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Female waist-to-hip and male waist-to-shoulder ratios as determinants of romantic partner desirability

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ABSTRACT

This study examines the effects of body shape (women's waist-to-hip ratio and men's waist-to-shoulder ratio) on desirability of a potential romantic partner. In judging desirability, we expected male participants to place more emphasis on female body shape, whereas females would focus more on personality characteristics. Further, we expected that relationship type would moderate the extent to which physical characteristics were valued over personality. Specifically, physical characteristics were expected to be most valued in short-term sexual encounters when compared with long-term relationships. Two hundred and thirty-nine participants (134 females, 105 males; 86% Caucasian) rated the desirability of an opposite-sex target for a date, a one-time sexual encounter, and a serious relationship. All key hypotheses were supported by the data.

KEY WORDS: agreeableness • desirability • physical attractiveness • personality • romantic partner • waist-to-hip ratio • waist-to-shoulder ratio

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Physical attractiveness of a potential romantic partner is important for both males and females and seems to play a principal role in mate choice (Buss, 1989). The importance of physical attractiveness in relationships has been examined from a number of perspectives, but is perhaps ultimately best understood from theories derived from evolutionary psychology. One of the guiding principles of evolution is inclusive fitness theory (Hamilton, 1964). Inclusive fitness acknowledges that the unit of natural selection is the gene (cf., Dawkins, 1989), and an individual can maximize the reproductive fitness of his or her genes both directly, by producing offspring, and indirectly, by promoting the fitness of relatives who carry copies of his or her genes. Inclusive fitness is the organizing framework of evolutionary theory in general and evolutionary psychology specifically. This theory has informed areas of psychological inquiry including altruism, close relationships, group formation, and importantly for our purposes, mate selection (cf., Buss, 1989).

One of the ways to enhance inclusive fitness is to maximize the number and quality of one's offspring, which involves making optimal reproductive choices. Arguably, the most important of these is choosing a mate. The key insights on this subject arise from Trivers's (1972) model of differential parental investment, which is driven by sexual selection (Darwin, 1871). The model of differential parental investment states that specific reproductively relevant characteristics will differ in importance for males and females when they are choosing a mate depending ultimately upon what ancestral males and females typically invested in offspring (for a recent review, see Geary, Vigil, & Byrd-Craven, 2004). Since human females invest primarily corporal resources in their offspring (i.e., 9 months of pregnancy, childbirth, up to 4 years of lactation, primary caregiver), males tend to place primary importance on cues to fertility and health such as youth and attractiveness. In order to optimize their inclusive fitness, then, men will look for women who are young and beautiful. Ancestral males, on the other hand, contributed largely external resources such as security, protection, food and material resources to their offspring, so women place primary importance on cues indicative of the ability to provide, such as social status, earning capacity, and dominance (Buss, 1988; Buss & Barnes, 1986; Kenrick, Neuberg, Zierk, & Krones, 1994). In order to optimize their inclusive fitness, women may look for a man who is relatively older (and has thus had more time to accrue material and political wealth) and of high social status. It should be noted that these preferences are not always at the conscious level, but are theorized to have been ingrained into the human psyche as innate responses through the process of evolution.

Evidence shows that men value physical characteristics in women. Female body shape is of particular importance when men determine the physical attractiveness of women (Singh, 1993a, 1993b, 1994, 1995). Singh's research is important to the validity of the differential parental investment model, as female body shape is both a cue to female attractiveness for men as well as a true indicator of a woman's fertility. There is also strong empirical evidence that women value cues to material wealth and ability to

provide (Kenrick, 1989; Kenrick et al., 1994). Does this evidence, and evolutionary psychological theory, suggest that women are unconcerned with male physical characteristics? Evolutionary theories on mate selection, extant research, and our own reasoning suggests that the answer to this questions is no.

