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ScienceDirect
Personality and Individual Differences 44 (2008) 203–215
PERSONALITY AND INDIVIDUAL DIFFERENCES
www.elsevier.com/locate/paid

Conditional mate preferences: Factors influencing preferences for height

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Received 19 April 2007; received in revised form 31 July 2007; accepted 3 August 2007
Available online 24 September 2007

Abstract

Physical stature plays an important role in human mate choice because it may signal dominance, high status, access to resources, and underlying heritable qualities. Although past research has examined overall preferences for height, we propose these preferences are modified by evolved mechanisms that consider one's own height and prevailing social norms. We examined this proposal using samples of 2000 personal ads and 382 undergraduates. Both sexes preferred relationships where the woman was shorter when specifying the shortest acceptable, tallest acceptable, and ideal dating partner. In the personal ads sample, this norm was more strongly enforced by women than by men: 23% of men compared to only 4% of women would accept a dating relationship where the woman was taller. Preferences for the male-taller norm were less pronounced in short men and tall women, who shifted towards preferring someone closer to their own height. This limited their potential dating pool but ensured they would select a mate within the typical range of variation for height. Surprisingly, endorsement of traditional gender role norms was only weakly related

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0191-8869/$ - see front matter
doi:10.1016/j.paid.2007.08.008

to height preferences, particularly for women. These findings highlight the utility of examining how evolutionary factors, including endorsement of social norms, may influence mate preferences.

Keywords: Mate preferences; Height; Body image; Sexual dimorphism; Gender roles; Men; Women

1. Introduction

Do all individuals have a different vision of the ideal body, or is there a high degree of systematic variation in what we find attractive? Over the past several decades evolutionary social scientists have examined how individual differences, contextual factors, and socially transmitted information shape what we find desirable in a mate (Gangestad, Haselton, & Buss, 2006). This research has demonstrated that mate preferences are influenced by factors such as exposure to new social norms (Tovee, Swami, Furnham, & Mangalparsad, 2006), the prevalence of pathogens in the environment (Gangestad et al., 2006), whether one is considering a mate as a short-term sexual partner or long-term dating partner (Buss & Schmitt, 1993), and even a woman's ovulatory phase (Gangestad, Thornhill, & Garver-Apgar, 2005). These findings support the proposal that evolutionary processes have crafted a flexible set of *conditional* mate preferences rather than a rigid and fixed set of criteria for attractiveness.

Considering conditional mate preferences is particularly critical when investigating preferences for height. We propose that although there are general preferences for taller-than-average men, preferences for height are strongly influenced by one's sex, height, and endorsement of traditional gender role norms. Below we investigate what predictions can be derived from existing theoretical perspectives regarding preferences for absolute and relative height of a dating partner.

2. Factors Relating to Absolute Preferences for Height

2.1. Preferences for male height

Many women express a preference for males displaying "masculinized" traits that require high levels of testosterone to produce, such as facial masculinity (Johnston, Hagel, Franklin, Fink, & Grammer, 2001) and muscularity (Frederick & Haselton, 2007). Presumably, this preference evolved because testosterone-linked traits are costly to produce in terms of increased metabolic rate and immunosuppression, and therefore signal the presence of positive heritable qualities that can be transmitted to offspring (see Kaplan & Gangestad, 2005). Support for this heritable fitness perspective comes from research showing that women prefer these traits most strongly when the only benefits they might receive are genetic, such as in a short-term mate (Frederick & Haselton, 2007; Johnston et al., 2001) or when they are most likely to conceive, during the fertile phase of their ovulatory cycle (Gangestad et al., 2005).

Drawing from this logic, tall stature may index heritable fitness because only individuals with certain heritable qualities can afford to allocate energetic costs away from other processes

and funnel them into the development of tall stature. The high heritability of stature (Silventoinen, Kaprio, Lahelma, Viken, & Rose, 2001) suggests that ancestral women who developed a bias to prefer tall men as mates may have transmitted the propensity for tall stature and associated heritable advantages to their offspring. Additionally, females may prefer taller males because these males provide direct benefits to their mates such as the ability to intimidate rivals and provide resources. Height may be a particularly useful cue of access to resources and socioeconomic status during development (Cassidy, 1991; Judge & Cable, 2004).

