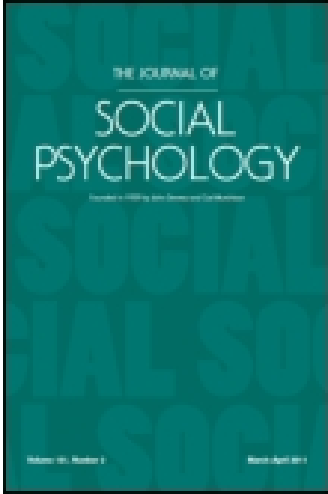


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Perceptions of Physical Attractiveness Among College Students: Selected Determinants and Methodological Matters

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ABSTRACT. The present study used videotape to examine selected determinants of perceptions of physical attractiveness and gender (masculinity/femininity) in a college student sample of 30 men and 85 women. Both body and facial attractiveness contributed to the prediction of overall attractiveness, although neither variable was a more powerful predictor than the other. Perceptions of overall physical attractiveness, both static (“fixed target”) and dynamic (“moving target”), were positively related to perceptions of grooming. In predicting dynamic physical attractiveness from static physical attractiveness and certain nonverbal indices thought to be related to attractiveness evaluations in naturally occurring conditions, only static physical attractiveness entered the regression equation at a significant level. Still, perceived friendliness and natural body movement were related to overall attractiveness perceptions. Finally, physical attractiveness was significantly related to gender perceptions in both males and females, with natural body movement and tight-fitting clothes also predictive of perceived masculinity in males and overall grooming and natural body movement predictive of perceived femininity in females.

REVIEWS OF A SUBSTANTIAL LITERATURE (Berscheid & Walster, 1974; Cash, 1981) on the physical attractiveness variable attest to its powerful influence on social attitudes, attributions, and behaviors in a variety of cultural contexts. Collectively, these studies indicate that differing levels of at-

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tractiveness elicit differential social perceptions, exchanges, and behaviors that often favor the attractive while operating as a detriment to those who are physically unattractive. Given the undeniable importance of physical attractiveness, it is important to consider what factors contribute to the perception of appearance.

One distinction that can be made when examining the determinants of physical attractiveness (Cash, Rissi, & Chapman, 1985) is to view attractiveness as a composition of either static components (i.e., stable and enduring physical characteristics) or of fluctuating or changing components (i.e., grooming, facial expression, nonverbal behavior). By the predominant use of yearbook facial photographs to manipulate attractiveness, the vast majority of researchers have apparently assumed that physical attractiveness is a static phenomenon represented by the face (Berscheid & Walster, 1974).

A small group of studies provides evidence that questions the view of physical attractiveness as a static variable. A recent investigation (Sussman, Mueser, Grau, & Yarnold, 1983) found a significant Target Person \times Grade interaction in assessing attractiveness from the yearbook photos of the same subjects in 1st, 4th, 7th, and 10th grades, indicating that some individuals changed more relative to the group than others. The authors suggested that fluctuations in facial attractiveness may have been due to changes in hairstyle, use of makeup, or mood.

Another changing component of physical appearance is grooming. Unfortunately, only a few studies have examined the effects of grooming variables (e.g., clothing, hairstyles, etc.) on physical attractiveness (Cash, 1985; Graham & Jouhar, 1981). One notable exception is the study by Graham and Jouhar, that found that the manipulation of facial cosmetics and hair grooming in women of average attractiveness significantly improved initial evaluations of them by male and female peers.

An important question that arises in the assessment of physical attractiveness is the relative salience of facial and body attractiveness in overall judgments of physical appearance. Although both facial (cf. Cash, 1981) and bodily attributes (Lerner & Gellert, 1969; Lerner & Korn, 1972) have been used as measures of physical attractiveness in the past, little is known about how they influence overall perceptions of appearance. Are they equally weighted, or does one exert greater influence than the other on overall attractiveness assessments? Mueser, Grau, Sussman, and Rosen (1984) found that both facial and bodily attractiveness of females were predictive of their overall attractiveness, although the face was a slightly more powerful predictor. In an experimental study using only males as target persons, Jones (1982) found that bodily attractiveness significantly influenced overall attractiveness, although facial attractiveness did not.