There are specific reproductively relevant physical characteristics that ought to influence women's evaluations of male attractiveness. First, both sexes (not just men) ought to value high genetic quality, and an individual's physical attractiveness is considered to be an honest advertisement of their reproductive capabilities and gene quality (Buss, 1989; Buss, Shackelford, Kirkpatrick, & Larsen, 2001). Second, there is some evidence that women focus on male physical cues as well as traits indicative of dominance and ability to provide. For example, women prefer taller men (e.g., Ellis, 1992) and value 'attractiveness' in self-report contexts (e.g., Buss, 1989). Third, women report finding physically symmetric men more attractive and in fact symmetric men tend to have higher numbers of female sexual partners (e.g., Little, Burt, Penton-Voak, & Perrett, 2001; Gangestad & Thornhill, 2003).

Finally, it stands to reason that there ought to be immediately discernable physical characteristics that women could use to infer reproductive ability. In addition to preferring tall, symmetrical men, women may also have a preferred male body shape (much as men have a preferred female body shape). Specifically, women may prefer a body shape that conveys information about a man's dominance in the form of strength and ability to protect. We suspect that a body shape with broad shoulders and a narrow waist and hips will be optimally desirable to women (Hughes & Gallup, 2003; Swami & Tovee, 2005).

The role of body shape in desirability

Singh's (1993a, 1993b, 1994, 1995) work focuses on the characteristics that men use to judge a woman's physical attractiveness. While we focus on an evolutionary rationale for this bias, it is also understandable from a sociocultural perspective; most cultures value female beauty more than male physical attractiveness.

The attractive female

Due to increased estrogen, healthy premenopausal women display a *gynoid* fat pattern, with more fat deposited on the lower body, including the hips, thighs, and buttocks. This gynoid pattern is considered a characteristically healthy, feminine body shape (Singh, 1994). Singh found that body shapes could be accurately differentiated by calculating a *waist-to-hip* ratio. A smaller ratio results in a more curvaceous, hourglass figure (Markey, Tinsley, Ericksen, Ozer, & Markey, 2002; Singh, 1993a, 1994). It is believed that to increase their own inclusive fitness, men have evolved mechanisms that allow the detection of reproductive health in women, including the

detection of a healthy waist-to-hip ratio (Furnham, Moutafi, & Baguma, 2002; Singh, 1993a). In a series of studies, male participants consistently rated line drawings of female figures that represented a normal weight and a healthy waist-to-hip ratio of 0.7 as most physically attractive (Singh, 1993a, 1993b, 1994; Singh & Suwardi, 1995). These findings have been successfully replicated by several researchers (Furnham et al., 2002; Henss, 2000; Markey et al., 2002) and do not seem to be significantly affected by ethnicity, gender, or age (Singh & Suwardi, 1995; Markey et al., 2002).

The attractive male

Due largely to testosterone, healthy adult men display an *android* fat distribution pattern, with more fat deposited on the abdomen and upper body including the shoulders, arms and neck. This android pattern is considered a characteristically healthy, masculine body shape (Singh, 1994) and is indicative of higher perceived dominance (Singh, 1994; Dijkstra & Buunk, 2001). Yet the question of whether there is a particular *male* body shape that *women* find attractive has received little attention. Previous studies of male body shape varied the waist-to-hip ratios of men, and concluded that women are not influenced by male body shape alone, but rather by a combination of body shape and ability to provide: '[I]t seems that neither physical attractiveness nor financial status alone determine male attractiveness; females appear to stress these two factors about equally' (Singh, 1995, p. 1099). Given that this research varied a gynoid fat pattern in men and ignored the typically masculine android shape, it is perhaps not surprising that the researchers found no strong effect of male body shape. In an attempt to create a more masculine definition of body shape, Hughes and Gallup (2003) examined relationships between men's shoulder-to-hip ratio and sexual activity. They found that males with a higher shoulder-to-hip ratio (i.e., broader shoulders and smaller hips) reported a younger age at first masturbation and first sexual intercourse, a higher number of sexual partners, and more sexual encounters outside of their current relationship. Swami and Tovee (2005) found that female participants' judgments of male physical attractiveness were influenced by men's waist-to-chest ratio, however, only for women with higher socioeconomic status. Dijkstra and Buunk (2001) reported that male participants rated same-sex rivals that portrayed a higher shoulder-to-hip ratio as more dominant and more attractive, noting that male participants paid most attention to rivals' shoulders, chest, and *waistline*, not hips.

