kind of people predicted by the stereotype. If self-generated expectancies produce covariation between self-rated physical attractiveness and other personal attributes, self-rated attractiveness should be correlated with the traits that constitute the physical attractiveness stereotype, and the largest correlations should be for the traits that are central to the stereotype.

Although expectancy theory offers a theoretical basis for correlates of self-judged physical attractiveness, researchers in the area have instead focused on a *self-esteem model* to predict and explain differences between self-defined attractive and unattractive people. The self-esteem model posits that self-perceptions of physical attractiveness are largely determined by global self-esteem, that people who have high self-regard in general also feel physically attractive, and that the correlations of self-rated attractiveness with other variables are best explained by shared variance between self-judgments of physical attractiveness and other variables (e.g., mental health) with general self-esteem. This model reflects contemporary thinking about the self-image in personality, education, and human development in which researchers have built on Shavelson, Hubner, and Stanton's (1976) theory of multidimensional self-esteem that views self-assessed physical attractiveness as a facet in a hierarchical model of self-concept (Fleming & Courtney, 1984; Harter, 1985; Marsh & O'Neill, 1984; Marsh & Richards, 1988; Openshaw, Thomas, & Rollins, 1981).

Rationale and Organization of Review

This article reports the results of three meta-analytic studies of the attractiveness literature. The first study examines the empirical research on the effects of physical attractiveness on impression formation to identify the traits that are associated with physical attractiveness in implicit theories of personality. The value of this study is that its results indicate the traits that should be correlated with physical attractiveness if the expectancy model is valid, inasmuch as there must be some validity for the physical attractiveness stereotype for the model to be supported. (Of course, that would not prove the expectancy model, particularly because the stereotype can be a consequence rather than a cause of real differences between physically attractive and physically unattractive people.)

Study 2 summarizes literature on correlates of physical attractiveness and self-rated physical attractiveness. Although neither

[2] Indeed, Snyder (1984) does not believe that there are nonappearance-related differences between physically attractive and physically unattractive people and suggested that people merely display more socially desirable behaviors when interacting with those who find them attractive.

the magnitude nor the pattern of correlations bears on the validity of the expectancy model for either type of attractiveness, the magnitude and pattern of the correlations of self-rated attractiveness with other variables afford a test of the self-esteem model. For the self-esteem model to be supported, self-rated attractiveness must be highly correlated with self-esteem, and its correlation with self-esteem should be higher than its correlations with other variables. (The first requirement establishes convergent validity for the model, and the second establishes discriminant validity.)

Study 3 examines the validity of the expectancy model as an explanation for correlations of physical attractiveness and self-rated physical attractiveness with other characteristics by quantitatively comparing findings from the experiments on the attractiveness stereotype (obtained in Study 1) with the corresponding real differences between attractive and unattractive people (obtained in Study 2) for the temperamental, cognitive, and social variables represented by the same content domains in the two areas of research. From another perspective, Study 3 examines the validity of the physical attractiveness stereotype, addressing the question, Are good-looking people what we think?

Study 1: Components of the Physical Attractiveness Stereotype

Method

Retrieval of Studies

I retrieved experiments on the physical attractiveness stereotype through extensive searching procedures conducted to obtain a wide range of physical attractiveness studies for a large program of meta-analytic research on the topic that includes Study 2 and other quantitative reviews (Feingold, 1988, 1990, 1991a, 1991b, in press). I searched *UMI Dissertation Abstracts Ondisc, The Educational Resources Information Center, Master's Abstracts, Psychological Abstracts, PsycLIT,* and *Sociofile* for studies indexed by the key words *attractiveness* and *physical attractiveness.* Also, I examined references from Cash's (1981) bibliography of the attractiveness literature, from books on attractiveness, and from reference lists of retrieved studies. Because physical attractiveness was often measured in studies in which *attractiveness* was not mentioned in the titles or abstracts, the 13 journals of personality and social psychology (see Feingold's, 1989, list) were searched manually from the years 1983 to 1989 inclusive to obtain studies that would otherwise have been missed. In a few cases, additional data was requested from (and usually provided by) authors.

Conceptualization, Criteria for Inclusion in the Meta-Analysis, and Establishment of Effect Categories

The experiments used in this meta-analysis manipulated targets' attractiveness (usually through photographs) with subjects (perceivers) assigned to one condition (or factor) requested to form impressions of a physically attractive target and the subjects in a second condition (or factor) requested to form impressions of a physically unattractive target, with rating scales used to record trait evaluations (e.g., A. G. Miller, 1970). In most experiments, attractiveness and other factors were manipulated in a factorial design.

Retrieved experiments were used in the meta-analysis if (a) the samples were of American or Canadian adolescents or adults, (b) targets' physical attractiveness was a between-subjects factor,[3] (c) at least one dependent variable corresponded directly to an established effect category, (d) perceivers made judgments of targets in the absence of interactions with the targets, and (e) the experiments examined impression formation in a general or a social rather than in an applied context (i.e., studies involving evaluation of targets who were purported to be teachers, pupils, therapists, patients, defendants, job applicants, task performers, and communicators were not used).

Several considerations guided the establishment of the effect categories (dependent variables). First, traits had to be socially desirable characteristics that were also used in correlational studies. For example, categories were not established for such dependent variables as "likely to have affairs" or "future professional happiness." Second, the dependent variables had to have been used in a number of studies that met the other criteria for inclusion in the meta-analysis. Finally, because the objective was to identify the components of the physical attractiveness stereotype, composite variables were not used unless they were composites of characteristics associated with a single effect category.

Eight effect categories were established for assessing effects of attractiveness on sociability (including ratings of sociability, extraversion, need for affiliation, and friendliness), dominance (dominance, assertiveness, ascendancy), sexual warmth (sexual warmth, sexual responsiveness, need for heterosexuality), modesty (modesty and, with signs reversed, vanity), character (honesty, genuineness, sincerity, trustworthiness, morality, kindness), general mental health (mental health, emotional stability, adjustment, happiness), intelligence (intelligence, academic ability, IQ, brightness), and social skills (social skills, social adeptness, social competence, poise).

Data Analysis

Calculation of effect sizes. Effect sizes (*d*s) for the differences between two groups, typically computed by dividing the mean differences by the pooled within-group standard deviations (Cohen, 1977; Rosenthal, 1984), were calculated for all relevant dependent variables in each study (with positive signs given to the effect size when the trait was more often attributed to attractive targets). In addition to high and low levels of target physical attractiveness, other levels (e.g., a medium attractiveness condition) were occasionally used, but such means were not used to compute effect sizes. In a few experiments, two or more dependent variables were used that would be classified under a single effect category. For example, some experiments had perceivers make separate attributions of kindness and sincerity, two measures of character. Because meta-analysis requires independence of effect sizes, effect sizes for multiple measures associated with a single category were computed and averaged to obtain the effect size for the variable.[4] However,

[3] Because of the correlations among repeated measures in within-subjects designs, findings from such designs can be included in a meta-analysis only if the means and standard deviations (not merely *t* or *F* ratios) are reported (Hunter & Schmidt, 1990). Because studies in this area that used factorial designs never included full descriptive statistics, within-subjects studies could not be used. Although this consideration drastically reduced the number of studies included in the meta-analysis, the purpose of this meta-analysis is not to summarize the literature on the physical attractiveness stereotype, but to examine effects of attractiveness on impressions of particular characteristics. Thus, it was not essential that the pool of included studies represented the entire literature on the attractiveness stereotype.

[4] Rosenthal and Rubin (1986) have shown that averaging multiple effect sizes obtained from a single sample yields a smaller overall effect size than when the multiple variables are pooled to form a composite variable and the effect size is based on the mean differences for the composite. The absence of the intercorrelations among multiple dependent variables in the primary research precluded the use of composite scores.

because a separate analysis was conducted for each effect category, experiments contributed to more than one analysis when the multiple dependent measures that tapped different effect categories were used.

For some experiments, effect sizes could not be computed from means and standard deviations because descriptive statistics were not given but were determined from results of statistical tests (e.g., t or F ratios) or from reported p values (e.g., effects reported to be nonsignificant were assumed to be zero; Rosenthal, 1984). Because many studies examined sex of subject, sex of target, and the interaction of sex of subject and sex of target on attractiveness effect(s), such factorial designs were decomposed into two or more two-group experiments (e.g., male subjects who rated female targets were viewed as one experiment, and female subjects who rated female targets were treated as a second, and independent, experiment), with the differences between the relevant cell means divided by the square root of MS_e (the unbiased estimate of the population standard deviation) from the "original" experiment to yield the effect sizes for the "new" experiments. This decomposition of complex designs simplified meta-analytic assessments of the effects of sex of subject, sex of target, and the Sex of Subject × Sex of Target interaction on effect sizes.

When sex of subject did not interact with attractiveness, many studies only reported statistics for the main effect(s) of target attractiveness. For such original experiments, the size of the main effect was presumed to be constant across the resulting new experiments, effectively setting the sex difference to zero. In a few experiments in which subjects of both sexes were tested but no mention was made of whether gender differences were examined, sex of subject was coded "mixed," and these experiments were not used in the analysis of sex of subject or Sex of Subject × Sex of Target interaction effects on effect size.

Meta-analysis of effect sizes. Data analysis began with the calculation of the total average effect size (i.e., disregarding sex classifications) for each variable, accompanied by the corresponding test of the homogeneity of effect sizes across experiments and the 95% confidence interval (CI) for the weighted mean effect size (Hedges & Olkin, 1985; Rosenthal, 1984). Next, to assess moderation of effect sizes by gender groupings, I averaged effect sizes within each of six experimental subgroups: male subjects–male targets, female subjects–male targets, mixed-sex subjects–male targets, male subjects–female targets, female subjects–female targets, mixed-sex subjects–female targets. Then I performed contrasts among the six weighted mean effect sizes (Hedges & Olkin, 1985). I examined the effect of sex of subjects by applying contrast weights of −1, 1, 0, −1, 1, and 0, respectively, to the set of mean effect sizes. The corresponding weights for the sex of target contrasts were −1, −1, −1, 1, 1, and 1. The Sex of Subject × Sex of Target interaction was assessed with weights (in order) of 1, −1, 0, −1, 1, and 0. (Note that these weights appropriately exclude findings from mixed-sex samples from contrast analyses for sex of subject.)

Results and Discussion

Description of Database

I found 30 attractiveness stereotyping studies that met the criteria for inclusion in the meta-analysis (yielding 35 independent experiments). Because factorial designs were usually decomposed to form two or more independent two-group experiments (by gender of subjects and/or targets), the meta-analysis used 78 experiments (N = 4,727): 38 experiments with male subjects (n = 2,398), 32 experiments with female subjects (n = 1,836), and 8 experiments that used mixed-sex groups (n = 493). Experiments that used female targets (k = 48) were more common than experiments that used male targets (k = 30).

Table 1 lists the 78 experiments and groups the 212 effect sizes by category. The largest numbers of effect sizes (30–40 per category), with the largest pooled sample sizes (1,358–2,715 per category), were in the sociability, dominance, character, general mental health, and intelligence effect categories. The two categories containing the fewest effect sizes (11–12) were modesty and social skills (*n*s = 656–679).

Only 31% of the 212 effect sizes were calculated from reported information in journal articles; most of the effect sizes were obtained from convention papers, dissertations, and unpublished data (provided by investigators) from published studies.

Meta-Analysis of Effect Sizes

Table 2 contains the findings from the meta-analysis: the average effect sizes (median and weighted mean *d*s), the 95% CIs for the weighted mean *d*s, and the within-category tests of the homogeneity of *d*s across experiments. Table 2 also contains the results from the meta-analyses performed on effect sizes for each of the six cells formed by crossing sex of subject (male, female, mixed) with sex of target (male, female) for each trait.

Focusing first on the overall weighted mean *d*s,[5] targets' attractiveness had a large effect on attributions for two traits, sexual warmth and social skills (*d*s ≅ 0.80). Medium-sized effects (*d*s ≅ 0.50) were obtained for sociability, dominance, and general mental health. The smallest effects were for modesty (d = −0.34) and intelligence (d = 0.31). Modesty was thus the only attribute more frequently ascribed to unattractive targets. (No effect was found for character.)

As shown in Table 2, homogeneity of findings over all samples was rejected for four traits: sociability, sexual warmth, character, and general mental health. However, homogeneity was usually attained when sex of subject and sex of target were held constant, with the notable exception of the heterogeneous effects in the general mental health category.

The effects of sex of subject and Sex of Subject × Sex of Target interactions on d were all nonsignificant. Sex of target moderated effect size only for sexual warmth, χ^2 (1) = 16.75, $p < .001$. The weighted mean effect size was .42 (n = 274) for male targets and .96 (n = 632) for female targets.

Study 2: Correlates of Attractiveness

Method

Retrieval of Studies

Relevant studies were located using the searching procedures described in Study 1. However, physical attractiveness and other characteristics were often measured, but the intercorrelations between attractiveness and these characteristics were not reported. Thus, investigators were asked to provide the attractiveness correlates and usually complied (often running additional analyses from their data sets to do so).

[5] The discussion of all findings in this article is based on the weighted mean effect sizes. However, in some effect categories, a few samples were atypically large and contributed unduly to the weighted mean effect size. Therefore, median effect sizes were routinely obtained and reported for all effect categories.

Table 1
Experiments on Effects of Target Attractiveness on Perceivers' Attribution of Traits from Studies Used in Attractiveness Stereotyping Meta-Analysis (Study 1)

Study	Gender		*n*	Soc	Dom	Sex	Mod	Cha	GMH	Int	SSk
	Subject	Target									
Amstutz, 1985; Amstutz & Kaplan, 1987	M	F	160	—	—	—	—	—	0.15	—	—
Bassili, 1981	M	F	46	—	—	—	—	0.00	—	—	—
Bassili, 1981	F	F	46	—	—	—	—	0.00	—	—	—
Bassili, 1981	M	F	36	—	—	—	—	0.00	—	—	—
Bassili, 1981	F	F	36	—	—	—	—	0.00	—	—	—
Bassili, 1981	M	F	20	0.61	—	—	−0.37	−0.45	—	—	—
Bassili, 1981	F	F	20	1.08	—	—	−0.37	−0.45	—	—	—
Boor & Zeis, 1975	M	M	10	—	—	—	—	—	—	0.32	—
Boor & Zeis, 1975	M	F	10	—	—	—	—	—	—	0.32	—
Boor & Zeis, 1975	F	M	10	—	—	—	—	—	—	0.32	—
Boor & Zeis, 1975	F	F	10	—	—	—	—	—	—	0.32	—
Brigham, 1980	M	M	59	0.55	0.23	0.55	0.00	0.00	—	—	0.72
Brigham, 1980	M	F	59	0.53	0.26	0.74	−0.43	0.00	—	—	1.21
Brigham, 1980	F	M	81	0.55	0.23	0.55	0.00	0.00	—	—	0.72
Brigham, 1980	F	F	81	0.53	0.26	0.74	−0.43	0.00	—	—	1.21
Byrne, London, & Reeves, 1968	M	M	51	—	—	—	—	−0.28	0.00	−0.28	—
Byrne et al., 1968	M	F	52	—	—	—	—	0.28	0.00	0.28	—
Byrne et al., 1968	F	M	51	—	—	—	—	−0.28	0.00	−0.28	—
Byrne et al., 1968	F	F	52	—	—	—	—	0.28	0.00	0.28	—
Cash, Kehr, Polyson, & Freeman, 1977	M	F	48	—	—	—	—	—	0.78	—	—
Cash et al., 1977	F	F	48	—	—	—	—	—	0.78	—	—
Dermer & Thiel, 1975	M	F	79	—	—	—	−0.69	−0.68	—	—	—
Dermer & Thiel, 1975	F	F	80	—	—	—	−0.69	−0.68	—	—	—
Dion & Dion, 1987	M	M	28	−0.16	1.10	0.16	—	−0.63	—	—	1.40
Dion & Dion, 1987	M	F	27	0.77	0.32	0.59	—	0.04	—	—	0.73
Dion & Dion, 1987	F	M	42	0.29	1.22	0.79	—	0.34	—	—	1.30
Dion & Dion, 1987	F	F	41	0.00	0.49	1.08	—	0.34	—	—	0.81
Elman, Killebrew, & Oros, 1978	M	M	40	—	0.60	—	—	—	—	—	—
Elman et al., 1978	F	M	40	—	0.60	—	—	—	—	—	—
Eustis, 1976	M	F	72	0.75	—	0.77	—	0.28	—	0.00	—
Eustis, 1976	M	F	24	0.00	—	1.10	—	−0.14	0.04	0.96	—
Eustis, 1976	F	F	24	0.00	—	1.10	—	0.14	1.20	0.96	—
Eustis, 1976	M	F	48	0.00	—	1.80	—	−0.19	0.00	0.00	—
Eustis, 1976	F	F	48	0.00	—	1.30	—	−0.19	0.00	0.00	—
Goldstein, 1975	M	F	36	0.58	0.46	0.94	—	−0.13	—	—	—
Goldstein, 1975	F	F	36	0.58	0.46	0.94	—	−0.13	—	—	—
Guise, Pollans, & Turkat, 1982	M	F	30	—	1.11	—	—	—	—	—	—
Hailey, 1976	Mixed	M	32	−0.86	0.52	—	—	—	−0.54	—	—
Hailey, 1976	Mixed	F	32	0.14	0.52	—	—	—	0.47	—	—
Hill & Lando, 1976	M	M	20	—	—	—	—	—	0.00	0.00	—
Hill & Lando, 1976	M	F	20	—	—	—	—	—	0.88	0.88	—
Hill & Lando, 1976	F	M	20	—	—	—	—	—	0.00	0.00	—
Hill & Lando, 1976	F	F	20	—	—	—	—	—	0.88	0.88	—
Jackman, 1979	Mixed	M	60	—	0.59	—	—	—	—	—	—
Jackman, 1979	Mixed	F	60	—	0.29	—	—	—	—	—	—
Jackson, 1983	M	M	73	—	—	—	—	—	0.38	—	—
Jackson, 1983	M	F	74	—	—	—	—	—	0.38	—	—
Jackson, 1983	F	M	74	—	—	—	—	—	0.38	—	—
Jackson, 1983	F	F	74	—	—	—	—	—	0.38	—	—
Jackson & Cash, 1985	M	M	170	—	—	—	—	—	0.39	—	—
Jackson & Cash, 1985	M	F	170	—	—	—	—	—	0.39	—	—
Jackson & Cash, 1985	F	M	226	—	—	—	—	—	0.39	—	—
Jackson & Cash, 1985	F	F	226	—	—	—	—	—	0.39	—	—
Jones, 1982	M	M	30	—	0.82	—	—	—	—	−0.02	—
Jones, 1982	F	M	30	—	1.03	—	—	—	—	0.69	—
Layton & Insko, 1974	M	F	320	—	—	—	—	—	—	0.43	—
Martinez, Bushaw, & Bushaw 1982	Mixed	F	101	—	—	—	—	−0.20	—	—	—
May & Hamilton, 1980	F	M	30	—	—	—	—	1.48	1.56	1.18	—

Table 1 (*continued*)

Study	Gender		*n*	Soc	Dom	Sex	Mod	Cha	GMH	Int	SSk
	Subject	Target									
Miller, 1970	M	M	120	1.03	0.31	—	—	—	1.75	—	—
Miller, 1970	M	F	120	0.95	1.03	—	—	—	1.09	—	—
Miller, 1970	F	M	120	0.76	0.41	—	—	—	0.82	—	—
Miller, 1970	F	F	120	0.37	0.93	—	—	—	1.18	—	—
Molberg, 1977	Mixed	M	64	−0.06	0.50	0.00	−0.23	0.12	—	—	0.70
Molberg, 1977	Mixed	F	64	0.97	0.50	1.23	−0.23	0.28	—	—	0.70
Naccari, 1975	M	M	32	—	—	—	—	0.56	—	—	—
Nacarri, 1975	F	M	32	—	—	—	—	0.56	—	—	—
Rosenbaum, 1986	M	M	48	—	—	—	—	−0.08	0.77	0.39	—
Rosenbaum, 1986	M	F	48	—	—	—	—	0.06	0.83	0.61	—
Rosenbaum, 1986	F	M	48	—	—	—	—	−0.08	0.77	0.39	—
Rosenbaum, 1986	F	F	48	—	—	—	—	0.06	0.83	0.48	—
Small-Weil, 1981	M	M	22	0.24	0.53	—	—	—	−0.61	0.02	—
Small-Weil, 1981	M	F	22	0.06	0.46	—	—	—	0.64	0.40	—
Small-Weil, 1981	F	M	26	0.95	0.02	—	—	—	0.58	0.33	—
Small-Weil, 1981	F	F	26	−0.66	0.05	—	—	—	−0.38	−0.37	—
Snyder, Tanke, & Berscheid, 1977	M	F	38	0.81	—	—	—	0.00	—	0.00	0.81
Tanke, 1977	M	F	72	0.16	0.67	0.73	−0.28	0.16	—	—	0.66
Tanke, 1982	M	F	64	—	—	—	—	−0.76	—	—	—
Thornton & Linnstaedter, 1980	Mixed	F	80	—	—	—	—	—	0.74	0.58	—

Note. Soc = sociability, Dom = dominance, Sex = sexual warmth, Mod = modesty, Cha = character, GMH = general mental health, Int = intelligence, SSk = social skills, M = male, F = female. Dashes signify traits not examined in study.