A component of physical attractiveness that has gone largely unexamined is nonverbal behavior and its effects on assessments of attractiveness.

Specifically, does visual information gained from a "moving target" person significantly influence attractiveness judgments? The data of Mueser et al. (1984) suggest an affirmative answer. Consistent with the Byrne and Clore (1970) reinforcement-affect theory, Mueser et al. (1984) found that target persons were seen as less physically attractive when their facial expressions were sad, than when their expressions were either neutral or happy. Judgments of neutral or happy expressions did not differ. In addition, when four dimensions of facial expression were assessed (pleasantness, intensity, surprise, naturalness), only pleasantness consistently emerged as the most significant predictor of corresponding changes in attractiveness. Thus, Mueser et al. concluded that fluctuations in perceived facial attractiveness may be associated with changes in affect. This conclusion questions the generalizability of the many studies that use static photographs as stimulus materials, and suggests the need either to study physical attractiveness under naturally occurring, ecologically valid conditions or to use more dynamic methods of stimulus presentation (e.g., videotape).

Finally, a related issue in attractiveness research concerns the manner in which attractiveness, its components, and other physical attributes convey information about gender (Cash & Janda, 1984). The first cues people usually have for inferring whether a person is male or female are cues from physical appearance. There is a growing literature (Cash & Duncan, 1984; Cash & Trimer, 1984; Gillen, 1981; Major & Deaux, 1981) that confirms the "what-is-beautiful-is-sex-typed" phenomenon, the notion that physical attractiveness often conveys sex-role appropriateness, particularly for females. Given that physical characteristics exert such a strong influence on gender stereotyping (Deaux & Lewis, 1984), it is possible that the same factors that affect perceptions of attractiveness also affect sex-role stereotyping.

With the above issues in mind, the present study examined the following hypotheses: (a) Observer ratings of grooming will relate positively to ratings of physical attractiveness; (b) when predicting overall attractiveness, both facial and bodily attractiveness will account for significant amounts of the variance, as will overall grooming; (c) a static measure of physical attractiveness when combined with certain nonverbal and grooming indices will serve as a better predictor of dynamic (or moving) attractiveness; (d) certain perceptions of the target persons' traits (including nonverbal components) will be related to perceptions of attractiveness; and (e) physical attractiveness will relate significantly to perceptions of masculinity and femininity, with many of the nonverbal and grooming indices that are related to physical attractiveness also correlating significantly with gender stereotypes.

Method

Subjects

There were 115 subjects (85 women, M age = 19.5, SD = 2.3 years; 30

men, M age = 19.8, SD = 2.6 years; 98 whites, 11 blacks, 6 Asians) selected from a sample of 224 subjects who participated in a study by Noles, Cash, and Winstead (1985). In that study, following completion of several questionnaires to assess body image and depression, each subject was videotaped for a duration of 1 to 5 min. Each taped segment consisted of an initial greeting by the experimenter, during which the subject was informed that he or she was being videotaped, and a short, structured interview ending with a request by the experimenter that the subject pose for a clear, videotaped picture. For this posed shot, the subject was asked to stand and, on cue, to smile and look directly into a one-way mirror behind which the videotape camera was located. Thus, although the subject could not see the camera, the subject could see his or her reflection in the mirror. The posed shot allowed for a controlled, static picture of each subject from the knees up. Finally, each subject was again seated and the experimenter turned off the videotape camera. Unlike some studies (Cash, 1985; Graham & Jouhar, 1981) that have manipulated certain stimulus characteristics (i.e., grooming, physical attractiveness), the variables assessed in the present study were based entirely on how the subjects presented themselves for the experiment without prior knowledge that they would be videotaped.