Only one study, however, investigated how male body shape affected *women's perceptions* of males' attractiveness and desirability (Dijkstra & Buunk, 2001). The current study systematically varies male body shape in a controlled experiment, however, we focus on *waist-to-shoulder* (rather than hip-to-shoulder) ratio. Based on Dijkstra and Buunk, we believe that the male waist (rather than the hips) represents a point of comparison to the shoulders that emphasizes a more typically masculine body shape. A larger waist-to-shoulder ratio would indicate a body shape where the shoulders and the waist are similar in size, whereas a smaller waist-to-shoulder ratio

would indicate a tapering 'V' body shape with larger shoulders and a smaller waist. Given women's preference for cues to dominance, the relationship of this v-shaped body type to ratings of dominance, and evidence suggesting that men are more attentive to a rival's waist than his hips (Dijkstra & Buunk, 2001), we predict that a broad-shouldered man with a smaller waist might be perceived as physically stronger, perhaps more dominant, and, therefore, more desirable by women (Franzoi & Herzog, 1987).

The attractive personality

Though physical attractiveness is a key feature of determining partner desirability, we believe that it is important to compare and contrast it with key features of personality that are more generally desirable. An important feature of personality in the judgment of partner desirability for both men and women is agreeableness (Jensen-Campbell, Graziano, & West, 1995). Agreeableness is defined as 'social interest' that is displayed through co-operation, empathy and identification with others, and the striving for intimacy, camaraderie, and selflessness. Agreeableness is highly stable over the lifetime (Graziano, 1994; Graziano & Eisenburg, 1997). Given the key importance of agreeableness, and its similar importance to both men and women in determining romantic partner desirability, the current study also manipulated target agreeableness in order to compare these effects with those of the impact of physical attractiveness.

The role of the relationship

Finally, the type of relationship plays an important role in determining what is desirable in a potential partner (Kenrick, Sadalla, Groth, & Trost, 1990). There should be relationship-based differences in what a person can tolerate, and what a person must have in order to be satisfied. For example, personality may be relatively unimportant for a one-time sexual encounter, as no long-term relationship is expected (Kenrick et al., 1990). Sprecher and Regan (2002) found that both male and female participants desired aspects of personality involving warmth and kindness, expressivity, and openness only in long-term relationships, while their standards tend to differ greatly when engaging in a one-time sexual encounter (Buss et al., 2001; Furnham et al., 2002; Smith, Waldorf, & Trembath, 1990). Therefore, we assessed target desirability for three relationship types.

Goals of the present study

The primary goal of the present study is to determine the extent to which the desirability of a potential mate is affected by body shape (waist-to-shoulder ratio or waist-to-hip ratio) and/or agreeableness. We hypothesize that men will find the female target that represents a smaller waist-to-hip ratio more desirable. We also hypothesize that women will find the male

target with a smaller waist-to-shoulder ratio more desirable, particularly for a short-term sexual relationship. We also expect main effects for agreeableness, such that both men and women will find the agreeable target more desirable. We do, however, expect there to be gender by relationship-type interactions, such that both sexes will show similar patterns for long-term relationships (both sexes will value personality, perhaps even more so than physical attractiveness) but will diverge for short-term relationships (where men will show a clear preference for physical attractiveness over personality, and this pattern will be less pronounced but still evident for women). Finally, we include exploratory analyses asking participants which characteristics of a target they focused on while making decisions about the target's overall desirability. Specifically, we were interested in participants' perceptions of which characteristics of the target most affected their judgments of the target's overall desirability. We predicted that male participants would report focusing more on visual cues of attractiveness (i.e., face, body shape, and weight) when determining the desirability of the female target, while women would report focusing more on cues related to personality and dominance when determining the desirability of the male target.