Conceptualization and Establishment of Effect Categories

The subject variables frequently correlated with attractiveness were clustered into four categories: (a) personality, (b) social behavior, (c) cognitive ability, and (d) sexuality. The personality dimensions were further narrowed into four subgroups: (a) extraversion (subsuming sociability and dominance), (b) mental health (general mental health, self-esteem, internal locus of control), (c) social comfort (loneliness, general social anxiety, heterosocial anxiety, public self-consciousness), and (d) character (self-absorption, manipulativeness).

Note that the social comfort and character traits were named for the socially undesirable poles of the dimensions, with higher scores denoting poorer adjustment (e.g., greater social anxiety). Thus, these constructs were renamed, and their tests rekeyed accordingly to make high scores reflect high adjustment. These measures were all prefixed by the term *freedom from* (e.g., freedom from general social anxiety). The rekeying was effected statistically by simply reversing the signs of the correlations obtained with these measures, except when (a) the measure was initially scored so that high scores reflected greater adjustment or (b) attractiveness was scaled so that low attractiveness ratings indicated higher attractiveness.

Measures of social behavior included social skills (behaviorally assessed), popularity with the opposite sex (e.g., dating frequency), and number of same-sex friends. The cognitive ability category included academic grades and standardized tests of intelligence and academic ability. Finally, the sexuality cluster included sexual permissiveness (an attitudinal dimension) and six measures of sexual experience (behavioral measures).

Criteria for Inclusion in the Meta-Analyses

Studies were included in the correlates of physical attractiveness meta-analysis if (a) the samples were nonclinical, (b) subjects were American or Canadian adolescents or adults, (c) at least one relevant dependent variable was correlated with physical attractiveness,[6] (d) physical attractiveness was judged by raters who were unacquainted with subjects, and (e) raters were not directed to consider grooming when making their evaluations.

Studies were included in the correlates self-rated physical attractiveness meta-analysis if they met the first three criteria used for inclusion of studies in the correlates of physical attractiveness meta-analysis.[7]

Measures of Attractiveness

Physical attractiveness. Physical attractiveness was measured by judges who used one of four rating techniques: the photographic method (subjects are photographed and evaluated from the photographs), the live method (judges covertly rate subjects in person at the time they are tested), the videotape method (subjects are videotaped and evaluated from the videotapes), and the interview method (a single judge, the interviewer, rates subjects before an interview).

In all studies, judges used rating scales, for example, a *low physical attractiveness* (1) to *high physical attractiveness* (7) scale. When multiple raters were used (the practice in all procedures except the interview technique), the physical attractiveness rating for each subject was the mean of the judges' ratings of that subject.

[6] A number of studies in the behavior therapy literature (e.g., Glasgow & Arkowitz, 1975; Greenwald, 1977) compared physical attractiveness ratings of subjects who were high in dating frequency and low in heterosocial anxiety with those of peers who were low in dating frequency and high in heterosocial anxiety. Findings that were based on such confounded studies were not used in the meta-analysis.

[7] Studies were often found that inappropriately combined self-rated physical attractiveness with other types of self-ratings (e.g., sexiness); correlations obtained with such measures were not used in the meta-analysis.

Table 2
Meta-Analysis of Effects of Target Attractiveness on Perceivers' Attributions of Traits (Study 1)

Gender		Size		Average *d*				
Subject	Target	*k*	*n*	*Mdn*	*M*	LCI	UCI	Homogeneity $\chi^2(k-1)$
				Sociability				
M	M	4	229	0.40	0.66	0.40	0.93	9.45*
F	M	4	269	0.66	0.64	0.39	0.88	2.39
Mixed	M	2	96	−0.46	−0.31	−0.72	0.09	3.21
M	F	11	538	0.58	0.54	0.36	0.71	15.39
F	F	8	396	0.18	0.28	0.08	0.48	12.66
Mixed	F	2	96	0.56	0.67	0.26	1.09	3.54
All	All	31	1,624	0.53	0.46	0.36	0.56	69.92***
				Dominance				
M	M	6	299	0.56	0.46	0.23	0.70	5.03
F	M	6	339	0.50	0.50	0.28	0.71	9.73
Mixed	M	3	156	0.52	0.54	0.22	0.86	0.07
M	F	7	366	0.46	0.69	0.47	0.90	8.49
F	F	5	304	0.46	0.55	0.32	0.78	7.31
Mixed	F	3	156	0.50	0.42	0.10	0.74	0.43
All	All	30	1,620	0.50	0.54	0.44	0.64	33.95
				Sexual warmth				
M	M	2	87	0.36	0.42	−0.01	0.85	0.71
F	M	2	123	0.67	0.63	0.27	0.99	0.38
Mixed	M	1	64	0.00	0.00	−0.49	0.49	—
M	F	7	338	0.77	0.90	0.67	1.12	8.87
F	F	5	230	1.08	0.98	0.70	1.25	2.26
Mixed	F	1	64	1.23	1.23	0.70	1.76	—
All	All	18	906	0.78	0.78	0.65	0.92	31.08*
				Modesty				
M	M	1	59	0.00	0.00	−0.51	0.51	—
F	M	1	81	0.00	0.00	−0.44	0.44	—
Mixed	M	1	64	−0.23	−0.23	−0.72	0.26	—
M	F	4	230	−0.40	−0.46	−0.73	−0.20	1.60
F	F	3	181	−0.43	−0.54	−0.83	−0.24	0.80
Mixed	F	1	64	−0.23	−0.23	−0.72	0.26	—
All	All	11	679	−0.37	−0.34	−0.49	−0.19	9.27
				Character				
M	M	5	218	−0.08	−0.08	−0.35	0.19	5.76
F	M	6	284	0.17	0.18	−0.06	0.41	15.40**
Mixed	M	1	64	0.12	0.12	−0.37	0.61	—
M	F	15	721	0.00	−0.10	−0.25	0.05	19.94
F	F	11	512	0.00	−0.08	−0.25	0.10	11.83
Mixed	F	2	165	0.04	−0.01	−0.32	0.30	2.22
All	All	40	1,964	0.00	−0.04	−0.13	0.05	59.76*
				General mental health				
M	M	7	504	0.38	0.58	0.39	0.76	45.63***
F	M	8	595	0.48	0.51	0.35	0.67	15.45*
Mixed	M	1	32	−0.54	−0.54	−1.25	0.17	—
M	F	11	786	0.39	0.44	0.30	0.58	24.42**
F	F	10	686	0.58	0.52	0.36	0.67	29.13***
Mixed	F	2	112	0.60	0.66	0.28	1.04	0.40
All	All	39	2,715	0.39	0.50	0.42	0.57	125.49***
				Intelligence				
M	M	6	181	0.01	0.04	−0.25	0.34	2.94
F	M	7	215	0.33	0.32	0.05	0.59	10.72

Table 2 (*continued*)

Gender		Size		Average *d*				Homogeneity
Subject	Target	*k*	*n*	*Mdn*	*M*	LCI	UCI	$\chi^2 (k-1)$
				Intelligence (*continued*)				
Mixed	M	0	0	—	—	—	—	—
M	F	10	654	0.36	0.35	0.20	0.51	9.47
F	F	7	228	0.32	0.30	0.04	0.57	8.20
Mixed	F	1	80	0.58	0.58	0.13	1.03	—
All	All	31	1,358	0.32	0.31	0.20	0.42	36.24
				Social skills				
M	M	2	87	1.06	0.92	0.47	1.37	1.83
F	M	2	123	1.01	0.90	0.53	1.28	2.00
Mixed	M	1	64	0.70	0.70	0.19	1.20	—
M	F	4	196	0.77	0.85	0.56	1.15	2.30
F	F	2	122	1.01	1.07	0.69	1.45	0.97
Mixed	F	1	64	0.70	0.70	0.19	1.20	—
All	All	12	656	0.77	0.88	0.72	1.04	9.11

Note. *k* = number of effect sizes (*d*s); *n* = number of subjects whose data contributed to the weighted mean effect size; LCI = lower end point of 95% confidence interval; UCI = upper end point of 95% confidence interval; M = male; F = female. Dashes signify that no studies (for the *Mdn*, *M*, and CI columns) or fewer than two studies (for the homogeneity test column) were found for the combination of sex of subject and sex of target.
* $p < .05$. ** $p < .01$. *** $p < .001$.

Self-rated physical attractiveness. Self-rated physical attractiveness was almost always determined using one-item self-rating scales. In some studies, redundant items were used to measure self-rated physical attractiveness (e.g., "How good-looking are you?" and "How physically attractive do you feel?"), and the self-ratings were summated or averaged over items.

Dependent Variables

Sociability. Sociability was measured by self-report inventories that purport to assess sociability, extraversion, or need for affiliation. High scorers on such personality scales report that they are gregarious, outgoing, talkative, and like mixing with people. Typical measures include the Extraversion scale of the Eysenck Personality Inventory (EPI; Eysenck & Eysenck, 1968) and the Extraversion subscale of the Self-Monitoring Scale (Briggs, Cheek, & Buss, 1980).

Dominance. Dominance was measured by self-report inventories of dominance, assertiveness, and ascendancy. High scorers on such personality scales report that they enjoy public speaking, possess leadership qualities, and deal effectively and forcefully with people. Typical measures include the Rathus Assertiveness Scale (Rathus, 1973) and the Texas Social Behavior Inventory (Helmreich & Stapp, 1974).

General mental health. General mental health was usually assessed by tests called anxiety or neuroticism, although the signs of the correlations of these tests with attractiveness were reversed, so that high scores would reflect mental health. On such scales, mentally healthy respondents claim to be happy, relaxed, and guilt free and to suffer infrequently from anxiety, depression, and nervousness. Common measures of mental health are the Neuroticism scale of the EPI and the Trait Anxiety scale of the State-Trait Anxiety Inventory (Spielberger, Gorsuch, & Cushene, 1970).

Self-esteem. Self-esteem was measured by personality inventories of self-esteem, self-concept, and self-acceptance. The most frequently used measure of this construct was Rosenberg's (1965) Self-Esteem Scale, although semantic differential scales were also widely used.

Internal locus of control. Internal locus of control refers to the degree to which people believe they control their own life; people who are low in internal control feel their destinies are determined by external forces (Langer, 1983; Rotter, 1966). Internal control was usually measured by Rotter's Internal–External Locus of Control Scale or by modifications of it.

Freedom from loneliness. Loneliness was always measured by the UCLA Loneliness Scale (Russell, Peplau, & Cutrona, 1980), but the signs of the correlations with attractiveness were reversed, so that a positive correlation would indicate that greater attractiveness was associated with lower loneliness (i.e., greater social comfort).

Freedom from general social anxiety. This effect category subsumes measures of social anxiety and shyness. General social anxiety was usually measured by the Social Avoidance and Distress Scale (Watson & Friend, 1969) and the Social Anxiety subscale of the Self-Consciousness Scale (SCS; Fenigstein, Scheier, & Buss, 1975), although the signs of the correlations with attractiveness were reversed, so that a positive correlation would indicate that greater attractiveness was associated with lower general social anxiety.

Freedom from heterosocial anxiety. This category subsumes scales of self-perceptions of the quality of one's interactions with the opposite sex, particularly with regard to the initiatory encounters that eventuate in the formation of romance couples. The heterosocially anxious are said to be dissatisfied with their love life and to feel shy, awkward, and inept when meeting people of the opposite sex. The most commonly used scales of heterosocial anxiety were the Survey of Heterosexual Interactions (Twentyman & McFall, 1975; Williams & Ciminero, 1978) and the Dating subscale of the Dating and Assertion Questionnaire (Levenson & Gottman, 1978). The signs of the correlations with attractiveness were reversed, so that a positive correlation would indicate that greater attractiveness was associated with lower heterosocial anxiety.

Freedom from public self-consciousness. This trait was always measured by the Public Self-Consciousness Scale of the SCS, but the signs of the correlations with attractiveness were reversed, so that a positive correlation would indicate that greater attractiveness was associated with lower public self-consciousness.

Freedom from self-absorption. The degree to which subjects were self-focused was almost always assessed by the Private Self-Consciousness Scale of the SCS, but the signs of the correlations with attractive-

ness were reversed, so that a positive correlation would indicate that greater attractiveness was associated with lower self-absorption.

Freedom from manipulativeness. Manipulativeness was usually measured by the Christie-Geis (1970) Machiavellianism Scale, but the signs of the correlations with attractiveness were reversed, so that a positive correlation would indicate that greater attractiveness was associated with lower manipulativeness.

Popularity with the opposite sex. Popularity with the opposite sex was determined by self-reports of dating frequency (e.g., number of dates in the past year), number of dating partners, or composite measures of dating activity.

Number of same-sex friends. Popularity with the same sex was determined by self-reports or sociometry.

Social skills. For the meta-analysis, social skills were operationally defined as judges' ratings of the social competence displayed by the subjects in arranged dyadic interactions with a stranger (another subject or a confederate). As most of the relevant studies were done in the clinical area and focused on dating problems, the researchers typically used a "getting acquainted with a member of the opposite sex" paradigm.[8] The behavioral assessment of subjects' social skills was usually made covertly by the judges during the interaction or from videotapes of the interactions (for a recent review of the behavioral assessment of social skills literature, see Conger & Conger, 1986).

Intelligence. For the meta-analysis, intelligence was operationally defined as performance on standardized tests, most oftenly tests of verbal ability (reading comprehension, vocabulary) or tests that mix verbal and quantitative items, such as the Scholastic Aptitude Test (SAT), the American College Test (ACT), and the Wechsler Adult Intelligence Scale (Wechsler, 1955). In a few studies, self-reports of academic ability (e.g., self-reported SAT scores) were used.

Grades. Academic achievement was measured by GPA or grade average (on a 0–100% scale) in virtually every study.

Sexual permissiveness. Attitudinal scales of sexual permissiveness were largely based on the pioneering work by Reiss (1967), with high scores indicating greater permissiveness.

Sexual experience. Six different types of sexual experience measures were used in empirical studies and analyzed separately in the meta-analysis: (a) noncoital sexual experience, (b) age of first sexual intercourse, (c) number of sex partners, (d) number of sex acts, (e) current sexual experience, and (f) global sexual experience.

The noncoital sexual experience category group includes measures that primary researchers have labeled necking experience, petting experience, heavy petting experience, and oral–genital contact. Most studies used a dichotomous outcome measure based on whether a particular type of noncoital behavior had been experienced. The age of first sexual intercourse category subsumes both measures based on age differences in loss of virginity among nonvirgin samples and comparisons between virgin and nonvirgin subsamples (i.e., among similarly aged college students). A positive correlation was used to indicate that greater attractiveness was associated with having had sex earlier (i.e., that greater attractiveness was associated with more sexual experience). Number of sex partners is the number of persons with whom subjects have had coitus (and was often examined in nonvirginal samples). Number of sex acts is the number of times subjects have engaged in sexual intercourse. Current sexual experience refers to number of current sex partners. Global sexual experience measures, typically assessed by psychometric scales (e.g., Bentler, 1968a, 1968b), assess the diversity of one's sexual activities.[9]

Data Analysis

Calculation of effect sizes. For most studies, effect sizes (correlations) were extracted directly from research reports. In a few cases, the correlations were obtained from t tests or p levels (Rosenthal, 1984). Correlations that were reported to be nonsignificant were assumed to be zero. When a study used more than one dependent variable to measure a single trait (e.g., when attractiveness was correlated with three different measures of dominance), the correlations were averaged to yield the correlation for the study that was used in the meta-analysis.

Most of the retrieved studies examined both sexes, and findings were usually reported by sex. Accordingly, all samples were coded for sex, and studies that reported results separately for male and female subsamples were entered as two independent studies. In a small number of studies, both sexes were used, but the attractiveness correlates were reported only for the total (mixed-sex) sample. In such cases, when reports indicated that a gender difference was not significant, I assumed the overall correlation to be the correlation for both the male and female subsamples, and it was entered twice in the meta-analysis (with subsample ns). In other studies, subjects of both sexes were combined, but no mention was made of whether sex differences in correlations were examined. These studies were coded "mixed" for subject sex and contributed only one entry per dependent variable in the meta-analysis (unless more than one mixed-sex sample was used).

Reliability analysis of physical attractiveness ratings. For each sample assessed for physical attractiveness, the number of raters used per subject was coded. When available, the mean interjudge reliability or the composite reliability was also recorded. Because both types of reliability data were rarely given, Rosenthal's (1984) table of effective reliabilities (derived from the Spearman-Brown formula) was used to obtain one type of reliability from the other (when numbers of judges were known), allowing both types of coefficients to be coded for each study providing any reliability data.