Criteria used to select the subjects for the present study were based on age (18 to 31 years), technical quality of the videotapes, length of each segment (interview = 1 to 3 min, posed shot = 10 to 15 s), and technical deviations in the segments (i.e., we eliminated segments with irregularities in the interview or pose, experimenter deviations from interview structure, etc.).

Materials and Procedure

Raters were recruited from a senior-level psychology class. Except for the raters of static physical attractiveness, four raters (1 male, 3 females) were assigned to each of three classes of ratings. The raters were informed that the purpose of the exercise was to determine how accurately people can rate certain attributes of others based on visual information. Raters saw the entire videotaped segment (presented on two 19-in. color monitors), terminating with and including the posed shot. No audio was used when presenting the tapes to the raters. At the end of the posed shot, the experimenter froze the picture so that the subject remained on the screen while the ratings were being made. The raters were instructed, however, to use the entire segment as the basis of their judgments. Rating Groups 1 and 2 (rating grooming and traits), which were run concurrently, were given 30 s to record their independent judgments of each subject. The raters of dynamic physical attractiveness, run

at a later time, were given 15 s to do so. The ratings consisted of the following measures¹:

1. Grooming. Six social judgment scales relating to grooming and clothing style: Hair Neatness, Clothes Neatness, Casual-Formal Clothes, Revealing-Covering Clothes, Loose-Tight Fitting Clothes, and Overall Grooming. Each was rated on a 7-point Likert scale. The respective reliabilities (Cronbach's alphas) of these scales for all subjects were .76, .79, .87, .86, .76, and .78. Because of a high correlation between Clothes Neatness and Casual-Formal Clothes ($r = .70$), these measures were collapsed to form the Clothes Grooming Scale (alpha = .89).
2. Traits. Five social judgment scales: Masculinity, Femininity, Self-Consciousness (5-point Likert scales); Friendliness and Awkward-Natural Body Movement (7-point Likert scales). The respective interrater reliabilities of these scales for all subjects were .90, .86, .37, .68, and .40. Because of a high correlation between Masculinity and Femininity ($r = -.89$), a composite scale, the Masculinity-Femininity scale, was formed (alpha = .92).
3. Dynamic physical attractiveness. Three 7-point, Likert-type, social judgment scales were used to assess facial, body, and overall dynamic attractiveness, each ranging from extremely unattractive to extremely attractive. The respective interrater reliabilities of these scales for all subjects were .76, .87, and .83.
4. Static physical attractiveness. Using a 7-point Likert scale, Noles et al. (1985) obtained physical attractiveness ratings ($n = 13$ raters) by freezing an exposure during the posing segment after the subject was asked to smile. These data were used as the measure of Static Physical Attractiveness in the present study. Interrater reliability on this measure was .94.

Results

In addition to the expected differences in the raters' perceptions of the male and female subjects' masculinity and femininity ($p < .001$), sex differences

¹In addition to the measures reported in this study, four ratings of nonverbal behavior were made that pertained to grooming and reactions to posing for the videotape camera: Hair Primping, Clothes Primping, Cued Smiling, and Self Gaze (time spent engaging in eye contact with self in one-way mirror). All measures were rated on a 3-point scale. Although each was rated quite reliably, little variability among subjects' rated behaviors emerged; thus, the measures were not used in the analyses. It was thought that the lack of variability among subjects was due to the fact that their responses to the experimental situation reflected mandated behavior; their behaviors were under control of the experimental situation and did not reflect the subjects' true behavior.

were observed on two of the grooming measures. Females' ($M = 3.96$) clothes were rated as more well groomed than males' ($M = 3.33$), $F(1, 113) = 7.91, p < .01$. Females ($M = 5.34$) were also rated as wearing clothes that covered their bodies more than males' clothes ($M = 4.76$), $F(1, 113) = 5.37, p < .05$.