Method

Participants

Participants were male (n = 105) and female (n = 134) undergraduate students enrolled in psychology classes at the University of Colorado at Boulder (mean age = 20.6 years, SD = 3.3, range 18 to 25). The sample was 86% Caucasian, 5% Asian American, 3% Latino, 1% African American, and 5% 'Other.' Since the current study focuses on heterosexual attraction, only data generated by self-reported heterosexual participants were included. Twelve participants reported either a homosexual or bisexual orientation and were not included in the analysis.

Materials

Each participant completed one of eight versions of a questionnaire. The first page was an informed consent document. The second page included a black-and-white photograph of the target acquired from the public domain (i.e., the Internet) and a short description of the target's personality. Photographs were used because of concerns regarding the reliability of line drawings (Furnham, Tan, & McManus, 1997; Henss, 2000). Photographs were altered to create two levels of waist-to-hip ratio for female targets and two levels of waist-to-shoulder ratio for male targets. For the female target, the waist was altered to represent either a smaller (approximately 0.67) or larger (approximately 0.81) waist-to-hip ratio. For the male target, the shoulders and waist were altered to depict a smaller (approximately 0.56) or larger (approximately 0.75) waist-to-shoulder ratio. These ratios are derived from two-dimensional photographs and therefore should be considered rough estimates. The complete set of labeled photographic stimuli is available from the first author.

Personality descriptions were placed under the photographs, were identical to those used in a similar study (Bryan, Kenrick, Mahaffey, & Li, 2005), and

were constructed using the agreeableness descriptors found in the work of Jensen-Campbell et al. (1995). Targets were described as 23-year-old college students majoring in premedicine who enjoyed 'movies, reading, hiking, and playing with [their] dog in the park.' Low-agreeableness targets were described as 'pretty selfish, unsympathetic to the needs of others, and inconsiderate' while high-agreeableness targets were described as 'extremely kind and considerate, generous, and helpful to those in need.' These descriptions have shown validity in prior work (Bryan et al., 2005; Jensen-Campbell et al., 1995). Thus, there were two between-subjects manipulated independent variables: Body shape (high or low waist-to-shoulder ratio/waist-to-hip ratio) and agreeableness (high or low). The dependent variable in the current study is the level of desirability of the target for a date, a one-time sexual encounter, or a long-term relationship. Thus, relationship level was the third independent variable, and was manipulated within subjects.

Procedure

Participants rated the target on a variety of traits to test both the construct validity of our manipulations and mediational pathways through which general judgments of 'desirability' were assessed. These measures were taken from the Bryan et al. (2005) study. A common factor exploratory factor analysis with promax (oblique) rotation was performed on the participants' ratings of the target's characteristics. Consistent with our prior research, three discernible factors were extracted: Agreeableness (kind, likable, friendly, sincere, reliable, and agreeable; $\alpha = 0.92$), attractiveness (sexually attractive, sexy, attractive, and cute; $\alpha = 0.89$), and dominance (successful, intelligent, confident, fit, likely to end up wealthy, healthy, and strong; $\alpha = 0.76$). Further information regarding factor loadings and variance explained by each factor is available from the first author.

Participants then rated how important several traits were when judging the target's overall desirability. These traits were: Face, body, personality, hobbies, weight, career choice, intelligence, and age. All questions were answered on a 1- ('not at all') to 7- ('very much') point scale. Finally, demographic questions were completed assessing age, ethnicity, and sexual orientation.

Results

Participants were asked how important the target's face, body, personality, weight, career choice, intelligence, and age were in determining desirability. We assessed gender differences in the extent to which each of these characteristics was utilized in determining desirability (see Table 1). Facial attractiveness, body shape, and target weight were significantly more important in determining desirability for male participants than for females. Personality, career choice, and intelligence were found to be significantly more important for females than for males. No significant sex differences were found for the importance of the target's age in determining their desirability.