Meta-analysis was conducted on the interrater reliabilities obtained from the subset of studies that reported reliability, with each coefficient weighted by sample size. This (average) mean interrater reliability was assumed to generalize to the studies that used comparable rating procedures but failed to report the agreement among judges. For such studies, composite reliabilities were estimated by adjusting the mean interrater correlation (from the meta-analysis of reliability-reporting studies) for number of judges used in them.

Meta-analysis of correlation coefficients. I averaged correlations within categories using the standard procedure for combining correlations from independent samples (Hedges & Olkin, 1985; Rosenthal, 1984). The Pearson product–moment correlations were transformed to Fisher's Zrs and multiplied by their degrees of freedom ($n - 3$). These degrees-of-freedom-weighted Zrs were summed across studies (within effect categories) and divided by the pooled degrees of freedom to yield the weighted mean Zrs. The weighted mean Zrs were then transformed back to the r metric. Finally, the homogeneity of correlations in each effect category was tested, and the 95% CI was calculated for each mean r.

To assess gender differences, correlations were also averaged separately by sex of subject. The significance of the difference between the two weighted mean rs obtained for each category was calculated by the formula:

$$z = \frac{\bar{z}_M - \bar{z}_F}{\sqrt{1/(n_M - 3k_M) + 1/(n_F - 3k_F)}}$$

where $\bar{z}_M$ = weighted mean of the z-transformed correlations for male subjects, $\bar{z}_F$ = weighted mean of the z-transformed correlations for

[8] Only a small subset of social skills are displayed in such dyadic interactions. Moreover, smoothness with the opposite sex is a type of social skill that might be more likely to relate to physical attractiveness than global social skills.

[9] These different sexual experience measures are interrelated and load on a Sexual Experience factor (MacCorquodale & DeLamater, 1979; Wilson, 1987).

female subjects, n_M = number of male subjects contributing to the $\bar{z}_M$, k_M = number of male samples, n_F = number of female subjects contributing to the $\bar{z}_F$, k_F = number of female samples, z = standard normal deviate expressing the significance of the difference between two weighted mean correlations.[10] Thus, positive *z*s signified that attractiveness correlates were higher for men than for women, whereas negative *z*s indicated that attractiveness correlates were higher for women than for men. The numerator of the formula, the difference between the two *z*-transformed correlations (pooled across studies), is the effect size (q; Cohen, 1977) for the gender difference.

Results

Organization of Results

The results are partitioned into two major sections, one for correlates of physical attractiveness and the second for correlates of self-rated physical attractiveness. Each section includes three subsections: (a) description of database, (b) average correlation coefficients that are based on all samples (i.e., averaged over sex of sample), and (c) average correlations by sex of sample and the sex differences in these average attractiveness correlates. In addition, the first section (reporting physical attractiveness correlates) includes a subsection on reliability—interrater and that of the pooled ratings—of judges' ratings of subjects' physical attractiveness, and the second section (reporting self-rated physical attractiveness correlates) includes a subsection on the meta-analysis of the correlations between the two types of attractiveness ratings from the subset of studies that measured both dimensions and reported the correlation between them.

Physical Attractiveness

Description of database. I found 93 studies that could be used in the meta-analysis of correlates of physical attractiveness; these studies reported findings from 153 independent samples (n = 15,205): 64 male samples (n = 6,205), 76 female samples (n = 7,559), and 13 mixed-sex samples (n = 1,441).[11] There were 393 correlations that were used in the meta-analysis —229 in personality, 60 in social behavior, 60 in cognitive ability, and 44 in sexuality. By sex, there were 163 correlations from male samples, 205 correlations from female samples, and 25 correlations from mixed-sex samples. Almost half (44%) of the correlations were obtained or calculated from published sources.

Meta-analysis of reliability coefficients. Table 3 contains a brief description of all studies used in the meta-analysis, including available reliability data for judgments of physical attractiveness. Reliability coefficients were reported for 63 of the 93 studies in the meta-analysis of correlates of physical attractiveness. For the 100 samples used in these studies, the weighted average of the interrater reliability coefficients (i.e., mean interrater correlation) was .54, and the corresponding average composite reliability was .83 (n = 8,102). Composite reliabilities were estimated from number of judges for an additional 44 samples, yielding a weighted mean coefficient of .75 (n = 6,415). For all 144 samples, the mean composite reliability (combining exact and estimated coefficients) was .79 (N = 14,517).

Average correlation coefficients (collapsed across sex of sample).[12] Table 4 contains the correlations between physical attractiveness and personality measures from the studies used in the meta-analysis, and Table 5 contains the correlations between physical attractiveness and measures of social behavior, cognitive ability, and sexual behavior. Table 6 contains the meta-analysis of the correlations in Table 4 and Table 5. Three rows of meta-analytic results (average correlations, CIs, homogeneity tests) are given in Table 6 for each variable correlated with physical attractiveness. The first row gives the findings for male samples; the second row gives the results for female samples; the third row gives results for all samples (male, female, and mixed sex). Because this subsection examines overall mean correlations (i.e., averaged over sex of sample), only the meta-analytic results (weighted mean correlations) in the third rows are noted here.

Focusing first on personality correlates of physical attractiveness (see top half of Table 6), it is seen that all four social comfort measures were significantly correlated with physical attractiveness (with significance judged by whether the CI included zero). Three social comfort measures were positively correlated with physical attractiveness, indicating that good-looking people were less troubled by both loneliness (r = .15) and social anxiety (in general, r = .09; with the opposite sex, r = .22). The remaining social comfort trait, freedom from public self-consciousness, was negatively related to physical attractiveness (r = −.18).

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[10] The formula used to compare two weighted mean correlations is nearly identical to the formula used to compare two ordinary correlations. The only difference involves the substitutions of $1/(n_M - 3k_M)$ for $1/(n_M - 3)$ and $1/(n_F - 3k_F)$ for $1/(n_F - 3)$ in the denominator, because the variance of a (weighted) mean Zr is $1/\sqrt{n - 3k}$ compared with $1/\sqrt{n - 3}$ for a Zr from a single sample (Hedges & Olkin, 1985).

[11] An analysis by Umberson and Hughes (1987) of Campbell's (1981) large-sample survey research database found strong correlations between interviewer-rated physical attractiveness and a wide range of variables. However, the physical attractiveness ratings were made after the interviews, and Campbell (1981) noted that interviewers had reported that they were unable to make unbiased judgments of respondents' physical attractiveness. Thus, it was not surprising that this study's results were inconsistent, across numerous dependent variables, with findings from other interview-based survey research and from studies that used other procedures for rating physical attractiveness. Thus, the findings from this database were not used in the meta-analysis. A different problem was posed by a survey–research study by Udry and Billy (1987) that examined samples of White and Black adolescents (separately by race and sex). Racial differences in the attractiveness correlates were observed on the social/sexual behavior measures, with findings from the White samples being consistent with results from other studies used in the meta-analysis (which presumably were based on majority subjects). Thus, the correlations for Blacks for these measures were not included in the meta-analysis (although the personality correlates of physical attractiveness for Blacks were used). Therefore, the findings from the meta-analysis of social and sexual behavior correlates of attractiveness should not be assumed to be generalizable to Blacks.

[12] Given assumed reliability coefficients of .79 for both physical attractiveness judgments and criterion variables, the obtained correlations (and their CIs) of .05, .10, .20, .30, and .40 are boosted to .06, .13, .25, .38, and .51, respectively, when corrections for attenuation are applied. In most of the results that follow, disattenuated correlations are only slightly higher than the raw correlations.

(text continues on page 318)

Table 3
Description of Studies Used in the Correlates of Attractiveness Meta-Analysis (Study 2)

Study	Publication status	Type of sample	Gender	*n*	Attractiveness measures	PA-rating	No. of judges	$\bar{r}$	r_{tt}	Accuracy
Adams, 1976, 1977	Unpublished	College students	M	81	PA, SRPA	Live	4	.64	.88	.39
Adams, 1976, 1977	Unpublished	College students	F	100	PA, SRPA	Live	4	.74	.92	.32
Adams & Read, 1983	Published	College students	F	80	PA	Live	2	.56	.72	—
Adams & Wareham, ND	Unpublished	General adults	M	128	PA, SRPA	Interv	1	.84[a]	.84	.24
Adams & Wareham, ND	Unpublished	General adults	F	173	PA, SRPA	Interv	1	.84[a]	.84	.37
Allen & Potkay, 1983	Published	College students	M	36	PA	Live	4	—	.82[b]	—
Anderson, 1978	Published	College students	M	28	PA	Live	4	.52	.81	—
Anderson, 1978	Published	College students	F	35	PA	Live	4	.52	.81	—
Berg, 1980	Unpublished	College students	M	29	PA, SRPA	Video	4	.55	.83	.09
Berg, 1980	Unpublished	College students	F	35	PA, SRPA	Video	4	.59	.85	.21
D. S. Berry, 1989	Unpublished	College students	M	24	PA	Photo	20	.25	.87	—
D. S. Berry, 1989	Unpublished	College students	F	24	PA	Photo	20	.27	.88	—
D. S. Berry & Bronlow, 1989	Unpublished	College students	M	24	PA, SRPA	Photo	23	.27	.89	.33
D. S. Berry & Bronlow, 1989	Unpublished	College students	F	24	PA, SRPA	Photo	24	.25	.90	.26
V. M. Berry, 1988	Unpublished	Military students	M	50	PA	Photo	30	.29	.92	—
Berscheid, Dion, Walster, & Walster, 1971	Published	College students	Mixed	347	PA	Live	4	.48	.78	—
Berscheid et al., 1971	Published	College students	M	56	PA	Photo	4	—	.82[b]	—
Berscheid et al., 1971	Published	College students	F	56	PA	Photo	4	—	.82[b]	—
Brideau, 1982	Unpublished	College students	M	23	PA	Video	12	.43	.90	—
Brideau, 1982	Unpublished	College students	F	18	PA	Video	12	.43	.90	—
Brunswick, 1945	Published	College students	M	46	PA	Photo	95	—	.99[b]	—
Burns, 1986; Burns & Farina, 1987	Published	College students	F	280	PA	Live	2	.71	.83	—
Calvert, 1984; Baker & Calvert, 1985	Unpublished	College students	F	40	PA	Live	3	.72	.89	—
Cash & Begley, 1976	Published	College students	M	32	PA	Live	2	.82	.90	—
Cash & Begley, 1976	Published	College students	F	32	PA	Live	2	.82	.90	—
Cash, Cash, & Butters, 1983	Published	College students	F	51	SRPA	—	—	—	—	—
Cash & Smith, 1982	Published	College students	M	40	PA	Live	2	.74	.85	—
Cash & Smith, 1982	Published	College students	F	101	PA	Live	2	.76	.87	—
Chaiken, 1979	Published	College students	M	34	PA	Photo	56	—	—	—
Chaiken, 1979	Published	College students	F	34	PA	Photo	56	—	—	—
Cheek & Buss, 1981	Published	College students	F	40	PA	Video	2	.70	.82	—
Curran, 1971, 1973	Unpublished	College students	M	80	PA, SRPA	Live	3	.40	.67	.35
Curran, 1971, 1973	Unpublished	College students	F	74	PA, SRPA	Live	3	.59	.81	.36
Curran, Neff, & Lippold, 1973; Curran & Lippold, 1975	Published	College students	M	294	PA, SRPA	Live	5	.35	.73	.41
Curran et al., 1973; Curran & Lippold, 1975	Published	College students	F	294	PA, SRPA	Live	5	.50	.83	.47
Curran, 1975; Curran & Lippold, 1975	Published	College students	M	98	PA, SRPA	Live	6	.45	.83	.31
Curran, 1975; Curran & Lippold, 1975	Published	College students	F	98	PA, SRPA	Live	6	.60	.90	.54
Dermer, 1974	Unpublished	College students	F	108	PA	Live	5	.52	.84	—
Dermer, 1976	Unpublished	College students	F	229	PA	Video	6	.57	.89	—
Driver, 1989	Unpublished	College students	M	100	PA, SRPA	Video	10	.37	.86	.23
Driver, 1989	Unpublished	College students	F	100	PA, SRPA	Video	10	.50	.91	.23
Fanelli, 1981	Unpublished	College students	M	182	SRPA	—	—	—	—	—
Fanelli, 1981	Unpublished	College students	F	288	SRPA	—	—	—	—	—
Farina et al., 1977	Published	Employees	F	30	PA	Live	1	—	.54[b]	—
Farina et al., 1977	Published	Shoppers	F	29	PA	Live	2	.95	.97	—
Feingold, 1982, 1984	Mixed	College students	M	75	PA, SRPA	Photo	4	.56	.83	.19
Feingold, 1982, 1984	Mixed	College students	F	75	PA, SRPA	Photo	4	.63	.87	−.09
Feingold & Mazzella, 1991, in press	Unpublished	Park visitors	Mixed	195	SRPA	—	—	—	—	—
Feingold & Mazzella, 1991	Unpublished	College students	Mixed	58	SRPA	—	—	—	—	—
Firth, 1986	Unpublished	College students	M	39	PA	Video	8	.45	.87	—
Firth, 1986	Unpublished	College students	F	23	PA	Video	8	.61	.93	—
Franzoi & Herzog, 1986	Unpublished	College students	M	193	SRPA	—	—	—	—	—
Franzoi & Herzog, 1986	Unpublished	College students	F	147	SRPA	—	—	—	—	—
Friedman, Riggio, & Casella, 1988	Published	College students	Mixed	54	PA	Video	12	.29	.83	—

Table 3 (*continued*)

Study	Publication status	Type of sample	Gender	*n*	Attractiveness measures	PA-rating	No. of judges	$\bar{r}$	r_u	Accuracy
Funder & Colvin, 1988	Unpublished	College students	M	81	PA, SRPA	Video	2	.39	.56	.20
Funder & Colvin, 1988	Unpublished	College students	F	82	PA, SRPA	Video	2	.39	.56	.20
Funder & Harris, 1987	Unpublished	College students	M	28	SRPA	—	—	—	—	—
Funder & Harris, 1987	Unpublished	College students	F	28	SPRA	—	—	—	—	—
Gardner Coleman, 1978	Unpublished	College students	F	104	SRPA	—	—	—	—	—
Goldman & Lewis, 1977	Published	College students	M	60	PA, SRPA	Photo	3	.35	.62	−.01
Goldman & Lewis, 1977	Published	College students	F	60	PA, SRPA	Photo	3	.51	.76	.39
Graham & Perry, 1976	Published	Students/employees	F	201	SRPA	—	—	—	—	—
Grant & Fodor, 1986	Published	HS students	M	55	SRPA	—	—	—	—	—
Grant & Fodor, 1986	Published	HS students	F	113	SRPA	—	—	—	—	—
Haemmerlie, Montgomery, & Melchers, 1988	Published	College students	Mixed	78	SRPA	—	—	—	—	—
Hagelauer, 1976	Published	College students	F	25	PA, SRPA	Live	2	.70	.82	.08
Herold, 1979	Published	College students	M	200	SRPA	—	—	—	—	—
Herold, 1979	Published	College students	F	130	SRPA	—	—	—	—	—
Hill, Rubin, & Peplau, 1976; Peplau, Rubin, & Hill, 1977	Unpublished	College students	M	214	PA, SRPA	Photo	4	—	.82[b]	—
Hill et al., 1976; Peplau et al., 1977	Unpublished	College students	F	211	PA, SRPA	Photo	4	—	.82[b]	—
Hull, 1928	Published	College students	F	40	PA	Photo	20	.50	.95	—
Huston, 1973a, 1973b	Published	College students	M	114	SRPA	—	—	—	—	—
Huston, 1973a, 1973b	Published	College students	F	86	SRPA	—	—	—	—	—
Jackson & Huston, 1975	Published	College students	F	30	PA	Live	2	—	—	—
Jenkins, 1987	Unpublished	College students	M	87	PA, SRPA	Photo	6	—	.88[b]	.08
Jenkins, 1987	Unpublished	College students	F	128	PA, SRPA	Photo	6	—	.88[b]	.08
Jones, Freemon, & Goswick, 1981	Published	College students	M	35	PA	Live	2	—	.70[b]	—
Jones et al., 1981	Published	College students	F	35	PA	Live	2	—	.70[b]	—
Jones, Briggs, & Smith, 1986	Published	College students	Mixed	30	PA	Video	6	—	.88[b]	—
Jones et al., 1986	Published	College students	Mixed	39	PA	Video	8	—	.90[b]	—
Jovanovic, Lerner, & Lerner, 1989	Unpublished	6th graders	M	66	PA, SRPA	Photo	NA	—	—	.15
Jovanovic et al., 1989	Unpublished	6th graders	F	62	PA, SRPA	Photo	NA	—	—	.15
Kaats & Davis, 1970	Published	College students	F	84	PA, SRPA	Live	2	.79	.88	.18
Kelso, 1978	Unpublished	College students	F	77	PA, SRPA	Live	2	.85	.92	.32
Kleim, Campbell, & Olson, 1983; Campbell, Kleim, & Olson, 1986	Mixed	College students	M	21	PA	Video	4	.55	.83	—
Kleim et al., 1983; Campbell et al., 1986	Mixed	College students	F	41	PA	Video	4	.55	.83	—
Kolko, 1983	Unpublished	College students	M	100	SRPA	—	—	—	—	—
Kolko, 1983	Unpublished	College students	F	160	SRPA	—	—	—	—	—
Krebs & Adinolfi, 1975	Published	College students	M	60	PA	Photo	8	.69	.94	—
Krebs & Adinolfi, 1975	Published	College students	F	60	PA	Photo	8	.69	.94	—
Kuhlenschmidt & Conger, 1988	Unpublished	College students	F	35	PA	Video	8	.44	.86	—
Lerner & Brackney, 1978	Published	College students	M	72	SRPA	—	—	—	—	—
Lerner & Brackney, 1978	Published	College students	F	107	SRPA	—	—	—	—	—
Lerner & Karabenick 1974	Published	College students	M	70	SRPA	—	—	—	—	—
Lerner & Karabenick, 1974	Published	College students	F	119	SRPA	—	—	—	—	—
Lerner, Orlos, & Knapp, 1976	Published	College students	M	124	SRPA	—	—	—	—	—
Lerner et al., 1976	Published	College students	F	218	SRPA	—	—	—	—	—
Lipson, Przybyla, & Byrne, 1983	Published	College students	Mixed	86	PA	Live	3	.49	.74	—
MacCorquodale & DeLamater, 1979; DeLamater & MacCorquodale, 1979; Sprecher, McKinney, DeLamater, & Hatfield, 1981	Mixed	Young adults	M	652	PA, SRPA	Interv	1	—	.54[b]	.17
MacCorquodale & DeLamater, 1979; DeLamater & MacCorquodale, 1979; Sprecher et al., 1981	Mixed	Young adults	F	724	PA, SRPA	Interv	1	—	.54[b]	.14

(table continues)

Table 3 (*continued*)