To test whether perceptions of grooming and clothing style were related to perceived overall attractiveness, Pearson correlations were computed between the static and dynamic overall attractiveness measures and the grooming and clothing measures. For males ($df = 28$), static physical attractiveness was significantly related ($ps < .05$) to hair neatness ($r = .57$) and overall grooming ($r = .65$), but not to clothes grooming ($r = .26$). In addition, males' dynamic physical attractiveness was significantly related to hair neatness ($r = .65$), clothes grooming ($r = .37$), and overall grooming ($r = .74$). For females ($df = 83$), static physical attractiveness was significantly correlated ($ps < .05$) with hair neatness ($r = .33$), clothes grooming ($r = .34$), and overall grooming ($r = .46$). Females' dynamic physical attractiveness was also significantly related to hair neatness ($r = .33$), clothes grooming ($r = .43$), and overall grooming ($r = .55$). Revealing-covering clothes was nonsignificantly related to the overall attractiveness measures for both males and females. Loose-tight fitting clothes was significantly correlated with both static ($r = .45, p < .05$) and dynamic ($r = .45, p < .05$) physical attractiveness for males, but not for females. A z test revealed a significant sex difference in the relationship of loose-tight fitting clothes with both static ($z = 2.59, p < .01$) and dynamic ($z = 2.05, p < .05$) physical attractiveness. No other sex differences were found.

Multiple regression analyses were performed to assess how an observer's judgments of persons' body and facial attractiveness affected his or her judgment of overall attractiveness. These results are summarized in Table 1. Using dynamic physical attractiveness as the criterion variable, both facial and body attractiveness entered as significant predictors for both males and females. This was also true when static physical attractiveness was used as the criterion variable. In all regression analyses, overall grooming was also entered as a predictor, but it did not account for a significant amount of additional variance. In examining the correlations between facial and body attractiveness with the overall attractiveness measures, neither variable could be regarded as contributing more to overall attractiveness than the other. The higher correlations between dynamic physical attractiveness and the facial and body attractiveness measures (as compared with static physical attractiveness) were most likely not due to the mode of stimulus presentation, but were attributable to the fact that the same observers rated dynamic, facial, and body attractiveness.

To determine whether nonverbal measures and static physical attractiveness would combine to predict optimally dynamic physical attractiveness,

TABLE 1
Optimal Prediction by Multiple Stepwise Regression for Dynamic and Static Physical Attractiveness with Facial and Body Attractiveness and Overall Grooming as Predictors

Predictor	Adjusted			F to enter
	r	R ²	Beta	
<i>Dynamic physical attractiveness (males)</i>				
Facial attractiveness	.93***	.86	.52	101.36***
Body attractiveness	.93***	.97	.52	100.64***
Overall grooming	.74***	—	—	—
<i>Dynamic physical attractiveness (females)</i>				
Body attractiveness	.88***	.77	.60	365.57***
Facial attractiveness	.84***	.94	.50	252.34***
Overall grooming	.55***	—	—	—
<i>Static physical attractiveness (males)</i>				
Body attractiveness	.75***	.54	.46	5.64*
Facial attractiveness	.73***	.61	.37	3.67*
Overall grooming	.65***	—	—	—
<i>Static physical attractiveness (females)</i>				
Facial attractiveness	.71***	.50	.57	40.11***
Body attractiveness	.57***	.54	.25	7.60**
Overall grooming	.46***	—	—	—

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

multiple regressions were calculated by using dynamic physical attractiveness as the criterion variable and static physical attractiveness, awkward-natural body movement, friendliness, and self-consciousness as predictors. For males and for females, static physical attractiveness was the only predictor to enter the equation at a significant level.

Pearson correlations were also computed to determine whether certain trait-like perceptions reflecting nonverbal components were related to judgments of overall attractiveness. Perceived self-consciousness was not significantly related to static and dynamic physical attractiveness for either male or female subjects. Friendliness was significantly related only to the static attractiveness measure and only when the male and female samples were combined ($r = .33, p < .001$). Awkward-natural body movement was significantly related to static physical attractiveness for both males ($r = .33, p < .05$) and females ($r = .33, p < .01$). In addition, awkward-natural body movement was significantly related to dynamic physical attractiveness for males ($r = .49, p < .01$) and for females ($r = .25, p < .05$). No significant sex differences were found between the relationships of the trait ratings with the attractiveness measures.