Although the aforementioned factors likely contribute to preferences for height, an additional process is important. The ability to form, attend to, and internalize social norms is an important feature of evolved human psychology (Boyd & Richerson, 2005), and social norms play a role in reflecting and determining what is considered physically attractive (Tovee et al., 2006). In particular, there is a widespread norm that encourages men to display masculinity, power, and dominance. Height may convey these features in men because taller men are perceived as more dominant and assertive (Melamed, 1992). Further, participants in one study overwhelmingly nominated height as one of the three most essential features of a ''masculine man'' (Helgeson, 1994). This perspective would suggest that women who endorse the traditional gender-role norm that men should be masculine would be more likely to favor men who possess a taller and more imposing stature.

Consistent with these theoretical perspectives, height is considered an important feature of male attractiveness (Pawlowski & Koziel, 2002; Pierce, 1996) and women express a greater preference for taller men during the fertile phase of their ovulatory cycle (Pawlowski & Jasienska, 2005). Further, taller men are preferred as mates, report dating more often than men of short or average height (Shepperd & Strathman, 1989), and have generally higher reproductive success (Pawlowski, Dunbar, & Lipowicz, 2000).

2.2. Preferences for female height

Although there are clear reasons to expect that tall height in men may generally be valued, it is not clear what height men would prefer in women. While it may be advantageous for males to allocate significant resources to developing large body size in order to compete with rival males and to signal their fitness or social status to potential mates, females may be better off allocating available energy towards other processes – enhancing fertility, diverting energetic resources to pregnancy and lactation, etc. (see Hrdy, 1981; Nettle, 2002). On the other hand, however, tall female height may be valued to the extent that height in women signals a history of access to resources, healthy development, and high status.

An examination of socially transmitted values about the feminine body also provides few clear clues to preferences for women's height. One view has been that traditionally there has been a stigma against women who display physical indicators of power such as height or muscularity because this violates the expected gender norm that men are more powerful than women. A recent study of over 54,000 adults, however, found shorter-than-average women were more likely than taller-than-average women to be dissatisfied with their height (Lever, Frederick, Laird, & Sadeghi-Azar, 2007). Thus, it is difficult to make any clear predictions regarding preferences for absolute height in women.

3. Factors Relating to Relative Preferences in Height

3.1. Sexual dimorphism in height

The preceding analyses suggest there would be general preferences for tall stature in men but not in women. However, an important criterion in human mate attraction is the relative height of men and women, operationalized as the sexual dimorphism ratio in stature (SDR = male height/female height; see Pawlowski, 2003). Rather than attending primarily to absolute height, people may be most sensitive to the extent to which a potential mate is taller or shorter than themselves. Pawlowski (2003) research revealed a specific and vital flexibility in preferences for sexual dimorphism in the statures of a couple. He showed that rather than there being some fixed rule in mate selection (i.e., always prefer a man who is a certain height), an individual's mate preferences are most likely tailored to his or her own stature.

These shifting preferences in SDR may serve to maintain relationships where the man is taller than the woman while simultaneously avoiding choosing mates who are outside the typical population range. This would be advantageous if being outside the typical range for any given morphological trait is a cue to developmental hardships or risk for chronic health problems (e.g., Park, Faulkner, & Schaller, 2003), such as unusually tall height resulting from disorders such as pituitary gigantism or Marfan's syndrome. For example, by preferring a smaller SDR, tall women do not select mates who are outside this typical range of variation.

Preferences for sexual dimorphism are also likely shaped by internalized social norms about the "appropriate" roles of men and women. For example, one experiment found that when a woman was pictured as taller than a man, raters perceived her as being more dominant than the man (Boyson, Pryor, & Butler, 1999), violating the traditional gender norm that men should be more dominant than women. If men and women are stigmatized for entering a relationship that violates traditional gender-role expectations, this may serve as incentive for them to seek relationship arrangements where the male partner is taller than the woman, especially for individuals who more strongly endorse traditional gender role norms.

4. Present Research

Most research on height has focused on the absolute height that is attractive in men. This bias toward examining what people find "ideal" has limited our ability to identify the range of what people find acceptable in a mate and how individual differences such as height and gender role attitudes relate to these preferences. In this research study we tested the following predictions:

1. *Preferences for absolute height*: Consistent with a costly signaling perspective, women will prefer men who are taller than average. No predictions were made about men's preferences for height in women.
2. *Preferred sexual dimorphism in stature*: In general, most men and women will prefer relationships where the male is taller. However, because it is advantageous for men to have less stringent requirements for physical appearance in a mate in the short-term as a way to maximize

reproductive opportunities (e.g., Buss & Schmitt, 1993), men may be more accepting of a wider range of heights in a mating partner than women.