Study	Publication status	Type of sample	Gender	n	Attractiveness measures	PA-rating	No. of judges	$\bar{r}$	r_{tt}	Accuracy
Mahoney, 1978	Published	College students	M	98	SRPA	—	—	—	—	—
Mahoney, 1978	Published	College students	F	129	SRPA	—	—	—	—	—
Major, Carrington, & Carnevale, 1984	Published	College students	M	38	SRPA	—	—	—	—	—
Major et al., 1984	Published	College students	F	27	SRPA	—	—	—	—	—
Mandel & Shrauger, 1980	Published	College students	M	37	PA	Live	2	.82	.90	—
Mathes, 1974; Mathes & Kahn, 1975	Mixed	College students	M	110	PA, SRPA	Live	4	.51	.81	.26
Mathes, 1974; Mathes & Kahn, 1975	Mixed	College students	F	101	PA, SRPA	Live	4	.51	.81	.39
Merluzzi & Biever, 1987	Published	College students	M	36	PA	Live	3	—	.78[b]	—
G. J. Miller, 1987	Unpublished	College students	Mixed	100	SRPA	—	—	—	—	—
G. J. Miller, 1987	Unpublished	College students	Mixed	100	SRPA	—	—	—	—	—
G. J. Miller, 1987	Unpublished	College students	Mixed	100	SRPA	—	—	—	—	—
L. C. Miller & Cox, 1982	Mixed	College students	F	42	PA	Photo	3	.41	.68	—
Minahan, 1971	Unpublished	HS students	F	102	PA	Live	2	—	.70[b]	—
Minahan, 1971	Unpublished	HS students	F	101	PA	Live	2	—	.70[b]	—
Mohr, 1932	Published	College students	M	25	PA	Live	24	—	.97[b]	—
Mohr, 1932	Published	College students	F	25	PA	Live	24	—	.97[b]	—
Mohr & Lund, 1933	Published	College students	M	25	PA	Live	24	—	.97[b]	—
Mohr & Lund, 1933	Published	College students	F	25	PA	Live	24	—	.97[b]	—
Moisan-Thomas, 1980; Moisan-Thomas, Conger, Zellinger, & Firth, 1985	Mixed	College students	M	36	PA, SRPA	Video	4	.44	.76	—
Moisan-Thomas, 1986	Unpublished	College students	M	45	PA, SRPA	Video	8	.57	.91	—
Moran & McCullers, 1984	Published	HS students	Mixed	320	PA	Photo	30	—	—	—
Murphy, Nelson, & Cheap, 1981	Published	HS students	M	24	PA	Photo	20	—	.96[b]	—
Murphy et al., 1981	Published	HS students	F	17	PA	Photo	20	—	.96[b]	—
Murstein, Chalpin, Heard, & Vyse, 1989	Published	College students	M	125	SRPA	—	—	—	—	—
Murstein et al., 1989	Published	College students	F	170	SRPA	—	—	—	—	—
Murstein & Holden, 1979	Published	College students	M	184	SRPA	—	—	—	—	—
Murstein & Holden, 1979	Published	College students	F	163	SRPA	—	—	—	—	—
Naficy, 1982	Unpublished	College students	M	90	PA, SRPA	Live	2	.78	.87	.00
Naficy, 1982	Unpublished	College students	F	70	PA, SRPA	Live	2	.79	.88	.30
Nelson, Hayes, Felton, & Jarrett, 1985	Published	College students	M	25	PA	Live	7	—	.90[b]	—
Nelson et al., 1985	Published	College students	F	25	PA	Live	7	—	.90[b]	—
Noles et al., 1985	Published	College students	Mixed	77	PA, SRPA	Live	13	.60	.95	—
O'Grady, 1982	Published	College students	M	120	PA	Live	4	.56	.84	—
O'Grady, 1982	Published	College students	F	120	PA	Live	4	.56	.84	—
O'Grady, 1989	Published	College students	M	64	PA	Photo	3	.46	.72	—
O'Grady, 1989	Published	College students	F	63	PA	Photo	3	.46	.72	—
Padin, Lerner, & Spiro, 1981	Published	College students	Mixed	84	SRPA	—	—	—	—	—
Parra, 1989	Unpublished	College students	M	30	PA	Photo	NA	—	—	—
Parra, 1989	Unpublished	College students	F	30	PA	Photo	NA	—	—	—
Paschall, 1973	Unpublished	HS students	M	72	PA, SRPA	Photo	8	.39	.83	.23
Paschall, 1973	Unpublished	HS students	F	136	PA, SRPA	Photo	8	.47	.86	.17
Pennington, 1973	Unpublished	College students	M	150	PA, SRPA	Live	7	—	.90[b]	.28
Pennington, 1973	Unpublished	College students	F	150	PA, SRPA	Live	7	—	.90[b]	.21
Perry, 1987	Unpublished	8th graders	Mixed	160	SRPA	—	—	—	—	—
Pilkonis, 1977a, 1977b	Unpublished	College students	M	23	PA	Live	3	—	.78[b]	—
Pilkonis, 1977a, 1977b	Unpublished	College students	F	23	PA	Live	3	—	.78[b]	—
Pittenger & Baskett, 1984	Published	College students	Mixed	64	PA, SRPA	Photo	63	—	.99[b]	.47
Prisbell, 1982, 1987	Unpublished	College students	Mixed	200	SPRA	—	—	—	—	—
Prisbell, 1986, 1988	Published	College students	Mixed	174	SRPA	—	—	—	—	—
Raskin & Terry, 1988	Published	College students	Mixed	57	PA	Live	12	—	.94[b]	—
Reis, Nezlek, & Wheeler, 1980	Published	College students	M	35	PA	Photo	96	.33	.98	—
Reis et al., 1980	Published	College students	F	36	PA	Photo	96	.33	.98	—
Reis, Wheeler, Spiegel, Kernis, & Perri, 1982; Reis, Wheeler, Kernis, Spiegel, & Nezlek, 1985	Mixed	College students	M	43	PA	Photo	87	.33	.98	—

Table 3 (*continued*)

Study	Publication status	Type of sample	Gender	*n*	Attractiveness measures	PA-rating	No. of judges	$\bar{r}$	r_u	Accuracy
Reis et al., 1982, 1985	Mixed	College students	F	53	PA	Photo	87	.33	.98	—
Riggio, 1986	Unpublished	College students	Mixed	38	PA	Photo	9	.47	.89	—
Rowan, 1987	Unpublished	College students	M	30	PA, SRPA	Live	3	.56	.80	.08
Rowan, 1987	Unpublished	College students	F	30	PA, SRPA	Live	3	.56	.80	.08
Rowe, Clapp, & Wallis, 1987	Published	College students	M	28	PA	Photo	4	—	.82[b]	—
Rowe et al., 1987	Published	College students	F	22	PA	Photo	4	—	.82[b]	—
Sarason, Sarason, Hacker, & Basham, 1985	Published	College students	M	84	PA	Photo	8	.45	.87	—
Sarason et al., 1985	Published	College students	F	84	PA	Photo	8	.45	.87	—
Schneider, Conger, & Firth, 1986	Unpublished	College students	M	18	PA	Photo	30	.53	.96	—
Schneider et al., 1986	Unpublished	College students	F	18	PA	Photo	30	.41	.95	—
Schultz & Moore, 1988; Moore & Schultz, 1983	Unpublished	HS students	M	44	SRPA	—	—	—	—	—
Schultz & Moore, 1988; Moore & Schultz, 1983	Unpublished	HS students	F	52	SRPA	—	—	—	—	—
Schultz & Moore, 1988	Unpublished	College students	M	58	SRPA	—	—	—	—	—
Schultz & Moore, 1988	Unpublished	College students	F	52	SRPA	—	—	—	—	—
Schultz & Moore, 1984, 1988	Unpublished	Elderly (retirees)	M	25	SRPA	—	—	—	—	—
Scultz & Moore, 1984, 1988	Unpublished	Elderly (retirees)	F	33	SRPA	—	—	—	—	—
Scott, 1987	Unpublished	College students	Mixed	124	PA	Video	5	—	.85[b]	—
Shea, Crossman, & Adams, 1978	Published	College students	M	147	PA	Live	1	.79[a]	.79	—
Shea et al., 1978	Published	College students	F	147	PA	Live	1	.79[a]	.79	—
Simmons & Rosenberg, 1975	Published	Adolescents	M	512	SRPA	—	—	—	—	—
Simmons & Rosenberg, 1975	Published	Adolescents	F	494	SRPA	—	—	—	—	—
Simons, 1984	Unpublished	General adults	F	119	SRPA	—	—	—	—	—
Singer, 1964	Published	College students	F	192	PA	Live	8	—	.90[b]	—
Smith, 1985	Unpublished	College students	Mixed	61	PA	Photo	12	.50	.92	—
Snyder, Simpson, & Gangestad, 1986	Published	College students	Mixed	145	SRPA	—	—	—	—	—
Snyder et al., 1986	Published	College students	Mixed	99	SRPA	—	—	—	—	—
Sparacino, 1980	Published	College students	M	797	PA	Photo	10	.39	.86	—
Sparacino & Hansell, 1979	Published	College students	M	55	PA	Photo	11	.47	.91	—
Sparacino & Hansell, 1979	Published	College students	F	65	PA	Photo	11	.47	.91	—
Sparacino & Hansell, 1979	Published	College students	M	50	PA	Photo	10	.60	.94	—
Sparacino & Hansell, 1979	Published	College students	F	87	PA	Photo	10	.60	.94	—
Spreadbury & Reeves, 1979	Published	College students	F	323	SPRA	—	—	—	—	—
Stein, Newcomb, & Bentler, 1986	Unpublished	Young adults	M	221	SRPA	—	—	—	—	—
Stein et al., 1986	Unpublished	Young adults	F	518	SRPA	—	—	—	—	—
Steffen & Redden, 1977	Published	College students	M	40	PA	Video	2	—	.70[b]	—
Steltzer, Desmond, & Price, 1987	Published	College students	F	89	PA	Live	3	—	—	—
Tinken, 1975	Unpublished	College students	F	27	PA	Photo	23	.45	.95	—
Turner, Gilliand, & Klein, 1981	Published	College students	M	40	PA	Live	2	.52	.69	—
Turner et al., 1981	Published	College students	F	63	PA	Live	2	.52	.69	—
Turner et al., 1981	Published	College students	F	99	PA	Live	4	.47	.78	—
Udry & Billy, 1987	Unpublished	White JHS students	M	292	PA	Interv	1	—	.54[b]	—
Udry & Billy, 1987	Unpublished	White JHS students	F	370	PA	Interv	1	—	.54[b]	—
Udry & Billy, 1987	Unpublished	Black JHS students	M	35	PA	Interv	1	—	.54[b]	—
Udry & Billy, 1987	Unpublished	Black JHS students	F	95	PA	Interv	1	—	.54[b]	—
Udry & Eckland, 1984	Published	HS students	M	601	PA	Photo	6	—	.92[b]	—
Udry & Eckland, 1984	Published	HS students	F	745	PA	Photo	6	—	.92[b]	—
Walster, Aronson, Abrahams, & Rottmann, 1966	Published	College students	M	327	PA	Live	4	.54	.82	—
Walster et al., 1966	Published	College students	F	327	PA	Live	4	.54	.82	—
Wessberg, Mariotto, Conger, Farrell, & Conger, 1979	Published	College students	M	45	PA	Video	6	.35	.76	—
Williams, 1977; Williams & Ciminero, 1978	Mixed	College students	F	254	PA, SRPA	Video	2	.70	.82	—
Williams, 1980	Unpublished	College students	F	151	PA, SRPA	Video	2	—	.70[b]	.13
Williams, 1983	Mixed	College students	M	91	SRPA	—	—	—	—	—
Williams, 1983	Mixed	College students	F	94	SRPA	—	—	—	—	—
Wright, 1983	Unpublished	College students	Mixed	144	PA, SRPA	Video	2	.48	.65	—

(table continues)

Table 3 (*continued*)

Study	Publication status	Type of sample	Gender	*n*	Attractiveness measures	PA-rating	No. of judges	$\bar{r}$	r_{tt}	Accuracy
Zakahi & Duran, 1988	Published	College students	M	20	PA	Photo	3	.58	.81	—
Zakahi & Duran, 1988	Published	College students	F	28	PA	Photo	3	.32	.59	—
Zellinger, 1984	Unpublished	College students	M	70	PA	Video	7	.34	.78	—

Note. PA-Rating = physical-attractiveness-rating method; $\bar{r}$ = mean interrater reliability for physical attractiveness judgments; r_{tt} = composite reliability of physical attractiveness judgments; accuracy = correlation between PA and self-rated PA (SRPA); M = male; F = female; Interv = PA rated in person by interviewer; ND = no date; Video = PA rated from videotapes; Photo = PA rated from photographs; Mixed = some correlations used in the meta-analysis were published, and some were obtained directly from investigators; HS = high school; JHS = junior high school; NA = not available. Dashes signify inapplicable, unexamined, or unreported.

[a] Study used two raters to judge a small subsample to establish interrater reliability. [b] No reliability information was reported. The tabled value is an estimate-based on adjustment of assumed interrater reliability of .54 (obtained from meta-analysis of reliability-reporting studies) for number of judges used in this study.

Turning to the correlations between physical attractiveness and the measures of social behavior, academic ability, and sexuality (see bottom half of Table 6), the measures of social behavior and sexual experience (except for number of partners) were found to be positively correlated with physical attractiveness; attitudinal sexual permissiveness and academic ability, however, were unassociated with physical attractiveness.

The two social behavior measures, popularity with the opposite sex and social skills, were appreciably correlated (*r*s = .23–.31) with physical attractiveness. Number of same-sex friends, by comparison, had a much smaller correlation (*r* = .08) with physical attractiveness. The significant correlations between the sexual experience measures and physical attractiveness were relatively small (*r*s = .07–.18).

Average correlation coefficients (by sex of sample). This subsection examines the within-sex correlations (see the first and second rows of results for each variable in Table 6) and the sex differences in correlations (see the last two columns in Table 6). Four significant sex differences were found: Physical attractiveness was more strongly correlated with self-esteem, opposite-sex popularity,[13] grades, and sexual permissiveness for women than for men. Given these sex differences, the correlates were examined by sex. For men, physical attractiveness was significantly and positively correlated with two measures of social comfort (freedom from both heterosocial anxiety and loneliness), with all three social behavior measures, and with two of the six sexual experience measures. However, attractive men were less intelligent and more publicly self-conscious than unattractive men. For women, physical attractiveness was significantly and positively related to a broader range of attributes than was found for men, including dominance, general mental health, self-esteem, social comfort (except for freedom from self-consciousness), the social behavior measures (except for number of same-sex friends), grades, and all but one of the sexual experience measures. The only significant negative correlation for women was between physical attractiveness and freedom from public self-consciousness. An examination of the magnitude of the associations for women indicates that the correlations between physical attractiveness and basic personality dispositions (e.g., dominance, mental health) were consistently below .10. Thus, physical attractiveness was essentially unrelated to these dimensions for both sexes.

Self-Rated Physical Attractiveness

Description of database. Fifty-seven studies were found that could be included in the meta-analysis of correlations between self-rated physical attractiveness and other characteristics; these studies reported findings from 100 independent samples (N = 13,538)—39 male samples (n = 4,911), 46 female samples (n = 6,849), and 15 mixed-sex samples (n = 1,778). There were 261 correlations that were used in the meta-analysis—194 in personality, 18 in social behavior, 15 in cognitive ability, and 34 in sexuality. By sex, there were 105 correlations from male samples, 121 correlations from female samples, and 35 correlations from mixed-sex samples. Only one third (34%) of the correlations were extracted or calculated from published data sources.

Correlation between self-rated physical attractiveness and physical attractiveness. Twenty-seven of the studies that measured self-rated physical attractiveness also examined judge-rated physical attractiveness. Twenty-one of these studies reported the correlation between the two types of attractiveness ratings (see last column in Table 3, accuracy, for the findings from individual studies). These studies used 43 independent samples (N = 5,226)—19 male samples (n = 2,311), 23 female samples (n = 2,851), and 1 mixed-sex sample (n = 64). The weighted mean correlations between the two attractiveness ratings were .24, .25, and .24 for the male, female, and all samples, respectively.

Average correlation coefficients (collapsed across sex of sample). Table 7 contains the correlations between self-rated physical attractiveness and personality measures extracted from studies used in the meta-analysis; Table 8 contains the correlations between self-rated physical attractiveness and measures of social behavior, cognitive ability, and sexual behavior. Table 9 contains the meta-analysis of the correlations given in Table 7 and Table 8. This subsection examines the correlations that are based on all samples (i.e., averaged over sex of sample).

[13] Feingold (1990) conducted a separate meta-analysis of the correlations between physical attractiveness and romantic popularity using only studies that had sampled both sexes and that reported results separately by sex. Pooling of within-study gender differences in correlations also found the correlation to be stronger for women than for men, although the effect size (q) was larger in that subset of studies.

As indicated in the third row of meta-analytic results (weighted mean correlations) for each variable listed in Table 9, self-rated physical attractiveness was positively correlated with all of the extraversion and mental health measures and with all of the social comfort measures except for freedom from public self-consciousness. Neither of the two character measures was related to self-rated physical attractiveness.

With respect to magnitude, the mean correlations for sociability, dominance, general mental health, and freedom from general social anxiety were in the low-to-mid-.20s. The highest correlations were for self-esteem and freedom from heterosocial anxiety (both about .30), and the lowest correlations (about .12) were found for internal locus of control and freedom from loneliness.

Self-rated physical attractiveness was moderately predictive of opposite-sex popularity (r = .28) but was unrelated to social skills and intellectual ability. However, self-rated attractiveness was correlated with all of the sexuality measures, although the correlation for attitudinal sexual permissiveness (r = .06) was much smaller than the correlations for sexual experience (rs = .09–.20).

Average correlation coefficients (by sex of sample). Six significant sex differences were found (see last two columns in Table 9). For self-esteem, intelligence, and current sexual experience, the correlations with self-rated attractiveness were larger for women than for men; for opposite-sex popularity, number of sex partners, and global sexual experience, the correlations were higher for men than for women.

Turning to the within-sex results, for men, self-rated physical attractiveness was positively and significantly correlated with all personality measures with the exceptions of freedom from public self-consciousness and the two character measures. These correlations were all in the mid-.20s, with the exceptions of correlations of about .15 for internal locus of control, freedom from loneliness, and freedom from general social anxiety, about .20 for sociability, and .32 for freedom from heterosocial anxiety. Opposite-sex popularity yielded the largest correlate of self-rated physical attractiveness (r = .37) for men. Sexual permissiveness had a small correlation (r = .08) with self-rated physical attractiveness, and slightly larger correlations (rs = .09–.23) were found for five of the six sexual experience measures.

For women, similar results were obtained: self-rated physical attractiveness was positively correlated with all of the personality measures except for freedom from public self-consciousness and the two character measures, but was not related to social skills or ability. However, unlike for men, women showed no significant correlation between self-rated attractiveness and sexual permissiveness. Finally, four of the sexual experience measures were positively related to self-rated attractiveness for women (rs = .10–.44).