Overall findings

Date. There was a main effect for agreeableness such that participants found the more agreeable target ($M = 4.39$, $SD = 1.39$) more desirable for a date than

TABLE 1
Participant ratings (means and standard deviations) of the importance of target characteristics when determining desirability

	Participant gender			
Target characteristics	**Males**	**Females**	***t*(237)**	**η^2**
Face	5.4 (1.0)	5.0 (1.4)	–2.25*	.02
Body	5.1 (1.0)	4.5 (1.2)	–4.58***	.08
Personality	5.5 (1.2)	6.2 (0.8)	5.56***	.12
Weight	5.0 (1.2)	4.0 (1.3)	–6.10***	.14
Career choice	3.9 (1.6)	4.5 (1.5)	2.60**	.03
Intelligence	5.3 (1.2)	5.6 (0.9)	2.62**	.03
Age	4.2 (1.5)	4.1 (1.6)	–0.63	.00

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

the disagreeable partner ($M = 2.97$, $SD = 1.43$), $F(1, 231) = 63.20$, $p < .001$. This main effect was qualified by an agreeableness by gender interaction, $F(1, 231) = 8.19$, $p < .01$. While both men and women preferred the agreeable target, post hoc contrasts indicated that the effect was much stronger for women (4.50 vs. 2.62) than for men (4.25 vs. 3.40).

One-time sexual encounter. There was a main effect for body shape, such that participants would rather have a one-time sexual encounter with the target that represented the more typical body shape, $F(1, 231) = 15.85$, $p < .001$. In other words, male participants preferred the more 'feminine' waist-to-hip ratio (4.63 vs. 3.53) and female participants preferred the more 'masculine' waist-to-shoulder ratio (2.86 vs. 2.27). There was also main effect for gender of the participant such that male participants ($M = 4.08$, $SD = 1.82$) reported more interest in having a one-time sexual encounter than did female participants ($M = 2.57$, $SD = 1.68$), $F(1, 231) = 50.75$, $p < .001$. The main effect of gender was qualified by an interaction of agreeableness and gender, $F(1, 231) = 13.45$, $p < .001$. While female participants would rather have a one-time sexual encounter with the more agreeable target (3.10 vs. 2.03), there was little effect of agreeableness on male participants' rating of the target's desirability for a one-time sexual encounter. In fact, male participants rated the agreeable target as *less* desirable for a one-time sexual encounter (3.83 vs. 4.33).

Long-term relationship. There was a main effect for agreeableness such that participants would prefer to have a relationship with the more agreeable target ($M = 4.69$, $SD = 1.39$), than the less agreeable target ($M = 2.97$, $SD = 1.37$), $F(1, 231) = 172.50$, $p < .001$. This main effect was again qualified by an interaction of agreeableness and gender, $F(1, 231) = 5.49$, $p < .05$. Although both men (4.58 vs. 2.65) and women (4.78 vs. 2.02) strongly preferred the agreeable target, the effect was slightly stronger for women than for men.