3. *One's own height and sexual dimorphism in stature*: In order to maximize their dating pool, tall men and short women will be most accepting of a larger sexual dimorphism in stature between mates. Conversely, tall women and short men will prefer a smaller sexual dimorphism in order to avoid preferring individuals who are outside the typical phenotypic range.
4. *Gender role norms*: We predicted that individuals who more strongly endorse traditional gender norms will be more interested in dating individuals whose physical stature is consistent with stereotyped roles for men and women. Specifically, we expected that men who more strongly endorse traditional gender role norms will have stronger preferences for dating short women and against dating tall women. In parallel, women who more strongly endorse these norms will have stronger preferences for dating tall men and against dating short men.

5. Study 1

To test these hypotheses, we first examined information provided by individuals enrolled in a public online dating site. Individuals at these sites have the opportunity to report their own height as well as specify the tallest and the shortest acceptable height for a potential dating partner. This allowed us to test predictions 1–3 described above.

5.1. Method

5.1.1. Participants

We coded personal advertisements available on Yahoo Personals for heterosexual individuals within 250 miles of Los Angeles, California, USA (men seeking women, $N = 1000$; women seeking men, $N = 1000$). The average reported age was 37.2 (SD = 9.8) for men and 34.8 (SD = 9.9) for women. Our sample was ethnically diverse for both men (545 White, 226 Black, 69 Hispanic, 60 Asian, and 79 Other) and women (465 White, 208 Black, 120 Hispanic, 101 Asian, and 92 Other).

5.1.2. Measures

We recorded individuals' own reported height and the heights of the shortest and the tallest person they indicated they would date (they could specify any height between 3′11″ and 7′11″). Some participants did not specify a height restriction on who should contact them. We therefore divided participants into four groups according to whether they specified: Both Shortest and Tallest Acceptable Height (502 men and 469 women), Tallest Acceptable Height Only (50 men and 0 women), Shortest Acceptable Height Only (47 men and 315 women), and Neither Shortest Nor Tallest (401 men and 216 women). When analyzing the results pertaining to the tallest acceptable height, groups 1 and 2 were used. When analyzing the results pertaining to the shortest acceptable height, groups 1 and 3 were used.

Using the values for tallest and shortest acceptable partner, we calculated the largest and the smallest acceptable sexual dimorphism ratio for stature. We first calculated the *largest acceptable sexual dimorphism ratio* for men (man's own height/shortest acceptable height in a female date) and for women (tallest acceptable height in a male date/woman's own height). The *smallest*

acceptable sexual dimorphism ratio was calculated for men (man's own height/tallest acceptable height for female date) and for women (shortest acceptable height in a male date/woman's own height). Thus, a value of 1.0 represents a preference for a relationship where the man and woman are of equal heights, and values greater than 1.0 indicate a desire for taller men relative to women.

5.2. Results and Discussion

1. *Preferences for absolute height*: Results are summarized in Table 1. Consistent with the predictions, the tallest man a woman would date on average (75.3″) was taller than the average man (70.7″) in the sample $F(1, 1773) = 213.29$, $p < .001$, and this difference was very large, $d = 1.91$. The shortest man a woman would date on average (68.9″) was only moderately below the average height for men (70.7″), $F(1, 1458) = 1116.89$, $p < .001$, $d = .69$, suggesting that women are biased towards preferring men who are significantly taller than average over those significantly shorter than average. Although we made no predictions regarding men's absolute preferences for height in a dating partner, on average the tallest woman a man would date (69.8″) was taller than the average woman in the sample (65.1″), $F(1, 1542) = 1086.81$, $p < .001$, $d = 1.77$. On average, the shortest woman a man would date (60.6″) was shorter than the average woman (65.1″), $F(1, 1539) = 766.52$, $p < .001$, $d = 1.40$.
2. *Preferred sexual dimorphism in stature*: Results are summarized in Table 1. Consistent with the prediction, men indicated that the tallest individual they would date would be their height or slightly shorter (SDR = 1.01), while the shortest individual they would date could be substantially shorter than them (SDR = 1.17). Women also indicated that they preferred

Table 1
Sex differences in acceptable and ideal heights and sexual dimorphism ratios in a dating partner in Studies 1 and 2