Discussion

The meta-analysis confirmed the earlier finding by Feingold (1988) that the correlation between physical attractiveness and self-rated physical attractiveness is about .24 for both sexes. Moreover, the pattern of attractiveness correlates differed markedly with rating. Basic personality dimensions such as dominance, emotional stability, and self-esteem were essentially unrelated to physical attractiveness but were notably and positively correlated with self-judgments of physical attractiveness. By contrast, social skills and freedom from public self-consciousness were correlated with physical attractiveness but not with the self-ratings of attractiveness. The academic ability measures were unassociated with both attractiveness ratings. Finally, the most socially related measures (i.e., freedom from social anxiety and loneliness, opposite-sex popularity, sexual experience) were correlated with both attractiveness measures.

These correlational results do not bear directly on the validity of the expectancy model. However, the magnitude and pattern of correlations for self-rated physical attractiveness provided some support for the self-esteem model. As predicted by the model, self-esteem was the largest personality correlate of self-rated physical attractiveness. However, the effect size (r = .34) was lower than what would have been predicted. More important, the correlation was not that much higher than the correlations found for dominance, mental health, sociability, and freedom from heterosocial anxiety. Thus, although the correlations found between self-rated physical attractiveness and other characteristics were consistent with the self-esteem model, the amount of the support was relatively weak.

Study 3: Comparisons Between Experimental and Correlational Findings

Method

Conceptual Framework

In Study 1 and Study 2 I examined effects of attractiveness on a number of dependent variables, including five variables that were examined in both studies: sociability, dominance, general mental health, intelligence, and social skills. Although character was conceptualized as a single construct in Study 1, it was represented by two variables, freedom from self-absorption and freedom from manipulativeness, in Study 2. A review of the traits categorized as character in Study 1 suggested that Study 2's freedom-from-manipulativeness dimension was the more appropriate correlational analogue of the experimental character variable.[14] Finally, although effects of attractiveness on sexuality were examined in both studies, the construct of sexual warmth used in Study 1 did not appear to be comparable to either of the two types of sexuality measures (sexual permissiveness, sexual experience) used in Study 2, precluding meaningful comparisons of experimental and correlational findings for the sexuality domain. Thus, this study compares the experimental findings obtained in Study 1 for sociability, dominance, general mental health, character, intelligence, and social skills with the corresponding correlates of attractiveness (separately for each of the two types of attractiveness measures) obtained in Study 2.

Data Analysis

In Study 1, I used the d metric to express effect size, whereas in Study 2, I used the r metric. Thus, before the mean effect size comparisons

[14] Because both character measures correlated similarly with both types of attractiveness ratings, the selection of the character measure to use in the experimental–correlational comparisons was inconsequential.

(text continues on page 323)

Table 4
Correlations Between Physical Attractiveness and Personality Measures from Studies Used in Correlates of Attractiveness Meta-Analysis (Study 2)

Study	Gender	*n*	Extra-version		Mental health			Social comfort				Character	
			Soc	Dom	Gen	SE	Loc	Lon	GSA	HsA	PSC	SAb	Man
Adams, 1976, 1977	M	81	—	.02	−.07	.30	.16	—	.06	—	—	.00	—
Adams, 1976, 1977	F	100	—	.02	−.07	.30	.16	—	.06	—	—	.00	—
Adams & Read, 1983	F	80	—	.20	—	—	—	—	—	—	—	—	—
Adams & Wareham, ND	M	128	—	.04	−.09	−.19	−.11	—	−.04	—	—	—	—
Adams & Wareham, ND	F	173	—	.16	−.10	.08	−.03	—	.21	—	—	—	—
Allen & Potkay, 1983	M	36	—	—	—	.36	—	—	—	—	—	—	—
Anderson, 1978	M	28	—	—	—	—	.00	—	—	—	—	—	—
Anderson, 1978	F	35	—	—	—	—	.00	—	—	—	—	—	—
Berg, 1980	M	29	—	—	−.13	—	—	—	—	—	—	—	—
Berg, 1980	F	35	—	—	−.07	—	—	—	—	—	—	—	—
D. S. Berry, 1989	M	24	.32	.33	—	—	—	—	—	—	—	—	—
D. S. Berry, 1989	F	24	−.01	.26	—	—	—	—	—	—	—	—	—
D. S. Berry & Bronlow 1989	M	24	−.19	−.10	.13	—	—	.04	—	—	—	—	—
D. S. Berry & Bronlow 1989	F	24	−.04	−.30	−.16	—	—	.01	—	—	—	—	—
Berscheid, Dion, Walster, & Walster, 1971	M	56	—	—	—	−.03	—	—	—	—	—	—	—
Berscheid et al., 1971	F	56	—	—	—	.16	—	—	—	—	—	—	—
Burns, 1986; Burns & Farina, 1987	F	280	—	.16	.14	—	—	—	—	—	—	—	—
Cash & Begley, 1976	M	32	—	—	—	—	.49	—	—	—	—	—	—
Cash & Begley, 1976	F	32	—	—	—	—	.41	—	—	—	—	—	—
Cash & Smith, 1982	M	40	—	—	.34	—	.45	—	—	—	—	—	—
Cash & Smith, 1982	F	101	—	—	.00	—	.07	—	—	—	—	—	—
Chaiken, 1979	M	34	—	.00	—	—	.00	—	—	—	—	—	—
Chaiken, 1979	F	34	—	.00	—	—	.00	—	—	—	—	—	—
Cheek & Buss, 1981	F	40	.00	—	—	—	—	—	.00	—	—	—	—
Curran & Lippold, 1975	M	294	—	—	—	—	—	—	—	.19	—	—	—
Curran & Lippold, 1975	F	294	—	—	—	—	—	—	—	.32	—	—	—
Curran & Lippold, 1975	M	98	—	—	—	—	—	—	—	.16	—	—	—
Curran & Lippold, 1975	F	98	—	—	—	—	—	—	—	.26	—	—	—
Dermer, 1976	F	229	—	—	—	−.02	—	—	—	—	—	—	—
Driver, 1989	M	100	.18	−.04	—	.04	—	—	.05	.19	−.17	.06	—
Driver, 1989	F	100	−.02	−.11	—	.04	—	—	−.05	.05	−.16	−.14	—
Farina et al., 1977	F	30	—	—	.22	—	—	—	—	—	—	—	—
Farina et al., 1977	F	29	—	—	.66	—	—	—	—	—	—	—	—
Feingold, 1982, 1984	M	75	−.09	.11	−.06	−.04	—	—	—	—	—	—	—
Feingold, 1982, 1984	F	75	.06	.16	−.05	.01	—	—	—	—	—	—	—
Firth, 1986	M	39	—	—	—	—	—	—	—	.11	—	—	—
Firth, 1986	F	23	—	—	—	—	—	—	—	.41	—	—	—
Friedman, Riggio, & Casella, 1988	Mixed	54	.11	—	—	—	—	—	—	—	—	—	—
Funder & Colvin, 1988	M	77	.19	—	.08	—	—	—	—	—	—	—	—
Funder & Colvin, 1988	F	74	−.02	—	−.07	—	—	—	—	—	—	—	—
Hagelauer, 1976	F	25	—	−.26	.08	—	—	—	—	—	—	—	—
Hill, Rubin, & Peplau, 1976	M	74	—	—	—	—	−.11	—	—	—	—	—	—
Hill et al., 1976	F	72	—	—	—	—	.05	—	—	—	—	—	—
Jackson & Huston, 1975	F	30	—	.22	—	—	—	—	—	—	—	—	—
Jenkins, 1987	M	87	—	—	—	.10	—	—	—	—	—	—	—
Jenkins, 1987	F	128	—	—	—	.10	—	—	—	—	—	—	—
Jones, Freemon, & Goswick, 1981	M	35	—	—	—	—	—	.05	—	—	—	—	—
Jones et al., 1981	F	35	—	—	—	—	—	−.04	—	—	—	—	—
Jones, Briggs, & Smith 1986	Mixed	30	—	—	—	—	—	—	.15	—	—	—	—
Jones et al., 1986	Mixed	39	—	.00	—	—	—	—	−.12	—	—	—	—
Jovanovic, Lerner, & Lerner, 1989	M	61	—	—	.17	−.08	—	—	—	—	—	—	—
Jovanovic et al., 1989	F	60	—	—	.05	.16	—	—	—	—	—	—	—
Kaats & Davis, 1970	F	84	—	—	—	.28	—	—	—	—	—	—	—
Kelso, 1978	F	77	—	.10	—	—	—	—	—	—	—	—	—
Kleim, Campbell, & Olson 1983; Campbell, Kleim, & Olson, 1986	M	21	—	.04	—	—	—	—	—	—	—	—	—
Kleim et al., 1983; Campbell et al., 1986	F	41	—	.22	—	—	—	—	—	—	—	—	—
Krebs & Adinolfi, 1975	M	60	.00	.00	—	—	—	—	—	—	—	—	—
Krebs & Adinolfi, 1975	F	60	.00	.00	—	—	—	—	—	—	—	—	—
Kuhlenschmidt & Conger, 1988	F	35	—	—	—	—	—	—	—	.08	—	—	—
Lipson, Przybyla, & Byrne, 1983	Mixed	86	—	—	—	—	—	—	—	—	—	−.24	—
MacCorquodale & DeLamater, 1979; DeLameter & MacCorquodale, 1979; Sprecher et al., 1981	M	652	—	—	—	−.01	.02	—	—	—	—	—	—

Table 4 (*continued*)

Study	Gender	*n*	Extraversion		Mental health			Social comfort				Character	
			Soc	Dom	Gen	SE	Loc	Lon	GSA	HsA	PSC	SAb	Man
MacCorquodale & DeLamater, 1979; DeLamater & MacCorquodale, 1979; Sprecher et al., 1981	F	724	—	—	—	.07	−.01	—	—	—	—	—	—
Mandel & Shrauger, 1980	M	37	—	—	—	—	—	—	—	.43	—	—	—
Mathes, 1974; Mathes & Kahn, 1975	M	110	—	—	−.03	−.04	—	—	—	—	—	—	—
Mathes, 1974; Mathes & Kahn, 1975	F	101	—	—	.22	.24	—	—	—	—	—	—	—
Miller & Cox, 1982	F	42	—	—	—	—	—	—	—	—	−.28	−.47	—
Minahan, 1971	F	102	.00	.00	.00	.00	—	—	—	—	—	—	—
Minahan, 1971	F	101	.00	.00	.00	.00	—	—	—	—	—	—	—
Moisan-Thomas, 1980; Moisan-Thomas, Conger, Zellinger, & Firth 1985	M	36	—	—	—	—	—	—	—	.24	—	—	—
Moisan-Thomas, 1986	M	45	—	—	—	—	—	—	—	.22	—	—	—
Naficy, 1982	M	90	—	.06	.00	—	—	—	—	—	—	—	—
Naficy, 1982	F	70	—	.06	.00	—	—	—	—	—	—	—	—
Noles, Cash, & Winstead, 1985	Mixed	77	—	—	−.08	—	—	—	—	—	—	—	—
O'Grady, 1982	M	120	—	—	.13	—	—	—	—	—	—	—	—
O'Grady, 1982	F	120	—	—	.13	—	—	—	—	—	—	—	—
O'Grady, 1989	M	64	—	−.27	.22	—	—	—	—	—	—	—	—
O'Grady, 1989	F	63	—	.28	.22	—	—	—	—	—	—	—	—
Parra, 1989	M	30	—	—	—	.27	—	—	—	—	—	—	—
Parra, 1989	F	30	—	—	—	−.14	—	—	—	—	—	—	—
Pennington, 1973	M	150	−.13	.06	—	.06	—	—	—	—	—	—	—
Pennington, 1973	F	150	−.03	.01	—	.04	—	—	—	—	—	—	—
Pilkonis, 1976a, 1976b	M	23	—	—	—	—	—	—	.39	—	—	—	—
Pilkonis, 1976a, 1976b	F	23	—	—	—	—	—	—	.39	—	—	—	—
Pittenger & Baskett, 1984	Mixed	64	—	—	—	.08	—	—	—	—	—	—	—
Raskin & Terry, 1988	Mixed	57	—	.11	—	—	—	—	—	—	—	—	−.03
Reis, Wheeler, Spiegel, Kernis, & Perry, 1982	M	43	.16	.24	—	—	—	−.12	.06	.42	−.03	−.22	−.03
Reis, Wheeler, Kernis, Spiegel, & Nezlek, 1985													
Reis et al., 1982, 1985	F	53	.00	−.30	—	—	—	.12	.01	−.12	−.01	.25	.02
Riggio, 1986	Mixed	38	.00	−.14	.15	—	—	—	.19	—	−.20	−.28	.09
Rowan, 1987	M	30	—	—	—	.12	—	—	—	—	—	—	—
Rowan, 1987	F	30	—	—	—	−.01	—	—	—	—	—	—	—
Rowe, Clapp, & Wallis, 1987	M	28	.55	—	.32	—	—	—	—	—	—	—	—
Rowe et al., 1987	F	22	.14	—	.33	—	—	—	—	—	—	—	—
Sarason, Sarason, Hacker, & Basham, 1985	M	84	—	.26	—	—	—	.31	—	—	—	—	—
Sarason et al., 1985	F	84	—	.26	—	—	—	.31	—	—	—	—	—
Shea, Crossman, & Adams 1978	M	147	—	—	—	—	.00	—	—	—	—	—	—
Shea et al., 1978	F	147	—	—	—	—	.00	—	—	—	—	—	—
Smith, 1985	Mixed	61	.14	—	—	—	—	—	—	—	—	—	−.06
Sparacino & Hansell, 1979	M	55	—	—	—	.00	.00	—	—	—	—	—	—
Sparacino & Hansell, 1979	F	65	—	—	—	.00	.00	—	—	—	—	—	—
Sparacino & Hansell, 1979	M	50	—	—	—	.00	−.30	—	—	—	—	—	—
Sparacino & Hansell 1979	F	87	—	—	—	.00	.00	—	—	—	—	—	—
Steffen & Redden, 1977	M	40	—	—	—	—	—	—	.46	—	—	—	—
Turner, Gilliand, & Klein, 1981	M	40	—	—	—	—	—	—	—	—	−.23	.00	—
Turner et al., 1981	F	63	—	—	—	—	—	—	—	—	−.23	.00	—
Turner et al., 1981	F	99	—	—	—	—	—	—	—	—	−.23	—	—
Udry & Billy, 1987	M	292	—	—	—	.10	.05	—	—	—	—	—	—
Udry & Billy, 1987	F	370	—	—	—	.14	.03	—	—	—	—	—	—
Udry & Billy, 1987	M	35	—	—	—	−.16	.24	—	—	—	—	—	—
Udry & Billy, 1987	F	95	—	—	—	.17	.01	—	—	—	—	—	—
Williams, 1977; Williams & Ciminero, 1978	F	30	—	—	—	—	—	—	—	.00	—	—	—
Williams, 1980	F	151	.13	—	—	—	—	—	—	—	—	—	—
Wright, 1983	Mixed	144	—	—	—	—	—	—	.13	.16	—	—	—
Zakahi & Duran, 1988	M	20	—	—	—	—	—	.54	—	—	—	—	—
Zakahi & Duran, 1988	F	28	—	—	—	—	—	−.14	—	—	—	—	—
Zellinger, 1984	M	70	—	—	—	—	—	—	—	.44	—	—	—

Note. Soc = sociability, Dom = dominance, Gen = general mental health, SE = self-esteem, Loc = internal locus of control, Lon = freedom from loneliness, GSA = freedom from general social anxiety, HsA = freedom from heterosocial anxiety, PSC = freedom from public self-consciousness, SAb = freedom from self-absorption, Man = freedom from manipulativeness, M = male, F = female, ND = no date. Dashes signify relationships that were not examined in study or for which correlations could not be calculated.

Table 5
Correlations Between Physical Attractiveness and Measures of Social Behavior, Cognitive Ability, and Sexual Behavior from Studies Used in Correlates of Attractiveness Meta-Analysis (Study 2)