Pearson correlations, shown in the first column of Table 2, indicated that each of the overall attractiveness measures was significantly related to the masculinity-femininity measure for both males and females ($ps < .001$). Females, who were perceived as more attractive, were also perceived as more feminine, whereas the attractive males were perceived as more masculine. In addition, for females, hair neatness ($r = .31, p < .01$), clothes grooming ($r = .61, p < .001$), overall grooming ($r = .58, p < .001$), and awkward-natural body movement ($r = .43, p < .001$) were significantly related to masculinity-femininity. For males, revealing-covering clothes ($r = .50, p < .01$), loose-tight fitting clothes ($r = -.66, p < .001$), and awkward-natural body movement ($r = -.63, p < .001$) were significantly related to masculinity-femininity.

Table 2 summarizes the results of the regression analyses conducted to predict masculinity-femininity for males and females. For males, the variables loose-tight fitting clothes, awkward-natural body movement, and static physical attractiveness entered significantly into the equation, accounting collectively for 60% of the variance in masculinity-femininity. Revealing-covering clothes did not enter into the equation at a significant level. For females, overall grooming, awkward-natural body movement, and static physical attractiveness entered as significant predictors of masculinity-femininity, accounting collectively for 44% of the variance.

TABLE 2
Optimal Prediction by Multiple Stepwise Regression for Gender Perceptions using Physical Attractiveness, Grooming, and Trait Measures as Predictors

Predictor	Adjusted			<i>F</i> to enter
	<i>r</i>	<i>R</i> ²	Beta	
<i>Masculinity-femininity (males)</i>				
Loose-tight fitting clothes	-.66***	.41	-.36	6.72*
Awkward-natural body movement	-.63***	.54	-.35	6.87*
Static physical attractiveness	-.60***	.60	-.30	4.85*
<i>Masculinity-femininity (females)</i>				
Overall grooming	.58***	.33	.42	20.81***
Awkward-natural body movement	.43***	.42	.26	9.09**
Static physical attractiveness	.49***	.44	.21	5.03*

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

Discussion

An important outcome of the present study is that it offers further evidence that perceptions of overall physical attractiveness are not made on the basis of the face alone. Consistent with Mueser et al. (1984), both facial and bodily attractiveness served as significant predictors of both static and dynamic overall attractiveness. Unlike Mueser et al., however, who concluded that facial attractiveness is a slightly more powerful predictor of overall attractiveness than bodily attractiveness, we make no such conclusion. The lack of differences in the magnitudes of the correlations between body and facial attractiveness with the overall physical attractiveness measures suggests that neither predictor can be deemed more powerful than the other. Nevertheless, our results provide further evidence that individuals do not perceive physical appearance in a totally undifferentiated, gestalt-like manner. Instead, they consider both facial and bodily components in making overall attractiveness judgments. The vast majority of the studies on physical attractiveness have used facial photographs to manipulate attractiveness (Cash, 1981). Although the studies using the proverbial yearbook photograph may reasonably approximate overall attractiveness, whether static or dynamic, our findings clearly indicate that the presentation of the entire body carries important information not conveyed by facial photographs.