	Women			Men		
	M	SD	Own height *r*	*M*	SD	Own height *r*
Study 1: Personal ads						
Shortest acceptable height	68.9″	2.6″	.43**	60.6″	3.7″	.28**
Tallest acceptable height	75.3″	2.2″	.41**	69.8″	2.7″	.64**
Mean participant height	65.1″	2.6″		70.7″	2.6″	
Smallest acceptable SDR	1.05	.05	−.54**	1.01	.03	.34**
Tallest acceptable SDR	1.17	.04	−.69**	1.17	.08	.41**
Study 2: Undergraduates						
Ideal height	71.3″	2.5″	.52**	65.7″	2.6″	.43**
Mean participant height	65.0″	2.5″	–	69.1″	2.9″	–
Ideal SDR	1.10	.04	−.58**	1.05	.05	.59**

Note: The mean and standard deviation for shortest acceptable, tallest acceptable, and ideal height and sexual dimorphism (SDR) in a dating partner are presented for men and women. A positive correlation between own height and preferred height indicates that taller individuals are more interested in dating someone who is also relatively tall. A positive correlation between one's own height and SDR indicates that taller individuals prefer a larger difference between their height and the height of their partner.

* $p < .05$.

** $p < .01$.

being in a relationship where they were shorter than both the shortest (SDR = 1.06) or the tallest (SDR = 1.17) man they would date. Consistent with the predictions, men were more tolerant of dating a wider range of heights than were women, perhaps in an attempt to maximize their potential mating. Nearly half of men indicated their tallest acceptable date could be taller than them (24%) or their height (23%), while only half (53%) required that their partner be shorter than them. For women, the vast majority indicated that the shortest person they would date would still be taller than them (89%), with only a small minority being willing to accept a mate who was their height (7%) or shorter (4%).

3. *One's own height and sexual dimorphism in stature*: Results are summarized in Table 1. Consistent with the proposal that tall men and short women would be more accepting of a larger sexual dimorphism in a relation in order to maximize their dating pool, taller men and shorter women reported a willingness to accept larger SDRs between themselves and their partner. This also indicates that shorter men and taller women preferred a smaller SDR, which ensures that they do not choose a partner outside the typical range of variation in height. Across the height continuum, this pattern can be seen clearly in Fig. 1, where almost all preferred sexual dimorphism values are greater than 1, especially for taller men and shorter women. This is also evident in Fig. 2 when looking at the discrepancy between one's own height and the preferred height of a dating partner in inches, where almost all individuals indicate that they would prefer a relationship in which the male is taller. Of note is that shorter-than-average-height men (<69″) indicated that women who were between 0 and 2 in

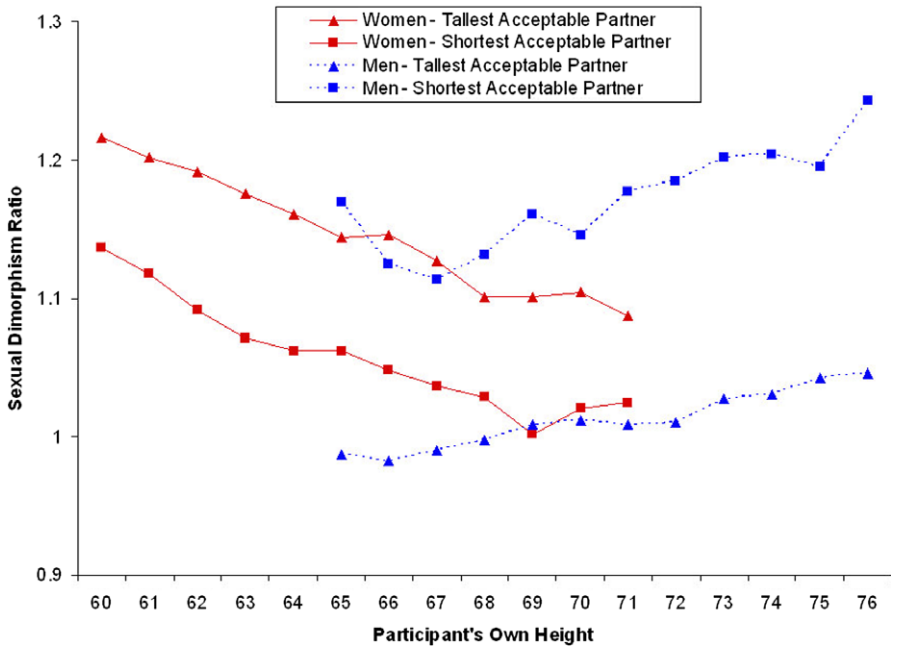

Fig. 1. Tallest and shortest acceptable sexual dimorphism ratio (SDR) for men and women of varying heights in Study 1. *Note*: Overall, men and women across the height span preferred a relationship where the man was taller, with taller women and shorter men being more accepting of dating a partner who is approximately their height.