			Social behavior			Ability		Sexual attitudes and behaviors						
Study	Gender	*n*	SSk	SSF	Pop	Int	Grades	Per	NCo	Age	NoP	NoA	CuE	GlE
V. M. Berry, 1988	M	50	—	—	—	—	−.04	—	—	—	—	—	—	—
Berscheid, Dion, Walster, & Walster, 1971	Mixed	347	—	—	.23	—	—	—	—	—	—	—	—	—
Berscheid et al., 1971	M	56	—	.29	.25	—	—	—	—	—	—	—	—	—
Berscheid et al., 1971	F	56	—	−.10	.61	—	—	—	—	—	—	—	—	—
Brideau, 1982	M	23	—	—	.24	—	—	—	—	—	—	—	—	—
Brideau, 1982	F	18	—	—	.36	—	—	—	—	—	—	—	—	—
Brunswick, 1945	M	46	—	—	—	.05	—	—	—	—	—	—	—	—
Calvert, 1984; Baker & Calvert, 1985	F	40	.47	—	.61	—	—	—	—	—	—	—	—	—
Chaiken, 1979	M	34	—	—	—	.02	.20	—	—	—	—	—	—	—
Chaiken, 1979	F	34	—	—	—	.46	.20	—	—	—	—	—	—	—
Curran, 1971, 1973	M	80	—	—	.27	—	—	—	—	—	—	—	—	—
Curran, 1971, 1973	F	74	—	—	.27	—	—	—	—	—	—	—	—	—
Curran & Lippold, 1975	M	294	—	—	.37	—	—	—	—	—	—	—	—	.22[a]
Curran & Lippold, 1975	F	294	—	—	.42	—	—	—	—	—	—	—	—	.16[b]
Curran & Lippold, 1975	M	98	—	—	.32	—	—	—	—	—	—	—	—	.31[c]
Curran & Lippold, 1975	F	98	—	—	.48	—	—	—	—	—	—	—	—	.18[d]
Dermer, 1974	F	108	—	—	.30	−.19	.14	—	—	—	—	—	—	—
Dermer, 1976	F	229	—	—	.17	—	.20	—	—	.05	.12	—	—	—
Driver, 1989	M	100	—	—	—	−.08	—	—	—	—	—	—	—	—
Driver, 1989	F	100	—	—	—	−.13	—	—	—	—	—	—	—	—
Feingold, 1982, 1984	M	75	—	—	.07	−.20	—	—	—	—	—	—	—	—
Feingold, 1982, 1984	F	75	—	—	.35	−.15	—	—	—	—	—	—	—	—
Firth, 1986	M	39	.30	—	—	—	—	—	—	—	—	—	—	—
Firth, 1986	F	23	.50	—	—	—	—	—	—	—	—	—	—	—
Goldman & Lewis, 1977	M	60	.31	—	—	—	—	—	—	—	—	—	—	—
Goldman & Lewis, 1977	F	60	.29	—	—	—	—	—	—	—	—	—	—	—
Hagelauer, 1976	F	25	.22	—	—	—	−.24	—	—	—	—	—	—	—
Hill, Rubin, & Peplau, 1976; Peplau, Rubin, & Hill, 1977	M	166	—	—	—	−.09	.09	−.12	.14	−.03	.04	—	—	—
Hill et al., 1976; Peplau et al., 1977	F	166	—	—	—	−.08	.07	−.07	.18	.10	−.15	—	—	—
Hull, 1928	F	40	—	—	—	—	−.16	—	—	—	—	—	—	—
Kaats & Davis, 1970	F	84	—	—	.28	—	—	.00	.19	.27	.00	.00	—	—
Krebs & Adinolfi, 1975	M	60	—	—	.09	—	—	—	—	—	—	—	—	—
Krebs & Adinolfi, 1975	F	60	—	—	.45	—	—	—	—	—	—	—	—	—
Kuhlenschmidt & Conger, 1988	F	35	.25	—	—	—	—	—	—	—	—	—	—	—
MacCorquodale & DeLameter, 1979; DeLameter & MacCorquodale, 1979; Sprecher et al., 1981	M	652	—	—	—	—	—	−.02	—	—	.01	.07	.10	.15
MacCorquodale & DeLameter, 1979; DeLamater & MacCorquodale, 1979; Sprecher et al., 1981	F	724	—	—	—	—	—	.11	—	—	.04	.14	.17	.19
Mandell & Shrauger, 1980	M	37	.25	—	—	—	—	—	—	—	—	—	—	—
Mathes, 1974; Mathes & Kahn, 1975	M	110	—	—	.20	.00	−.12	—	—	—	—	—	—	—
Mathes, 1974; Mathes & Kahn, 1975	F	101	—	—	.31	−.13	−.12	—	—	—	—	—	—	—
Merluzzi & Biever, 1987	M	36	.00	—	—	—	—	—	—	—	—	—	—	—
Minahan, 1971	F	102	—	—	.00	.17	.00	—	—	—	—	—	—	—
Minahan, 1971	F	101	—	—	.34	.21	.00	—	—	—	—	—	—	—
Mohr, 1932	M	25	—	—	—	.23	.30	—	—	—	—	—	—	—
Mohr, 1932	F	25	—	—	—	.34	.29	—	—	—	—	—	—	—
Mohr & Lund, 1933	M	25	—	—	—	−.08	.18	—	—	—	—	—	—	—
Mohr & Lund, 1933	F	25	—	—	—	.28	.22	—	—	—	—	—	—	—
Moisan-Thomas, 1980; Moisan-Thomas, Conger, Zellinger, & Firth, 1985	M	36	.19	—	—	—	—	—	—	—	—	—	—	—
Moisan-Thomas, 1986	M	45	.12	—	—	—	—	—	—	—	—	—	—	—
Moran & McCullers, 1984	Mixed	320	—	—	—	−.14	—	—	—	—	—	—	—	—
Murphy, Nelson, & Cheap, 1981	M	24	—	—	—	.06	.20	—	—	—	—	—	—	—
Murphy et al., 1981	F	17	—	—	—	.06	.20	—	—	—	—	—	—	—
Naficy, 1982	M	90	—	—	—	—	—	—	—	—	—	—	.00	—
Naficy, 1982	F	70	—	—	—	—	—	—	—	—	—	—	.00	—
Nelson, Hayes, Felton, & Jarrett, 1985	M	25	.25	—	—	—	—	—	—	—	—	—	—	—

Table 5 (*continued*)

Study	Gender	*n*	Social behavior			Ability		Sexual attitudes and behaviors						
			SSk	SSF	Pop	Int	Grades	Per	NCo	Age	NoP	NoA	CuE	GlE
Nelson et al., 1985	F	25	.25	—	—	—	—	—	—	—	—	—	—	—
Paschall, 1973	M	72	—	.00	.11	—	—	—	—	—	—	—	—	—
Paschall, 1973	F	136	—	.00	.29	—	—	—	—	—	—	—	—	—
Reis, Nezlek, & Wheeler, 1980	M	35	—	—	.15	—	—	—	—	—	—	—	—	—
Reis et al., 1980	F	36	—	—	.29	—	—	—	—	—	—	—	—	—
Riggio, 1986	Mixed	38	—	—	—	−.05	—	—	—	—	—	—	—	—
Rowe, Clapp, & Wallis, 1987	M	28	—	—	—	−.35	—	—	—	—	—	—	—	—
Rowe et al., 1987	F	22	—	—	—	.16	—	—	—	—	—	—	—	—
Sarason, Sarason, Hacker, & Basham, 1985	M	84	.06	—	—	—	—	—	—	—	—	—	—	—
Sarason et al., 1985	F	84	.06	—	—	—	—	—	—	—	—	—	—	—
Schneider, Conger, & Firth, 1986	M	18	.07	—	—	—	—	—	—	—	—	—	—	—
Schneider et al., 1986	F	18	.52	—	—	—	—	—	—	—	—	—	—	—
Scott, 1987	Mixed	124	.41	—	—	—	—	—	—	—	—	—	—	—
Singer, 1964	F	192	—	—	—	—	.19	—	—	—	—	—	—	—
Sparacino, 1980	M	797	—	—	—	—	−.08	—	—	—	—	—	—	—
Sparacino & Hansell, 1979	M	55	—	—	—	.00	−.02	—	—	—	—	—	—	—
Sparacino & Hansell, 1979	F	65	—	—	—	.00	.09	—	—	—	—	—	—	—
Sparacino & Hansell, 1979	M	50	—	—	—	.00	−.35	—	—	—	—	—	—	—
Sparacino & Hansell, 1979	F	87	—	—	—	.00	−.02	—	—	—	—	—	—	—
Steffen & Redden, 1977	M	40	.38	—	—	—	—	—	—	—	—	—	—	—
Steltzer, Desmond, & Price, 1987	F	89	—	—	—	—	—	—	.18	.28	−.04	—	—	—
Tinken, 1975	F	27	—	—	.12	−.03	—	—	—	—	—	—	—	—
Udry & Billy, 1987	M	292	—	.12	—	—	.07	.00	.07	.00	—	—	—	—
Udry & Billy, 1987	F	370	—	.09	—	—	.01	.15	.12	.13	—	—	—	—
Udry & Billy, 1987	M	35	—	−.27[e]	—	—	−.08	.04	−.10[e]	−.02[e]	—	—	—	—
Udry & Billy, 1987	F	95	—	.09[e]	—	—	.07	−.12	−.18[e]	−.11[e]	—	—	—	—
Udry & Eckland, 1984	M	601	—	—	—	−.07	—	—	—	.07	—	—	—	—
Udry & Eckland, 1984	F	745	—	—	—	.00	—	—	—	.03	—	—	—	—
Walster, Aronson, Abrahams, & Rottmann, 1966	M	327	—	—	.31	—	—	—	—	—	—	—	—	—
Walster et al., 1966	F	327	—	—	.46	—	—	—	—	—	—	—	—	—
Wessberg, Mariotto, Conger, Farrell, & Conger, 1979	M	45	.00	—	.29	—	—	—	—	—	—	—	—	—
Williams, 1980	F	151	.14	—	—	—	—	—	—	—	—	—	—	—
Wright, 1983	Mixed	144	—	—	.25	—	—	—	—	—	—	—	—	—
Zellinger, 1984	M	70	—	—	.30	—	—	—	—	—	—	—	—	—

Note. SSk = social skills; SSF = no. same-sex friends; Pop = popularity with opposite sex; Int = intelligence; Per = sexual permissiveness (attitudinal); NCo = noncoital sexual experience; Age = age of first sexual intercourse, reverse scaled, so that a positive correlation indicates an earlier loss of virginity for the attractive; NoP = no. sexual partners; NoA = no. sex acts performed; CuE = current sexual experience; GlE = global sexual experience; M = male, F = female. Dashes signify relationships that were not examined in study or for which correlations could not be calculated.

[a] $n = 195$. [b] $n = 161$. [c] $n = 88$. [d] $n = 76$. [e] Not used in meta-analysis (see Footnote 11).

could be made across studies, findings had to be expressed in the same metric for both studies. Because all variables in both studies were conceptually continuous, the mean *d*s obtained in Study 1 were converted to their algebraically equivalent *r*s with the formula given in Rosenthal (1984):

$$r = \frac{d}{\sqrt{d^2 + 4}}.$$

These experimental *r*s are the point-biserial correlations between the dummy-coded variable of targets' physical attractiveness (*low* = 0, *high* = 1) and the attributional ratings. The expression of both experimental and correlational findings in the *r* metric affords direct comparisons of corresponding results between the two literatures for the five common dependent variables (see Harris & Rosenthal, 1985, for an example). Because there was no overlap between the experimental and correlational studies, the significance of the differences between *r*s was determined by the *z* test of the difference between two independent weighted mean correlations (used in Study 2 to test the significance of sex differences in correlates of attractiveness).

Results

The results of the cross-domain comparisons are reported in three sections in Table 10: The top of the table reports the results when all samples (male, female, mixed sex) were included in the comparisons, and the next two sections report the results that are based on the male and female subsamples. In each section, the top three rows report, in order, (a) the correlations for experimental attractiveness effects, (b) the correlations between physical attractiveness and other characteristics, and (c) the correlations between self-rated physical attractiveness and other characteristics. The fourth row in each section lists the *q*s indexing the differences between experimental correlations

(text continues on page 327)

Table 6
Meta-Analysis of Correlations Between Physical Attractiveness and Individual-Difference Variables (Study 2)

Gender	Size		Average *r*				Homogeneity	Sex difference	
	k	*n*	*Mdn*	*M*	LCI	UCI	$\chi^2 (k-1)$	*q*	*z*
Sociability									
M	9	581	.16	.06	−.02	.15	19.68*	.05	0.90
F	13	976	.00	.01	−.05	.08	3.93		
All	25	1,710	.00	.04	−.01	.09	25.46		
Dominance									
M	14	978	.04	.05	−.02	.11	15.77	−.03	−0.78
F	21	1,746	.06	.08	.03	.13	31.93*		
All	38	2,858	.04	.07	.03	.10	49.90		
General mental health									
M	13	927	.08	.05	−.02	.11	15.01	−.01	−0.28
F	19	1,585	.00	.06	.01	.11	33.72*		
All	34	2,597	.02	.05	.01	.09	50.37*		
Self-esteem									
M	17	2,028	.00	.02	−.02	.07	24.09	−.06	−2.11*
F	20	2,850	.06	.09	.05	.12	20.86		
All	38	4,942	.04	.06	.03	.09	49.38		
Internal locus of control									
M	13	1,648	.00	.03	−.02	.08	27.55**	.01	0.27
F	13	2,035	.00	.02	−.02	.06	8.51		
All	26	3,683	.00	.02	−.01	.06	36.13		
Freedom from loneliness									
M	5	206	.05	.18	.04	.31	9.14	.05	0.46
F	5	224	.01	.13	.00	.26	5.98		
All	10	430	.04	.15	.06	.25	15.32		
Freedom from general social anxiety									
M	6	415	.06	.08	−.01	.18	10.56	−.01	−0.19
F	6	489	.04	.10	.01	.19	7.27		
All	16	1,155	.06	.09	.04	.15	20.16		
Freedom from heterosocial anxiety									
M	9	762	.22	.24	.17	.30	9.09	.02	0.44
F	7	633	.08	.22	.14	.29	7.74		
All	17	1,539	.19	.22	.17	.26	25.20		
Freedom from public self-consciousness									
M	3	183	−.17	−.15	−.29	−.01	0.95	.04	0.40
F	5	357	−.23	−.19	−.29	−.09	4.71		
All	9	578	−.20	−.18	−.25	−.10	3.68		
Freedom from self-absorption									
M	4	264	.00	−.01	−.14	.11	2.32	.05	0.59
F	5	358	.00	−.06	−.17	.04	14.09**		
All	11	746	.00	−.08	−.15	.00	21.45*		
Freedom from manipulativeness									
M	1	43	−.03	−.03	−.33	.27	—	−.05	−0.24
F	1	53	.02	.02	−.25	.29	—		
All	5	252	.03	−.01	−.14	.12	0.58		
Social skills									
M	11	465	.19	.18	.08	.26	7.77	−.05	−0.79
F	9	461	.25	.23	.14	.31	10.56		
All	21	1,050	.25	.23	.17	.28	24.74		

Table 6 (*continued*)

Gender	Size		Average *r*				Homogeneity	Sex difference	
	k	*n*	*Mdn*	*M*	LCI	UCI	$\chi^2(k-1)$	*q*	*z*
Number of same-sex friends									
M	3	420	.12	.12	.03	.22	2.69	.07	1.14
F	3	562	.00	.05	−.03	.13	2.11		
All	6	982	.04	.08	.02	.14	6.07		
Popularity									
M	13	1,345	.25	.27	.23	.32	12.78	−.09	−2.37*
F	18	1,966	.32	.35	.31	.39	46.82***		
All	33	3,802	.29	.31	.28	.34	68.61***		
Intelligence									
M	13	1,339	.00	−.06	−.12	−.01	7.73	−.06	−1.72
F	16	1,800	.00	.00	−.05	.05	30.12*		
All	31	3,497	.00	−.04	−.07	.00	44.58*		
Grades									
M	12	1,663	.02	−.03	−.08	.02	19.80*	−.10	−2.73**
F	17	1,782	.07	.07	.02	.12	20.54		
All	29	3,445	.07	.02	−.01	.06	47.82**		
Sexual permissiveness (attitudinal)									
M	4	1,145	−.01	−.03	−.09	.03	1.83	−.11	−2.69**
F	5	1,439	.00	.08	.03	.13	10.40*		
All	9	2,584	.00	.03	−.01	.07	19.38*		
Noncoital sexual experience									
M	2	458	.10	.10	.00	.19	0.53	−.06	−0.93
F	4	709	.18	.15	.08	.23	0.69		
All	6	1,167	.16	.13	.07	.19	2.05		
Age of first sexual intercourse (reverse scored)									
M	3	1,059	.00	.04	−.03	.10	1.78	−.05	−1.32
F	6	1,683	.12	.09	.04	.14	9.86		
All	9	2,742	.07	.07	.03	.10	13.37		
Number of sex partners									
M	2	818	.02	.02	−.05	.08	0.12	−.01	−0.13
F	5	1292	.00	.02	−.03	.08	7.70		
All	7	2,110	.01	.02	−.02	.06	7.83		
Number of sex acts									
M	1	652	.07	.07	−.01	.15	—	−.06	−1.08
F	2	808	.07	.13	.06	.20	1.45		
All	3	1,460	.07	.10	.05	.15	2.60		
Current sexual experience									
M	2	742	.05	.09	.02	.16	0.77	−.07	−1.35
F	2	794	.08	.16	.09	.23	1.81		
All	4	1,536	.05	.12	.07	.17	4.40		
Global sexual experience									
M	3	935	.22	.18	.12	.24	2.60	.00	−0.09
F	3	961	.18	.19	.12	.24	0.13		
All	6	1,896	.18	.18	.14	.23	2.74		

Note. *k* = number of correlations; *n* = pooled sample size; LCI = lower end point of 95% confidence interval; UCI = upper end point of 95% confidence interval; *q* = male $\bar{Z}r$ − female $\bar{Z}r$; *z* = significance test for *q*; M = male; F = female. The all classification includes correlations from mixed-sex samples, of which there were too few to warrant a separate meta-analysis. Dashes signify that a homogeneity test could not be performed because there was only a single correlation in that category.

Table 7
Correlations Between Self-Rated Physical Attractiveness and Personality Measures From Studies Used in Correlates of Attractiveness Meta-Analysis (Study 2)

			Extra-version		Mental health			Social comfort				Character	
Study	Gender	*n*	Soc	Dom	Gen	SE	Loc	Lon	GSA	HsA	PSC	SAb	Man
Adams & Wareham, ND	M	128	—	.14	.08	.24	.09	—	.16	—	—	—	—
Adams & Wareham, ND	F	173	—	.27	.10	.24	.18	—	.27	—	—	—	—
Berg, 1980	M	38	—	—	−.07	—	—	—	—	—	—	—	—
Berg, 1980	F	34	—	—	.36	—	—	—	—	—	—	—	—
D. S. Berry & Bronlow, 1989	M	23	−.11	.27	.35	—	—	.22	—	—	—	—	—
D. S. Berry & Bronlow, 1989	F	24	−.21	.06	.01	—	—	−.06	—	—	—	—	—
Cash, Cash, & Butters, 1983	F	51	—	—	—	—	—	—	.38	—	−.04	−.30	—
Curran & Lippold, 1975	M	294	—	—	—	—	—	—	—	.37	—	—	—
Curran & Lippold, 1975	F	294	—	—	—	—	—	—	—	.39	—	—	—
Curran & Lippold, 1975	M	98	—	—	—	—	—	—	—	.22	—	—	—
Curran & Lippold, 1975	F	98	—	—	—	—	—	—	—	.16	—	—	—
Driver, 1989	M	100	.14	.20	—	.27	—	—	.09	.06	.04	.12	—
Driver, 1989	F	100	.20	.26	—	.53	—	—	.25	.44	.14	.00	—
Feingold, 1982, 1984	M	75	.17	−.05	.16	.28	—	—	—	—	—	—	—
Feingold, 1982, 1984	F	75	.05	.05	.24	−.02	—	—	—	—	—	—	—
Franzoi & Herzog, 1986	M	193	—	—	—	.24	—	—	—	—	—	—	—
Franzoi & Herzog, 1986	F	147	—	—	—	.28	—	—	—	—	—	—	—
Funder & Colvin, 1988	M	81	.33	—	.38	—	—	—	—	—	—	—	—
Funder & Colvin, 1988	F	82	.49	—	.36	—	—	—	—	—	—	—	—
Funder & Harris, 1987	M	28	.00	.07	—	—	—	—	—	—	—	—	—
Funder & Harris, 1987	F	28	.60	.29	—	—	—	—	—	—	—	—	—
Gardner & Coleman, 1978	F	104	—	.17	—	—	—	—	—	—	—	—	—
Graham & Perry, 1976	F	201	—	—	—	.41	—	—	—	—	—	—	—
Grant & Fodor, 1986	M	55	—	—	—	.12	—	—	—	—	—	—	—
Grant & Fodor, 1986	F	113	—	—	—	.22	—	—	—	—	—	—	—
Haemmerlie, Montgomery, & Melchers, 1988	Mixed	78	—	—	—	—	—	—	.12	—	—	—	—
Hagelauer, 1976	F	25	—	.36	.06	—	—	—	—	—	—	—	—
Herold, 1979	M	200	—	—	—	—	—	—	—	.35	—	—	—
Herold, 1979	F	130	—	—	—	—	—	—	—	.23	—	—	—
Hill, Rubin, & Peplau, 1976	M	94	—	—	—	—	.08	—	—	—	—	—	—
Hill et al., 1976	F	93	—	—	—	—	.11	—	—	—	—	—	—
Huston, 1973a, 1973b	M	114	—	—	—	.26	—	—	—	—	—	—	—
Huston, 1973a, 1973b	F	86	—	—	—	.17	—	—	—	—	—	—	—
Jenkins, 1987	M	87	—	—	—	.21	—	—	—	—	—	—	—
Jenkins, 1987	F	128	—	—	—	.14	—	—	—	—	—	—	—
Jovanovic, Lerner, & Lerner, 1989	M	66	—	—	.47	.69	—	—	—	—	—	—	—
Jovanovic et al., 1989	F	62	—	—	.43	.75	—	—	—	—	—	—	—
Kelso, 1978	F	77	—	.15	—	—	—	—	—	—	—	—	—
Kolko, 1983	M	100	—	.36	—	—	—	—	—	.48	—	—	—
Kolko, 1983	F	160	—	.20	—	—	—	—	—	.23	—	—	—
Lerner & Brackney, 1978	M	72	—	—	—	.49	—	—	—	—	—	—	—
Lerner & Brackney, 1978	F	107	—	—	—	.38	—	—	—	—	—	—	—
Lerner & Karabenick, 1974	M	70	—	—	—	.38	—	—	—	—	—	—	—
Lerner & Karabenick, 1974	F	119	—	—	—	.33	—	—	—	—	—	—	—
Lerner, Orlos, & Knapp, 1976	M	124	—	—	—	.00	—	—	—	—	—	—	—
Lerner et al., 1976	F	218	—	—	—	.37	—	—	—	—	—	—	—
MacCorquodale & DeLamater, 1979; DeLamater & MacCorquodale, 1979; Sprecher, McKinney, DeLameter, & Hatfield, 1981	M	652	—	—	—	.32	.13	—	—	—	—	—	—
MacCorquodale & DeLamater, 1979; DeLamater & MacCorquodale, 1979; Sprecher et al., 1981	F	724	—	—	—	.35	.07	—	—	—	—	—	—
Mahoney, 1978	M	98	—	—	—	.43	—	—	—	—	—	—	.00
Mahoney, 1978	F	129	—	—	—	.34	—	—	—	—	—	—	.00
Major, Carrington, & Carnevale, 1984	M	38	—	.34	—	—	—	—	—	—	—	—	—
Major et al., 1984	F	27	—	−.08	—	—	—	—	—	—	—	—	—
Mathes, 1974; Mathes & Kahn, 1975	M	110	—	—	.10	.23	—	—	—	—	—	—	—
Mathes, 1974; Mathes & Kahn, 1975	F	101	—	—	.13	.57	—	—	—	—	—	—	—
G. J. Miller, 1987	Mixed	100	—	.24	—	—	—	—	—	.17	—	—	—
G. J. Miller, 1987	Mixed	100	—	.27	—	—	—	—	—	.21	—	—	—