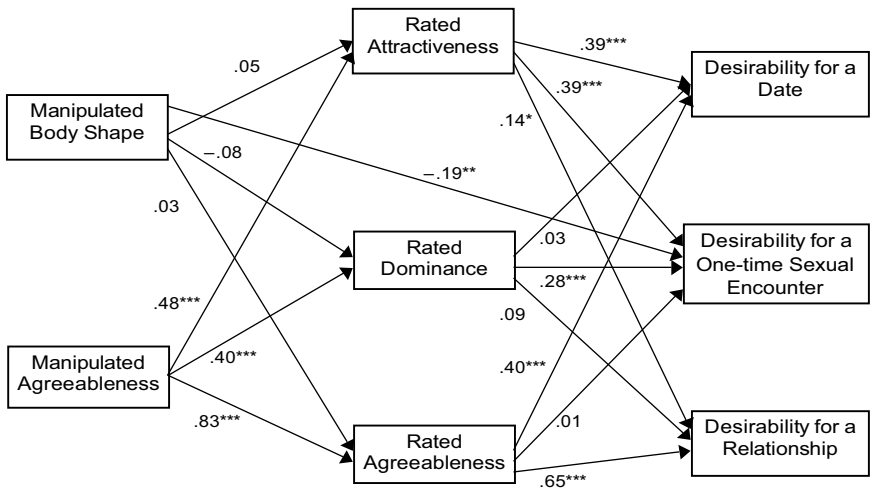
Path analyses

We were interested in exploring whether the effects of body shape and agreeableness on judgments of desirability were mediated by participants'

perceptions of the target's agreeableness, dominance, and attractiveness. In these analyses, manipulated agreeableness and body shape served as the two exogenous variables, participants' ratings of the target's attractiveness, dominance, and agreeableness served as the mediators, and participants' ratings of the target's desirability for a date, a one-time sexual encounter, and a long-term relationship served as the outcome variables. The model was estimated first from data from female participants, and the fit was adequate $\chi^2(6, n = 133) = 16.129, p < .05$, $CFI = 0.982$, $RMSEA = 0.113$, 90% confidence intervals (*CI*) of the $RMSEA = 0.048–0.181$, $SRMR = 0.035$. However, modification indices suggested the inclusion of a direct path from manipulated body shape to desirability for sex, in addition to the estimated indirect pathways. The final model for women is shown in Figure 1 with standardized parameter estimates for all paths. Fit of the final model was improved, ($\chi^2_\Delta(1, n = 133) = 7.67, p < .001$) and represents a strong fit $\chi^2(5, n = 133) = 8.461, p = .13$, $CFI = 0.994$, $RMSEA = 0.072$, 90% *CI* of the $RMSEA = 0.00–0.153$, $SRMR = 0.017$.

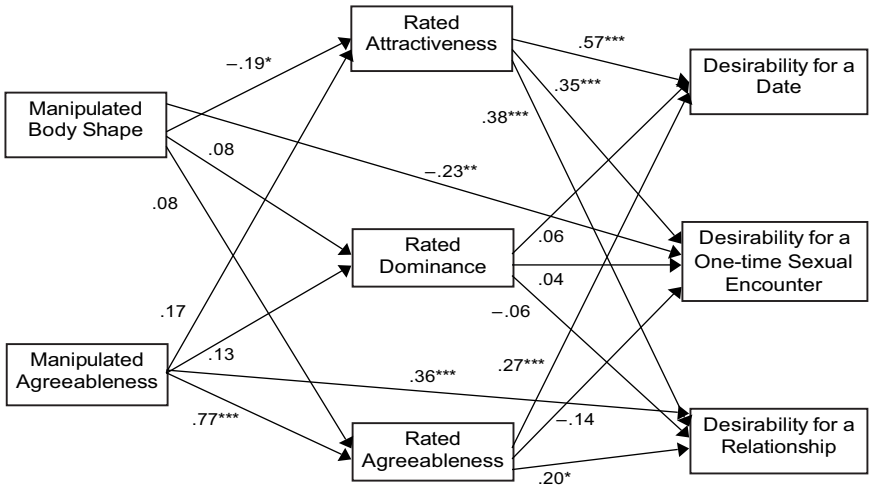
The model was also estimated from data generated by male participants, and the fit of the model was adequate, $\chi^2(6, n = 105) = 22.697, p < .01$, $CFI = 0.95$, $RMSEA = 0.163$, 90% *CI* of the $RMSEA = 0.095–0.237$, $SRMR = 0.044$. Modification indices suggested a direct path from manipulated body shape to desirability for sex as well as a direct path from manipulated agreeableness to desirability for a relationship. When these paths were added (see Figure 2), the fit of the final model was improved ($\chi^2_\Delta(2, n = 105) = 19.92, p < .001$) and represented a very strong fit, $\chi^2(4, n = 105) = 2.782, p = 0.6$, $CFI = 1.0$, $RMSEA = 0.00$, 90% *CI* of the $RMSEA = 0.00–0.13$, $SRMR = 0.02$.