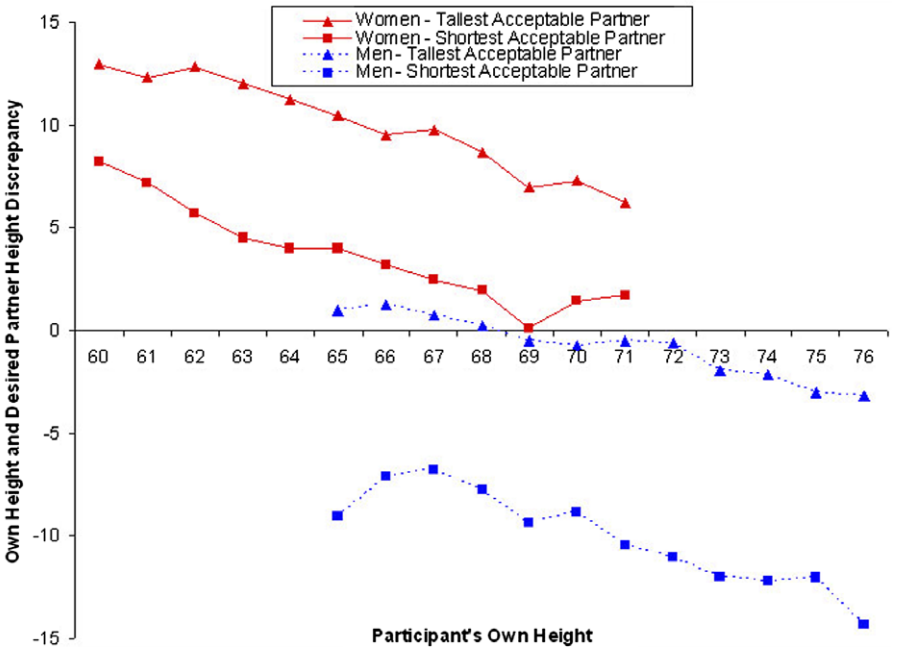

Fig. 2. Difference between one's own height and the height of the tallest and shortest acceptable dating partner for men and women in Study 1.
Note: Overall, men and women across the height span preferred a relationship where the man was taller. Taller women and shorter men were more accepting of dating a partner who is approximately their height.

taller than them on average would be acceptable as dating partners, perhaps expressing a willingness to violate the male-taller norm in a small way in the hopes of expanding their mating pool slightly.

6. Study 2

The first study provided information about the range of height that men and women find acceptable and how this preference shifts according to their own height. Unspecified in Study 1, however, were perceptions of ideal height and ideal sexual dimorphism, or more specific attitudes about an individual's willingness to date individuals from across the height continuum. In Study 2, we examined these preferences explicitly, and also tested whether individuals who more strongly endorse traditional gender norms would report the stronger preferences for tall height in men or short height in women.

6.1. Method

This survey was completed by 133 men (M Age = 19.2, SD = 1.2) and 249 women (M Age = 18.8, SD = 1.1) in an undergraduate psychology class. Our sample was ethnically diverse for men (53 White, 58 Asian, 13 Biracial, 9 Other) and women (72 White, 118 Asian, 30 Biracial, 29 Other).

6.1.1. Measures

To assess one's willingness to date individuals of different heights, participants read a brief vignette describing a member of the other sex: "Imagine that you are single and met someone in your class that is interested in dating you. You find this person entertaining and fun to hang out with." They were then asked "how LIKELY is it that you would consider having a romantic relationship with this person if this person was [5′0″/ 5′2″/... 6′6″]." Responses were scored on a 9-point Likert scale (1 = Not at all; 9 = Extremely).