Table 7 (*continued*)

Study	Gender	*n*	Extra-version		Mental health			Social comfort				Character	
			Soc	Dom	Gen	SE	Loc	Lon	GSA	HsA	PSC	SAb	Man
G. J. Miller, 1987	Mixed	100	—	−.03	—	—	—	—	—	.12	—	—	—
Moisan-Thomas, 1980; Moisan-Thomas, Conger, Zellinger, & Firth, 1985	M	36	—	—	—	—	—	—	—	.22	—	—	—
Moisan-Thomas, 1986	M	45	—	—	—	—	—	—	—	.40	—	—	—
Naficy, 1982	M	90	—	.23	.35	—	—	—	—	—	—	—	—
Naficy, 1982	F	70	—	.00	.00	—	—	—	—	—	—	—	—
Noles, Cash, & Winstead, 1985	Mixed	77	—	—	.28	—	—	—	—	—	—	—	—
Padin, Lerner, & Spiro 1981	Mixed	84	—	—	—	.43	—	—	—	—	—	—	—
Pennington, 1973	M	150	.03	.16	—	.01	—	—	—	—	—	—	—
Pennington, 1973	F	150	.07	.24	—	.14	—	—	—	—	—	—	—
Perry, 1987	Mixed	160	—	—	.40	.68	—	.31	—	—	—	—	—
Pittenger & Baskett, 1984	Mixed	64	—	—	—	.20	—	—	—	—	—	—	—
Prisbell, 1982, 1987	Mixed	200	.15	—	—	.42	—	—	.30	.33	—	—	—
Prisbell, 1986, 1988	Mixed	174	—	.48	—	—	—	.00	—	—	—	—	—
Rowan, 1987	M	30	—	—	—	.65	—	—	—	—	—	—	—
Rowan, 1987	F	30	—	—	—	.39	—	—	—	—	—	—	—
Schultz & Moore, 1984, 1988	M	44	—	—	.35	.41	—	.34	.07	—	−.07	.19	—
Schultz & Moore, 1984, 1988	F	52	—	—	.23	.36	—	.35	.06	—	−.08	.09	—
Schultz & Moore, 1988	M	58	—	—	.04	.02	—	−.03	.15	—	.02	−.14	—
Schultz & Moore, 1988	F	52	—	—	.10	.33	—	.00	.34	—	−.25	.09	—
Schultz & Moore, 1984, 1988	M	25	—	—	.62	.35	—	.30	.63	—	−.25	.18	—
Schultz & Moore, 1984, 1988	F	33	—	—	−.04	−.09	—	−.28	−.08	—	.02	−.16	—
Simmons & Rosenberg, 1975	M	512	—	—	—	.12	—	—	—	—	—	—	—
Simmons & Rosenberg, 1975	F	494	—	—	—	.25	—	—	—	—	—	—	—
Simons, 1984	F	119	—	—	—	—	.15	—	—	—	—	—	—
Snyder, Simpson, & Gangestad, 1986	Mixed	145	.33	—	—	—	—	—	—	—	—	—	—
Snyder et al., 1986	Mixed	99	.40	—	—	—	—	—	—	—	—	—	—
Stein, Newcomb, & Bentler, 1986	M	221	.22	.24	—	.49	—	—	—	—	—	—	—
Stein et al., 1986	F	518	.22	.34	—	.39	—	—	—	—	—	—	—
Williams, 1977; Williams & Ciminero, 1978	F	254	—	.39[a]	.25[b]	—	—	—	—	.28	—	—	—
Williams, 1980	F	151	.23	—	—	—	—	—	—	—	—	—	—
Williams, 1983	M	91	.38	.45	.33	—	—	—	—	—	—	—	—
Williams, 1983	F	94	.25	.37	.17	—	—	—	—	—	—	—	—
Wright, 1983	Mixed	144	—	—	—	—	—	—	.05	.14	—	—	—

Note. Soc = sociability, Dom = dominance, Gen = general mental health, SE = self-esteem, Loc = internal locus of control, Lon = freedom from loneliness; GSA = freedom from general social anxiety, HsA = freedom from heterosocial anxiety, PSC = freedom from public self-consciousness, SAb = freedom from self-absorption, Man = freedom from manipulativeness, M = male, F = female. Dashes signify relationships that were not examined in study or for which correlations could not be calculated.

[a] $n = 118$. [b] $n = 116$.

and corresponding physical attractiveness correlates (with positive signs given to *q* when the experimental effects were larger than corresponding correlational effects). The fifth row gives the *z*s for the significance of the *q*s in the preceding row. The final two rows (6 and 7) in each section report the *q*s for the differences between experimental correlations and correlates of self-rated physical attractiveness and the *z*s for statistical significance.

As shown in the top of Table 10 (i.e., the meta-analysis of all samples), the correlations reported in the first row (and the mean of these correlations given in the last column) indicate that people ascribed more socially desirable attributes to physically attractive than to physically unattractive targets (mean r = .21). However, the correlations were not homogeneous across the six effect categories: The correlation was essentially zero for character, small (r = .15) for intelligence, small-to-medium (*r*s = .22–.26) for sociability, dominance, and general mental health, and medium-to-large (r = .40) for social skills. The correlations in row 2 report that there is little evidence that physically attractive people were actually higher than physically unattractive people on these characteristics (mean r = .06). With the exception of the small correlation (r = .23) for social skills, physical attractiveness was not related to other subject variables (*r*s = −.04–.07). The correlates of self-rated physical attractiveness (row 3), in contrast, were generally positive (mean r = .12). However, the correlations were not invariant across effect categories. Self-rated physical attractiveness was correlated only with the three temperamental variables: sociability, dominance, and general mental health (*r*s = .22–.25).

The *q*s in row 4 indicate cross-domain similarity between corresponding experimental effects and physical attractiveness correlates only for character, but that was because attractive-

Table 8
Correlations Between Self-Rated Physical Attractiveness and Measures of Social Behavior, Cognitive Ability, and Sexual Behavior From Studies Used in Correlates of Attractiveness Meta-Analysis (Study 2)

Study	Gender	*n*	Social behavior		Ability		Sexual attitudes and behaviors						
			SSk	Pop	Int	Grades	Per	NCo	Age	NoP	NoA	CuE	GlE
Curran & Lippold, 1975	M	294	—	.42	—	—	—	—	—	—	—	—	.35[a]
Curran & Lippold, 1975	F	294	—	.36	—	—	—	—	—	—	—	—	.13[b]
Curran & Lippold, 1975	M	98	—	.37	—	—	—	—	—	—	—	—	.24[c]
Curran & Lippold, 1975	F	98	—	.39	—	—	—	—	—	—	—	—	.19[d]
Driver, 1989	M	100	—	—	−.06	—	—	—	—	—	—	—	—
Driver, 1989	F	100	—	—	.06	—	—	—	—	—	—	—	—
Fanelli, 1981	M	182	—	—	—	—	—	—	.15	—	—	—	—
Fanelli, 1981	F	288	—	—	—	—	—	—	.31	—	—	—	—
Feingold, 1982, 1984	M	75	—	.55	−.18	—	—	—	—	—	—	—	—
Feingold, 1982, 1984	F	75	—	.31	.20	—	—	—	—	—	—	—	—
Feingold & Mazzella, 1991, in press	Mixed	195	—	—	.06	.13[e]	—	—	—	—	—	—	—
Feingold & Mazzella, 1991	Mixed	58	—	—	−.23	−.35[f]	—	—	—	—	—	—	—
Goldman & Lewis, 1977	M	60	−.11	—	—	—	—	—	—	—	—	—	—
Goldman & Lewis, 1977	F	60	.31	—	—	—	—	—	—	—	—	—	—
Hagelauer, 1976	F	25	.46	—	—	.42	—	—	—	—	—	—	—
Hill, Rubin, & Peplau, 1976; Peplau, Rubin & Hill, 1977	M	214	—	—	−.08	.00	−.02	.16	.17	.24	—	—	—
Hill et al., 1976; Peplau et al., 1977	F	211	—	—	.02	.02	.00	.09	.09	−.15	—	—	—
Kolko, 1983	M	100	—	.12	—	—	—	—	—	—	—	—	—
Kolko, 1983	F	160	—	.06	—	—	—	—	—	—	—	—	—
MacCorquodale & DeLamater, 1979; DeLamater & MacCorquodale, 1979; Sprecher, McKinney, DeLamater, & Hatfield, 1981	M	652	—	—	—	—	.11	—	—	.12	.12	—	.19
MacCorquodale & DeLamater, 1979; DeLamater & McCorquodale, 1979; Sprecher et al., 1981	F	724	—	—	—	—	.04	—	—	.07	.10	—	.12
Mathes, 1974; Mathes & Kahn, 1975	M	110	—	.32	—	—	—	—	—	—	—	—	—
Mathes, 1974; Mathes & Kahn, 1975	F	101	—	.55	—	—	—	—	—	—	—	—	—
Murstein, Chalpin, Heard, & Vyse, 1989	M	125	—	—	—	—	—	—	.15	—	—	—	—
Murstein et al., 1989	F	170	—	—	—	—	—	—	.21	—	—	—	—
Murstein & Holden, 1979	M	184	—	—	—	—	—	—	.00	—	—	—	—
Murstein & Holden, 1979	F	163	—	—	—	—	—	—	.20	—	—	—	—
Naficy, 1982	M	90	—	—	—	—	—	—	—	—	—	.00	—
Naficy, 1982	F	70	—	—	—	—	—	—	—	—	—	.44	—
Prisbell, 1982, 1987	Mixed	200	—	.06	—	—	—	—	—	—	—	—	—
Snyder, Simpson, & Gangestad, 1986	Mixed	145	—	—	—	—	.10	.22	—	.15	.18	—	—
Snyder et al., 1986	Mixed	99	—	—	—	—	.08	.10	—	—	—	—	—
Spreadbury & Reeves, 1979	F	323	—	.22	—	—	—	—	—	—	—	—	—
Williams, 1977; Williams & Ciminero, 1978	F	254	—	.18	—	—	—	—	—	—	—	—	—
Williams, 1980	F	151	−.08	—	—	—	—	—	—	—	—	—	—
Williams, 1983	M	59	—	—	—	−.12	—	—	—	—	—	—	—
Williams, 1983	F	59	—	—	—	.10	—	—	—	—	—	—	—
Wright, 1983	Mixed	144	—	.15	—	—	—	—	—	—	—	—	—

Note. SSk = social skills; Pop = popularity (romantic) with opposite sex; Int = intelligence; Per = sexual permissiveness (attitudinal); NCo = noncoital sexual experience; Age = age of first sexual intercourse, reverse scored, so that a positive correlation indicates an earlier loss of virginity for the attractive; NoP = no. sexual partners; NoA = no. sex acts performed; CuE = current sexual experience; GlE = global sexual experience; M = male; F = female. Dashes signify relationships that were not examined in study or for which a correlation could not be calculated.
[a] $n = 195$. [b] $n = 161$. [c] $n = 88$. [d] $n = 76$. [e] $n = 53$. [f] $n = 23$.

ness was unassociated with character in both literatures. For the other five variables, the experimental correlations were higher than the corresponding correlates of physical attractiveness, and the effect sizes were homogeneous across the different variables (*q*s = .18–.20). However, the interpretations of these cross-domain differences vary. For sociability, dominance, general mental health, and intelligence, good-looking people are not what we think: Notable effects of physical attractiveness on attributions of these variables were found in impression-formation studies, but correlational research indicated no notable differences in these characteristics between attractive and unattractive people. For social skills, by compari-

Table 9
Meta-Analysis of Correlations Between Self-Rated Physical Attractivness and Individual-Difference Variables (Study 2)

Gender	Size		Average *r*				Homogeneity	Sex difference	
	k	*n*	*Mdn*	*M*	LCI	UCI	$\chi^2(k-1)$	*q*	*z*
Sociability									
M	8	769	.16	.19	.12	.26	12.62	−.03	−0.69
F	9	1,222	.22	.22	.16	.27	22.86**		
All	20	2,435	.21	.22	.18	.25	43.41**		
Dominance									
M	11	1,044	.23	.23	.16	.28	16.44	−.04	−1.06
F	15	1,743	.24	.26	.22	.31	22.59		
All	30	3,261	.24	.25	.22	.29	60.23***		
General mental health									
M	12	829	.34	.24	.18	.31	26.51**	.06	1.23
F	14	993	.15	.18	.12	.25	15.96		
All	28	2,059	.23	.23	.19	.27	50.82**		
Self-esteem									
M	21	2,984	.27	.27	.24	.30	91.30***	−.06	−2.59*
F	22	3,812	.34	.33	.30	.36	79.61***		
All	47	7,304	.33	.32	.30	.34	226.84***		
Internal locus of control									
M	3	874	.09	.12	.05	.19	0.34	.02	0.46
F	4	1,109	.13	.10	.04	.16	2.07		
All	7	1,983	.11	.11	.06	.15	2.72		
Freedom from loneliness									
M	4	150	.26	.17	.01	.33	4.01	.12	1.02
F	4	161	−.03	.05	−.11	.21	9.38*		
All	10	645	.11	.13	.05	.21	22.52**		
Freedom from general social anxiety									
M	5	355	.15	.17	.06	.26	8.23	−.08	−1.11
F	6	461	.26	.24	.15	.33	6.77		
All	14	1,238	.16	.20	.15	.25	22.31		
Freedom from heterosocial anxiety									
M	7	873	.35	.32	.26	.39	13.70*	.02	0.52
F	6	1,036	.26	.30	.24	.36	1.20		
All	18	2,553	.23	.29	.25	.33	33.92**		
Freedom from public self-consciousness									
M	4	227	−.02	−.02	−.15	.12	1.76	.00	−0.01
F	5	288	−.04	−.02	−.13	.10	4.61		
All	9	515	−.04	−.02	−.11	.07	7.25		
Freedom from self-absorption									
M	4	227	.15	.07	−.07	.20	3.58	.11	1.22
F	5	288	.00	−.04	−.16	.08	5.72		
All	9	515	.09	.01	−.08	.10	10.95		
Freedom from manipulativeness									
M	1	98	.00	.00	−.20	.20	—	.00	0.00
F	1	129	.00	.00	−.17	.17	—		
All	2	227	.00	.00	−.13	.13	.00		
Social skills									
M	1	60	−.11	−.11	−.35	.15	—	−.19	−1.26

Table 9 (*continued*)

Gender	Size		Average r				Homogeneity	Sex difference	
	k	n	*Mdn*	*M*	LCI	UCI	$\chi^2(k-1)$	q	z
Social skills (*continued*)									
F	3	236	.31	.08	−.05	.21	10.92**		
All	4	296	.12	.04	−.08	.16	12.51**		
Popularity									
M	5	677	.37	.37	.30	.44	12.10*	.11	2.32*
F	7	1305	.31	.27	.23	.32	26.77***		
All	14	2,326	.32	.28	.24	.32	58.90***		
Intelligence									
M	3	389	−.08	−.09	−.19	.01	0.70	−.16	−2.19*
F	3	386	.06	.07	−.04	.17	1.80		
All	8	1,028	−.02	−.01	−.07	.05	11.28		
Grades									
M	2	273	−.06	−.03	−.14	.09	0.65	−.09	−1.10
F	3	295	.10	.07	−.05	.18	3.71		
All	7	644	.02	.02	−.06	.10	9.18		
Sexual permissiveness (attitudinal)									
M	2	866	.04	.08	.01	.14	2.69	.05	0.99
F	2	926	.02	.03	−.03	.10	0.26		
All	6	2,045	.06	.06	.01	.10	4.27		
Noncoital sexual experience									
M	1	214	.16	.16	.03	.28	—	.07	0.72
F	1	211	.09	.09	−.05	.23	—		
All	4	669	.13	.13	.06	.21	1.81		
Age of first sexual intercourse (reverse scored)									
M	4	705	.15	.12	.04	.19	3.40	−.10	−1.94
F	4	832	.20	.22	.15	.28	6.43		
All	8	1,537	.16	.17	.12	.22	13.51		
Number of sex partners									
M	2	866	.18	.15	.08	.22	2.45	.13	2.75**
F	2	935	−.04	.02	−.04	.09	7.88**		
All	5	1,946	.12	.09	.04	.13	18.59		
Number of sex acts									
M	1	652	.12	.12	.04	.20	—	.02	0.39
F	1	724	.10	.10	.03	.17	—		
All	3	1,521	.12	.12	.07	.17	0.80		
Current sexual experience									
M	1	90	.00	.00	−.21	.21	—	−.47	−2.90**
F	1	70	.44	.44	.23	.61	—		
All	2	160	.22	.20	.05	.35	8.43**		
Global sexual experience									
M	3	935	.24	.23	.17	.29	4.50	.11	2.27*
F	3	961	.13	.13	.06	.19	0.34		
All	6	1,896	.19	.18	.13	.23	10.00		