FIGURE 1
Final path analysis model for female participants. Coefficients are standardized path coefficients.



Note. $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$.

FIGURE 2
Final path analysis model for male participants. Coefficients are standardized path coefficients.



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

Discussion

Our findings suggest that body shape and personality do influence the desirability of a potential mate, though in different ways for men and women. Men, to a greater extent than women, self-reported that physical features including face, body, and weight were important to their judgments of the desirability of a target. Conversely, women considered personality, intelligence, and career choice to be significantly more important in determining target desirability than did men. This is consistent with differential parental investment theory (Trivers, 1972) and prior research (e.g., Singh 1995; Kenrick, 1989; Kenrick et al., 1994). Further, this result is consistent whether one manipulates these traits in an experimental design, or explicitly asks participants to describe which traits they focused on in determining the desirability of the target.

For female participants, the male target's manipulated level of agreeableness was a significant predictor of participant ratings of his attractiveness, dominance, and agreeableness. The manipulated body shape of the male target only demonstrated a direct effect on his desirability for a one-time sexual encounter. Female participant ratings of the male target's attractiveness significantly predicted females' judgments of his desirability for all three relationship levels: A date, a one-time sexual encounter, and a long-term relationship. Female participant ratings of the male target's dominance reliably predicted his desirability for a one-time sexual encounter. The male target's perceived level of agreeableness was reliably associated

with the female participants' judgments of his dating and relationship desirability, however, perceived agreeableness did not predict desirability for a one-time sexual encounter.

For male participants, the female target's manipulated level of agreeableness was a significant predictor of her rated level of agreeableness, as well as her desirability for a relationship. Consistent with the notion that men perceive women with smaller waist-to-hip ratios as more attractive, the manipulated body shape of the female target was a significant predictor of men's rating of her attractiveness. Manipulated body shape was also a direct predictor of male participants' ratings of the female target's desirability for a one-time sexual encounter. Male participants' ratings of the female target's level of attractiveness were reliably associated with her desirability for a date, a one-time sexual encounter, and a relationship. Male participants' ratings of the target's level of agreeableness were reliably associated with her desirability for a date as well as a relationship.

Consistent with Kenrick et al.'s (1990) qualification of the differential parental investment model, both men and women would rather go on a date with and have a relationship with the more agreeable target. This effect, however, was more pronounced in women. Both men and women also reported that they would rather have a one-time sexual encounter with the target who had a more attractive body shape. Specifically, and consistent with prior research (Singh, 1993a, 1993b, 1994, 1995; Singh & Suwardi, 1995), men would rather have a one time sexual encounter with the female target that depicted a smaller, more feminine waist-to-hip ratio. New to this research, women reported that they would rather have sex with the male target that depicted a smaller, more masculine waist-to-shoulder ratio. Specifically, path analyses indicated a direct relationship between the male target's manipulated body shape and desirability for sex. This finding indicates that the effect of male body shape on women's ratings of the male target's desirability for sex is not completely mediated by its effects on perceived dominance, agreeableness, or attractiveness. Specifically, this finding suggests that women may systematically use waist-to-shoulder ratio as a standard for assessing the desirability of a male target for a potential one-time sexual partner, but not the desirability of a longer-term partner. As predicted, the female participants in this study clearly found the male target with a more 'manly' tapering 'V' body shape (i.e., larger shoulders and a smaller waist) to be more desirable for a one-time sexual encounter than his counterpart with shoulders and waist of nearly equal size.