Participants were then asked to indicate the "What is the ideal height for someone you would like to date?" using feet and inches. To investigate one's preferences for sexual dimorphism in stature, we calculated the *ideal sexual dimorphism ratio* for men (one's own height/ideal partner's height) and for women (ideal partner's height/one's own height). Thus, larger values indicated a desire for a relationship in which the man is taller relative to the woman.

Finally, to assess attitudes towards traditional gender norms, we used the Male Role Attitudes Scale (Pleck, Sonenstein, & Ku, 1994), which contains eight items assessing endorsement of the traditional male role, such as "A young man should be tough." Responses were scored on a 9-point Likert scale (1 = Strongly Disagree, 3 = Disagree, 5 = Neutral, 7 = Agree, 9 = Strongly Agree), with higher scores indicating greater endorsement of the traditional role.

6.2. Results and Discussion

1. *Preferences for absolute height*: Results are summarized in Table 1. Consistent with the predictions, the ideal male partner for women (5′11.3″) was taller than the average man in the sample (5′9.1″), $F(1, 357) = 52.86$, $p < .001$, and this difference was large $d = 81$. Although we made no predictions regarding men's preferences, the ideal female partner for men (5′5.7″) differed from the average height for women in the sample by less than an inch (5′5″), $F(1, 368) = 19.37$, $p < .001$, $d = .27$. As shown on Table 2, women rated short men (5′0–5′6″) as least attractive for a date and men who were average or above average (5′8″–6′4″) as most attractive, with the exception of very tall men (6′6″). In contrast, men were most attracted to women who were short to above average in height (5′0″–5′10″) and least attracted to women who were very tall (6′0″–6′6″).
2. *Preferred sexual dimorphism in stature*: We predicted that, in general, men would prefer women who were shorter than themselves (SDRs of 1.0 or greater). Consistent with this proposal, men preferred women shorter than themselves (SDR = 1.05), and women preferred men taller than themselves (SDR = 1.10; see Table 1). Strikingly, all women indicated that their ideal partner was taller than them, and nearly all men indicated that their ideal partner was shorter than them (Fig. 3).
3. *One's own height and sexual dimorphism in stature*: Consistent with Study 1, tall men and shorter women preferred larger ideal SDRs, which maximized their dating pools, and short men and tall women preferred small SDRs, which ensured their dating pool would exclude individuals outside the typical range of height for the latter groups (Table 1).
4. *Gender role norms*: Contrary to prediction, there were no significant associations of endorsement of traditional gender role norms to ideal height in a dating partner or ideal sexual dimorphism ratio for men or women (all rs < .10, all ps >.25). The only consistent evidence in favor of the gender role prediction was that women with more traditional gender attitudes

Table 2
Willingness to date individuals of a given height and associations with one's own height and endorsement of traditional gender roles in Study 2

	Women				Men			
	M	SD	Own height *r*	Gender roles *r*	*M*	SD	Own height *r*	Gender roles *r*
Height								
6′6″	4.9	2.5	.41**	−.09	2.0	1.6	.11	−.31**
6′4″	5.5	2.5	.41**	−.08	2.2	1.7	.12	−.34**
6′2″	6.5	2.3	.40**	−.01	2.7	2.0	.18*	−.39**
6′0″	7.2	1.8	.31**	.05	3.7	2.5	.32**	−.27**
5′10″	7.2	1.5	−.10	.06	5.2	2.6	.47**	−.14
5′8″	6.4	1.8	−.40**	−.05	6.7	2.2	.43**	−.14
5′6″	4.8	2.3	−.47**	−.13*	7.5	1.7	.22**	−.04
5′4″	3.2	2.0	−.49**	−.18**	7.4	1.8	−.16	−.01
5′2″	2.2	1.6	−.37**	−.14*	6.6	2.3	−.25**	−.07
5′0″	1.8	1.4	−.28**	−.18**	5.8	2.6	−.28**	−.12
Ideal	71.3″	2.5″	.52**	.03	65.7″	2.6″	.42**	−.10

Note: The mean and standard deviation for participant's willingness to date an individual of each height is given by sex (1 = Not at all willing; 9 = Extremely willing). The association between willingness to date an individual of a given height and own height and endorsement of gender roles is then presented.
* $p < .05$.
** $p < .01$.