Note. k = number of correlations; n = pooled sample size; LCI = lower end point of 95% confidence interval; UCI = upper end point of 95% confidence interval; q = male $\bar{Z}r$ − female $\bar{Z}r$; z = significance test for q; M = male; F = female. The all classification includes correlations from mixed-sex samples, of which there were too few to warrant a separate meta-analysis. Dashes signify that a homogeneity test could not be performed because there was only a single correlation in that category.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 10
Meta-Analytic Comparisons of Experimental and Correlational Findings of Effects of Attractiveness (Study 3)

Research domain and cross-domain comparisons	Sociability		Dominance		Character		General mental health		Intelligence		Social skills		Row M
	r	n^a	r	n^a	r	n^a	r	n^a	r	n^a	r	n^a	
All samples													
Experimental r	.22	1,624	.26	1,620	−.02	1,964	.24	2,695	.15	1,358	.40	656	.21
Correl-PA r	.04	1,710	.07	2,858	−.01	252	.05	2,597	−.04	3,497	.23	1,050	.06
Correl-SRPA r	.22	2,435	.25	3,261	.00	227	.23	2,059	−.01	1,028	.04	296	.12
Experimental vs. correl-PA q	.18		.20		−.01		.19		.19		.19		.16
z for above q	5.06***		6.27***		−0.14		6.77***		5.77***		3.71***		
Experimental vs. correl-SRPA q	.00		.01		−.02		.01		.16		.38		.09
z for above q	.00		0.32		−0.28		0.33		3.79***		5.28***		
Male samples[b]													
Experimental r	.16	594	.24	794	.03	566	.25	1,121	.09	396	.39	274	.20
Correl-PA r	.06	581	.05	978	−.03	43	.05	927	−.06	1,339	.18	465	.04
Correl-SRPA	.19	769	.23	1,044	.00	98	.24	829	−.09	389	−.11	60	.08
Experimental vs. correl-PA q	.10		.19		.06		.21		.15		.23		.16
z for above q	1.67		3.88***		0.37		4.63***		2.51*		2.93**		
Experimental vs. correl-SRPA	−.03		.01		.03		.02		.18		.52		.12
z for above q	−0.54		0.21		0.27		0.43		2.44*		3.55***		
Female samples[b]													
Experimental r	.24	1,030	.27	826	−.03	1,398	.24	1,574	.18	962	.40	382	.22
Correl-PA r	.01	976	.08	1,746	.02	53	.06	1,585	.00	1,800	.23	461	.07
Correl-SRPA r	.22	1,222	.26	1,743	.00	129	.18	993	.07	386	.08	236	.14
Experimental vs. correl-PA q	.23		.20		−.05		.18		.18		.19		.16
z for above q	5.02***		4.62***		−.35		4.96***		4.40***		2.67***		
Experimental vs. correl-SRPA q	.02		.01		−.03		.06		.11		.34		.08
z for above q	0.46		0.23		−0.32		1.44		1.14		4.01***		

Note. The All samples category includes mixed-sex samples. Experimental r = transformed weighted mean *d* (from *d*s given in Table 2) from attractiveness stereotyping experiments; Correl-PA = weighted mean correlation between physical attractiveness and category variable (from Table 6); Correl-SRPA = weighted mean correlation between self-rated physical attractiveness and category variable (from Table 9); experimental vs. correl-PA q = the effect size (*q*) for the difference between the experimental *r* and the correl-PA *r*, with positive values of *q* denoting the degree to which the experimental *r* is larger than the corresponding correlational *r*; experimental vs. correl-SRPA q = the effect size (*q*) for the difference between the experimental *r* and the correl-SRPA *r*, with positive values of *q* denoting the degree to which the experimental *r* is larger than the corresponding correlational *r*.

[a] Pooled sample size. [b] For experimental *r*, sample sex refers to sex of target.

* $p < .05$. ** $p < .01$. *** $p < .001$.

son, both literatures showed differences in favor of the physically attractive, but *q* is still notable because the effect size was significantly larger in the experimental literature than in the correlational literature.

The *q*s in row 6 indicate cross-domain similarity in effect size between experimental correlations and correlates of self-rated physical attractiveness for all dispositional variables. For sociability, dominance, and general mental health, effects of attractiveness were obtained in both literatures and were comparable in magnitude. For character, the experimental and correlational literatures both indicated no attractiveness effects. There were, however, differences between experimental and correlates of self-rated attractiveness for intelligence and social skills, as people ascribed those characteristics more to attractive than to unattractive targets, but people who were more competent in the cognitive and social domains did not view themselves as more physically attractive than less able people.

Turning to the within-sex analyses in sections 2 and 3 of Table 10, similar findings were obtained in the meta-analyses of the male and female subsamples, which mirrored the findings from the meta-analysis of all samples (although smaller sample sizes in the within-sex subgroups occasionally precluded statistical significance of the cross-domain differences). These results indicate that differences between experimental and correlational findings are essentially the same for men and women for both physical attractiveness and self-rated physical attractiveness.

Discussion

Causes of Correlates of Physical Attractiveness: Validity of the Expectancy Model

The results afforded little support for the theory that physical attractiveness correlates are produced by expectancy effects.

Although sociability, dominance, general mental health, and intelligence were stereotypically associated with physical attractiveness, these traits showed virtually no linear relationships to physical attractiveness. The only variable that had significant effects in both literatures was social skills. Yet this finding could be accounted for more parsimoniously by a *coping model* than by an expectancy model. If, for example, physical attractiveness affords access to social situations, developing social competence may be of greater importance for beautiful people, who may also be given more opportunities to develop social competence. As found in Study 2, the only dispositional variables that were appreciably correlated with physical attractiveness were the social comfort measures: freedom from both loneliness and social anxiety (where the relationships were positive) and freedom from public self-consciousness (where the relationship was negative). Such dimensions would seem to be the most affected by social treatment. These correlates could thus be accounted for by a coping model.

Whether attractiveness-related expectations produce dispositional confirmation cannot be answered unequivocally by experimental vs. correlational comparisons. Not only can other models explain positive results (e.g., for social skills), but other social forces may operate concurrently with expectancy effects and nullify them. Extraversion, for example, was found to be more frequently ascribed to attractive targets than to unattractive targets. Thus, stereotype-based expectancies might foster positive covariation between physical attractiveness and extraversion. However, the coping model would posit that if beautiful women are frequently "hit on" by men, they will develop self-protective strategies (e.g., employment of strict screening procedures) to mitigate sensory overload. Thus, constant advances foisted on good-looking people might act to foster introversion, but expectations for the attractive act to induce extraversion. The net effect would then be a zero correlation between physical attractiveness and extraversion, which would be consistent with the findings from the meta-analysis of correlates of physical attractiveness.

Causes of Correlates of Self-Rated Physical Attractiveness: Expectancy vs. Self-Esteem Models

Two models were presented that could explain the consistently positive and appreciable correlations between self-rated physical attractiveness and other variables: the expectancy model and the self-esteem model. The expectancy model posits that people who think they are physically attractive conform to the norms they feel are appropriate for attractive people and that those who feel unattractive conform to societal expectations for the physically unattractive. The self-esteem model, by comparison, posits that self-rated physical attractiveness is a facet of self-esteem (physical self-esteem) and correlates with other measures (e.g., mental health) that are also associated with global self-esteem because of shared variance among measures. The finding that global self-esteem is the strongest personality correlate of self-rated physical attractiveness (see Study 2) is consistent with this model. The comparisons between experimental and correlational findings showed cross-literature convergence for sociability, dominance, and general mental health, variables that are typically correlated with self-esteem. Moreover, if self-esteem were controlled, most of the obtained correlations between self-rated physical attractiveness and personality measures would probably vanish. Thus, the self-esteem model affords a more parsimonious explanation for correlates of self-rated attractiveness than does the expectancy model.

Methodological Issue

The results from the comparisons of experimental and correlational findings must be interpreted with caution because of an important methodological difference between the two types of research paradigms. The experiments included in the meta-analysis used extreme group comparisons, whereas the correlational studies treated physical attractiveness as a continuous variable (with all levels represented in the analyses). Because the use of extreme groups inflates effect sizes, the larger effects found in experiments could be an artifact of this difference in methodology.

For example, social skills was found to be related to physical attractiveness in both the experimental and correlational literatures. That the relationships exist are not in doubt, but the additional finding that the effect size was significantly larger in experiments may be due to differences between the two paradigms. Nonetheless, the methodological difference does not vitiate the important finding that good-looking people are not what we think, because most of the examined traits (the personality and intellectual variables) had notable effects only in the experimental designs. Thus, the main consequence of the methodological difference in scaling of attractiveness between the experimental and correlational studies would be the inflation of the effect sizes (*q*s) for the differences between corresponding experimental and correlational results. However, the real differences found between literatures must be greater than zero because effects were obtained in experiments on attractiveness stereotyping but not in research that correlated physical attractiveness with corresponding subject variables.

General Discussion

Overview

The results from the impression-formation (stereotyping) meta-analysis indicated that physically attractive people of both sexes were perceived as more sociable, dominant, sexually warm, mentally healthy, and socially skilled—but not as possessing greater character (and were seen as less modest)—than physically unattractive people.[15] The only sex difference in effects of physical attractiveness involved attribution of sexual warmth. Although an effect of target attractiveness on perceptions of sexual warmth was obtained for targets of both sexes, the effect size was significantly larger when the target was female.

The meta-analysis of correlates of physical attractiveness in-

[15] A meta-analysis of research on the physical attractiveness stereotype by Eagly, Ashmore, Makhijani, and Longo (1991), which was conducted concurrently with and independently of the current work, obtained similar findings of the trait components of the physical attractiveness stereotype.

dicated no notable relationships between physical attractiveness and basic personality traits (e.g., sociability, dominance, mental health) for subjects of either sex. Character-related traits (self-absorption, manipulativeness) were also unrelated to physical attractiveness. However, the personality traits related to social behavior—loneliness, social anxiety, self-consciousness—were related to physical attractiveness. For both sexes, good-looking people reported less loneliness and lower social anxiety (both in general and with regard to opposite sex interaction in particular) but greater public self-consciousness.

Unsurprisingly, physical attractiveness was positively correlated with social behavior measures (social skills, popularity with the opposite sex, number of same-sex friends), but was only trivially related to cognitive ability measures (test scores, grades). Physically attractive women were more sexual permissive (as measured by attitude scales but not by behavioral reports) than were unattractive women. Finally, for both sexes, the physically attractive were found to have engaged in a greater variety of sexual activities (and, for women, at earlier ages) than did the unattractive, although this did not include having had more sexual partners.

Self-rated physical attractiveness was positively and appreciably related to most of the attributes examined for both sexes: extraversion, mental health, self-esteem, social comfort, popularity with the opposite sex, and sexual experience. Public self-consciousness, character, social skills, and academic ability, however, were unrelated to self-judgments of attractiveness.

Perpetuation of the Physical Attractiveness Stereotype

Given that there are apparently few dispositional differences between physically attractive and physically unattractive people in the dimensions most strongly associated with the attractiveness stereotype (see Study 3), why does the stereotype exist? The stereotype may be fostered by (a) the entertainment media, (b) inability of perceivers to distinguish between states and traits (*temporal extension;* McArthur, 1982), and (c) inability of perceivers to distinguish between situational and dispositional causes of others' behaviors (the *fundamental attribution error;* Ross, 1977).

Role of the Entertainment Media

In the real world, very good-looking people are scarce, and the proportion of one's social interactions that include them is correspondingly small. However, the attractive are vastly overrepresented in the entertainment world, and the average person spends several hours a day observing beautiful people on television, in the movies, and in magazines. Thus, cognitive availability assures that the impressions we form of good-looking people are shaped primarily by Hollywood and Madison Avenue. The prevailing rule in the entertainment industry is that social skills and sexual uninhibitedness (the main components of the attractiveness stereotype) are inextricably linked to physical attractiveness. Television and film heros and heroines (portrayed by "leading actors") are not only inordinately attractive, but they also ooze charm and sensuality. The attractive stars are typically surrounded by foils (portrayed by "character actors") who are physically unprepossessive, asexual, and socially inept (e.g., the "nerd," the cranky next-door-neighbor). The well-known television situation comedy "Cheers" represents a classic example. Moreover, film affords people the only socially sanctioned opportunity to observe others making love, strengthening the apparent correlation between physical attractiveness and sexual warmth in perceivers' implicit theories of personality.

Role of Temporal Extension

Snyder et al.'s (1977) behavioral confirmation study showed that physically attractive people may indeed behave more responsively in social interactions because of others' greater responsiveness toward them, but that does not mean that there are differences in the *trait* of sociability between attractive and unattractive people. By temporal extension, however, people make dispositional inferences from state behaviors (McArthur, 1982). Thus, perceivers may observe a genuine correlation between physical attractiveness and transient aspects of sociability (affected by others' behaviors toward them) and infer an illusory correlation between physical attractiveness and dispositional sociability (defined as differences in need for affiliation).

Role of the Fundamental Attribution Error

The fundamental attribution error, which occurs when observers make dispositional attributions for situationally determined behaviors (Ross, 1977), may maintain the attractiveness stereotype in two ways. First, people may erroneously ascribe different traits to the physically attractive and physically unattractive on the basis of observed behavioral differences that are evoked by situational factors, namely, the differential treatment afforded them. Second, people may infer others' traits from life-outcome variables, such as dating frequency and party-going behavior. Yet such outcome variables are strongly determined by situational factors (e.g., number of party and date invitations) that are affected by people's physical attractiveness.

Directions for Future Research

Experimental Research on the Attractiveness Stereotype

Future experimentation should avoid mere duplication of the studies summarized in the impression-formation meta-analysis, focusing instead on (a) expansion of the number of dependent variables that correspond to the dependent variables used in correlational research on attractiveness, (b) identification of subject variables that moderate effects of attractiveness stereotyping (e.g., Dion & Dion, 1987), (c) examination of the linkage between perceivers' attractiveness-based expectations and their social behaviors in interaction with attractive and unattractive people (e.g., Snyder et al., 1977), and (d) determination of whether variables that moderate attractiveness-stereotyping effects also moderate behaviors directed toward attractive and unattractive others in a corresponding manner (e.g., Andersen & Bem, 1981).

In the summarized literature on the attractiveness stereotype, only 6 of the 23 dependent variables frequently examined in the correlational literature on physical attractiveness were

also frequently examined in the experimental literature. If future experiments were to use all 23 variables, the findings could then be compared with the corresponding correlates of physical attractiveness (obtained here in Study 2) for the 23 variables, affording a more comprehensive assessment of the accuracy of the physical attractiveness stereotype than could be done through a meta-analysis of extant studies.

In addition, few experiments have examined moderation of attractiveness effects. The only subject variable often studied was sex, which the meta-analysis found not to generally moderate attractiveness effects on trait attributions. However, Dermer and Thiel (1975, Study 1) found that perceivers' own physical attractiveness affected attractiveness stereotyping: Unattractive subjects were less likely than attractive subjects to judge others by physical attractiveness. Perceivers' personality traits may also moderate stereotyping attractiveness effects. Dion and Dion (1987), for example, recently found that subjects who believed in a "just world" were more likely to engage in attractiveness stereotyping than subjects who did not subscribe to that philosophy. More work in this direction is clearly needed.

It might be anticipated that people who, for whatever reasons, are less likely to judge traits from others' physical attractiveness are also less prone to affording differential treatment to the attractive and unattractive. Yet, a study by Andersen and Bem (1981) suggests otherwise. Women who were classified as androgynous (from responses to a sex role inventory) were more likely to engage in attractiveness stereotyping than were sex-typed women. Nonetheless, the androgynous women were more socially responsive to supposedly unattractive than to supposedly attractive targets, whereas the reverse held for sex-typed women.

Correlates of Attractiveness

The major limitation of the correlational studies has been the almost exclusive reliance on simple correlational analysis, which is based on measurements collected at a single time, with sample sizes too small to afford adequate statistical power to detect the small effects that can be anticipated and without a theoretical rationale beyond the beautiful-is-good formulation. More complex theories, and data-analytic procedures to examine them, are needed. For example, Buss's (1985) untested hypothesis that physical attractiveness is more highly correlated with self-esteem for people who are high rather than low in public self-consciousness could be examined by multiple regression analysis through the use of cross products of scores from measures of self-consciousness and self-esteem (Cohen & Cohen, 1983). In addition, the ubiquitous Pearson product–moment correlations assess only the linear aspects of the relationships between attractiveness and other characteristics. The possibility of curvilinear relationships, all but ignored in the extant literature, must also be examined.

Work is needed to identify the mechanisms that result in correlations between attractiveness and other attributes. The results from the meta-analysis suggest several hypotheses. For example, the finding that popularity with the opposite sex and sexual experience are both related to physical attractiveness suggests that the correlation between physical attractiveness and sexual experience may be mediated by dating popularity. All three measures—physical attractiveness, romantic popularity, sexual experience—were assessed and intercorrelated in two field studies conducted by Curran and his colleagues (Curran, 1975; Curran & Lippold, 1975; Curran, Neff, & Lippold, 1973). Secondary analyses of Curran's data indicated that the consistently significant correlations between physical attractiveness and sexual experience were reduced to zero when popularity was held constant. Thus, the relationship between physical attractiveness and sexual experience was fully mediated by dating popularity. Might not the relationships between physical attractiveness and other variables found to be related to physical attractiveness (e.g., social skills, loneliness) also be mediated by popularity?[16] Turning to self-perceptions, are the correlations that were found between self-rated physical attractiveness and basic personality dimensions eliminated when self-esteem is controlled? If so, additional support would be provided for the self-esteem model.

Conclusion

Physical attractiveness can be viewed as a status characteristic, along with intelligence, charm, humor, athletic ability, and other socially valued characteristics (Kalick, 1988; Webster & Driskell, 1983). It might be preferable, therefore, to cease the study of physical attractiveness in isolation and instead focus on the joint effects of physical attractiveness and other status characteristics, both on person perception and on social success, academic achievement, and life satisfaction.

[16] An additional example of the use of causal models can be found in Reis, Wheeler, Spiegel, Kernis, and Perri (1982). Reis et al. examined the mediation effects of personality on the correlation between physical attractiveness and social interaction.

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Appendix A

Studies Used in the Attractiveness Stereotyping Meta-Analysis

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Appendix B follows on next page

Appendix B

Studies Used in the Correlates of Attractiveness Meta-Analysis

Adams, G. R. (1976). Physical attributes, personality characteristics, and social behavior: An investigation of the effects of the physical attractiveness stereotype. *Dissertation Abstracts International, 36,* 5856B. (University Microfilms No. 76-10, 698)

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Received June 6, 1989
Revision received September 21, 1990
Accepted July 2, 1991 ■