Some questions, however, remain unanswered. While waist-to-hip ratio influenced female partner desirability through its effects on attractiveness, waist-to-shoulder ratio did not seem to convey the same information about the male target for women. In addition, waist-to-shoulder ratio did not affect women's ratings of the target's dominance, as we had predicted it might, despite the fact that our dominance construct included items such as 'strong' and 'fit.' Interestingly, only the male target's agreeableness, not his physical appearance, directly affected women's assessment of his attractiveness. This finding demonstrates the importance that women place on male

personality characteristics in judging their desirability as a partner and suggests that, for women, 'attractiveness' may be derived from substantially more information than simple physical cues.

Data from path analyses indicated that both the male and female targets' perceived level of attractiveness predicted their desirability for a date, a one-time sexual encounter, and a relationship. Also, judgments made by both men and women showed that the target's level of rated agreeableness was reliably associated with ratings of the target's desirability for a date or relationship but not the target's desirability for a one-time sexual encounter. In other words, a potential romantic partner's level of agreeableness did not seem to matter for sex in the same way that it mattered for a date or a relationship.

For male participants, there was a direct effect of manipulated agreeableness on the target's desirability for a relationship that is *not* mediated by our measure of agreeableness (e.g., kind, likable, etc.). Perhaps agreeableness information in the description provided data about a woman's desirability as a long-term mate (e.g., parenting ability) that was not captured in our measure. Consistent with prior research (Kenrick et al., 1990) men indeed consider both a potential mate's personality and her attractiveness when considering a relationship that requires more investment.

Strengths and limitations of the present study

A unique contribution of this study is the demonstration that women may use a male's waist-to-shoulder ratio as a reliable indicator of a man's desirability as a sexual partner. Just as waist-to-hip ratio connotes the desirability and health of women, waist-to-shoulder ratio may also connote something about the desirability and health of men. Large shoulders can easily advertise a man's physical strength, which in evolutionary terms may be an advertisement of greater ability to protect and defend. Moreover, considering that large shoulders are indicative of the typically male android fat pattern, they may also communicate a certain degree of 'maleness.' This is consistent with the idea that in short-term encounters, cues to gene quality may take on greater importance for females since they expect to receive little parental investment – either emotional (agreeableness) or material (dominance) – from males. In other words, women may rely on visual cues of health and masculinity in short-term encounters, to increase the probability of having offspring with 'good' genes (e.g., Little et al., 2001; Scheib, 2001).

Our data on female preferences concerning male romantic partners may be affected by one important moderator. Research indicates that women's preferences with regard to male partners may vary based on the stages of their menstrual cycle (e.g., Gangestad, Simpson, Cousins, Garver-Apgar, & Christensen, 2004; Gangestad & Thornhill, 2003; Penton-Voak & Perrett, 2000). Women's desire for sexual intercourse increases as they near menstruation, when hormone levels are highest (Bröder & Hohmann, 2003; Clayton, Clavet, McGarvey, Warnock, & Weiss, 1999). This is a possible

limitation to the current study, as we did not assess female participants' menstrual phase.

Directions for future research

While the current study demonstrates the systematic use of waist-to-shoulder ratio as a determinant of partner desirability, we must leave it to future research to determine the exact mechanism by which waist-to-shoulder ratios make a man more desirable as a one-time sexual partner. This question is intriguing, particularly since a small waist-to-shoulder ratio enhances neither the perceived attractiveness nor the perceived dominance of the male target. Therefore, the exact manner in which waist-to-shoulder ratio increases or decreases a man's desirability for a one-time sexual encounter is an important avenue for exploration.

Conclusion

The results of this study are consistent with previous research concerning waist-to-hip ratios, but make an important contribution in the realm of women's assessments of male physical desirability. The question of which physical aspects of men that women find desirable has not received nearly the same scholarly attention as female physical desirability. Given the evolutionary importance of making initial judgments about a potential mate, the ease with which information about body shape can be perceived, and the demonstration of such a mechanism in men (waist-to-hip ratio), the continued investigation of a similar mechanism for women would seem a fruitful avenue for future research.

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