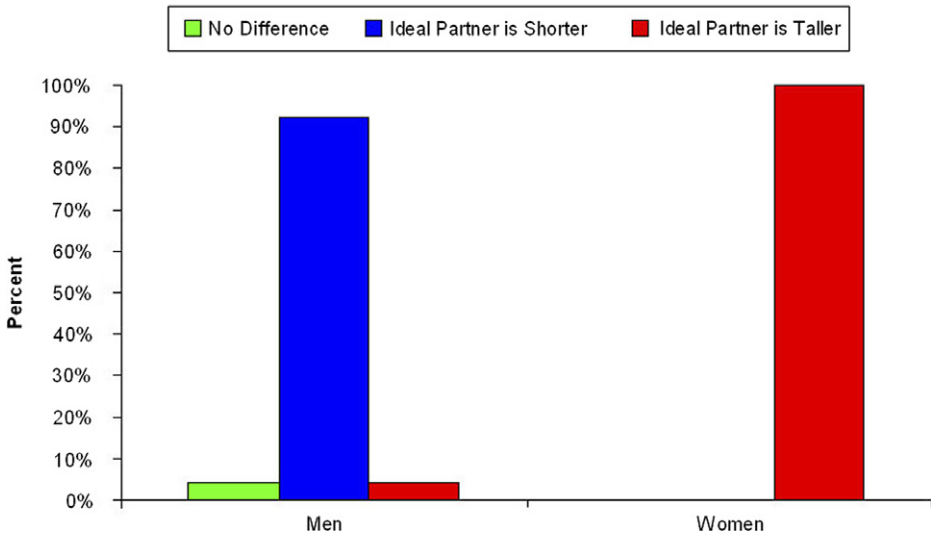

Fig. 3. Sex differences in whether the ideal partner is shorter, taller, or the same height as one's self in Study 2. *Note*: All women and nearly all men preferred a relationship where the man was taller.

reported that they were less willing to date short men (5′6″ or shorter; *r*s = −.13 to −.18) and that men with more traditional gender attitudes were less willing to date very tall women (6′0″ or taller; Table 2).

7. Discussion

7.1. Preferences for Absolute and Relative Height

These findings are consistent with the proposal that women possess mating mechanisms that favor tall men because tall stature provided either heritable advantages to offspring or direct benefits such as resources to women in the ancestral past. Consistent with past research, we confirmed that there is a strong norm favoring men being taller in relationships that nearly all men and women endorse as ideal. Not only do individuals endorse the male-taller norm as an ideal, but many men and women reject the possibility of a relationship where the woman is taller by excluding individuals beyond a certain height criterion from their mate search. Interestingly, however, men were less likely to adhere to this norm. This may suggest that they are willing to consider a wider range of height than women in order to maximize their mating opportunities.

Our results showed strong support for the view that preferences for height in a partner depend strongly on one's own height. Tall men and short women were tolerant of a wide range of sexual dimorphisms in their relationship, thereby maximizing their dating pool. In contrast, tall women and short men preferred smaller sexual dimorphisms, which maintained the male-taller norm while also avoiding the selection of individuals outside the typical range of human variation of height. The cost to adhering to this male-taller norm, however, means that very tall women and very short men both have limited mating pools.

7.2. Gender Role Norms

Surprisingly, endorsement of the male gender role norm was only weakly related to one's preferences for height and sexual dimorphism. This is contrary to what we had predicted based on a general socialization model of socially transmitted gender norms, and it is unclear how to explain this result.

7.3. Limitations

Study 2 relied on college students, whose mating preferences may differ from those of other populations. Relying on personal ads in Study 1 provided a larger and more diverse sample, but users of online dating services differ from non-users and it is unknown whether individuals' personal profiles truthfully represented their actual attributes and preferences.

7.3.1. Concluding Comments

Despite these limitations, our findings highlight the importance of considering how conditional mating preferences, evolved mechanisms for evaluating indicators of good condition, and attending to socially transmitted information contribute to human mating preferences. This approach led us to focus not only on conceptions of the ideal height, but also the range of height that is acceptable and how these preferences can shift according to one's own physical features and gender role beliefs.

Our results highlight how powerful the male-taller norm is in the United States; very few individuals expressed willingness to break the norm when considering a dating partner despite the fact

that it sharply limits one's dating pool, particularly for tall women and short men. Although endorsement of gender role ideology was only weakly related to preferences for height in our sample, the association was in a promising direction for future research. Specifically, research is needed to examine whether social awareness programs that challenge traditional gender norms can help to ameliorate the stigma faced by tall women and short men and expand people's range of acceptable dating partners.

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