In addition, the present study found that observer ratings of grooming were positively related to both static and dynamic ratings of overall physical attractiveness. These findings are consistent with others (Cash, Brown, & Noles, 1985; Graham & Jouhar, 1981), which suggest that enhancement of one's appearance (e.g., through use of clothing, cosmetics, hairstyling, etc.) is significantly related to more favorable assessments of physical attractiveness. Like Graham and Jouhar, who manipulated grooming, the present study indicated that observers' perceptions of grooming were related to perceived attractiveness. In addition to the explanation that good grooming enhances perceptions of physical attractiveness, it is also possible that these ratings were subject to the halo effects demonstrated in the literature, which attest to the "what-is-beautiful-is-good" stereotype (Berscheid & Walster, 1974; Cash, 1981). Those subjects who were physically attractive were inherently more likely to receive positive grooming evaluations than their unattractive counterparts. Furthermore, there is evidence that physically attractive individuals may attend to their appearance more than unattractive individuals. For example, McDonald and Eilenfield (1980) found that both males and females spent more time gazing into a reflective surface when they were more physically attractive, thus suggesting that selective exposure to self-awareness increased as a linear function of the level of physical attractiveness. Cash et al. (1985) found that self-reports of the degree of attention and importance the subjects placed on their physical appearance were positively related to objective ratings of their attractiveness.

Our study failed to demonstrate that significant additional information about physical attractiveness could be obtained from a dynamic or moving target stimulus than from a static target stimulus. Specifically, it was thought that certain nonverbal aspects (i.e., body movement, perceived friendliness, etc.) of the individual would provide information used by others when evaluating the person's physical attractiveness in social situations. If this had been true, then the studies utilizing still photographs would be denying their raters access to information that is normally used in ecologically valid evaluations of physical attractiveness. Given the relatively strong relationship between static and dynamic attractiveness ($r = .74$) and given that none of our nonverbal measures significantly entered as predictors of dynamic attractiveness, it is conceivable that nonverbal behavior either does not offer additional information that alters perceived attractiveness or does not provide information that is unattainable from still photographs of smiling persons. In light of the low reliabilities of the nonverbal measures and the fairly restrictive experimental setting, however, it is likely that our methodology did not allow this finding to arise. More appropriate and precisely defined measures that allow for higher interrater reliabilities, and a more dynamic experimental setting that permits a broader range of behaviors may ultimately reveal which nonverbal behaviors, if any, contribute to perceptions of overall physical attractiveness.

Although our nonverbal and perceived-trait measures did not couple with static attractiveness to serve as a better predictor of dynamic attractiveness, our analyses did demonstrate a significant relationship between physical attractiveness and perceptions of certain traits. For example, perceived friendliness was positively related to static physical attractiveness. This agrees with a finding by Mueser et al. (1984) who found that pleasantness of facial expression emerged as the most significant predictor of facial attractiveness. Indeed, in our study, facial attractiveness was significantly related to perceived friendliness ($r = .22, p < .02$); bodily attractiveness was not ($r = .02, p < .8$).

As mentioned above, two of the other trait measures, self-consciousness and awkward-natural body movement, were not assessed with a high degree of interrater reliability. This may account for the nonsignificant relationships between perceived self-consciousness and the attractiveness measures. However, awkward-natural body movement, which was not much more reliable, was significantly related to both static and dynamic overall attractiveness for both males and females. Thus, attractive subjects may have been perceived by the raters as more graceful and more natural in their body movements than the unattractive subjects. Still, this finding should be viewed with caution because of the low level of interrater agreement.

Finally, the present study examined the relationships between perceived physical attributes and perceptions of masculinity and femininity. Consistent

with a host of other studies (Cash & Duncan, 1984; Gillen, 1981; Major and Deaux, 1981), current findings indicate that higher levels of attractiveness were associated with stronger attributions of masculinity to males and femininity to females. In addition, the present study revealed other physical components associated with gender perceptions. For example, the regression equation predicting perceived sex-typing for males indicated that, in addition to higher levels of physical attractiveness, tighter fitting clothing and more natural body movement were significant predictors. For females, better overall grooming, graceful body movement, and higher levels of physical attractiveness were predictive of perceived sex-typing. Therefore, effective kinesics may enhance the extent to which one is seen as communicating idealized aspects of one's gender. Thus, although attractiveness conveys gender ideals, how one carries this attractiveness is important as well.

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