

## Sex differences in mate selection strategies: Content analyses and responses to personal advertisements in Brazil

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Received 25 January 2002; accepted 27 March 2002

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### Abstract

We studied mate selection strategies as revealed in heterosexual personal advertisements published in a Brazilian newspaper, analyzing both the ads' content, with respect to the attributes that men and women offered and sought, and predictors of the number of responses that each ad received. Demands made for a prospective partner changed as a function of the age of the advertiser in predictable sex-differentiated ways: women became less demanding as they aged, whereas men became more demanding. The number of responses received by men and women as a function of age followed a similarly sex-differentiated pattern, with older women receiving fewer responses than younger women, and older men receiving more responses than younger men. In general, results of the present study provided support for our predictions. People who used personal advertisements, a relatively recent unconventional way for selecting mates, expressed conventional preferences, suggestive of evolved psychological mechanisms. © 2002 Elsevier Science Inc. All rights reserved.

*Keywords:* Mate selection strategies; Sex differences; Age preferences; Evolutionary Psychology

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## 1. Introduction

Personal advertisements provide evolutionary psychologists with a rich data source to study sex differences in mate selection strategies (e.g., Bereczkei, Voros, Gal, & Bernath, 1997; Greenlees & McGrew, 1994; Kenrick & Keefe, 1992; Kenrick, Keefe, Bryan, Barr, & Brown, 1995; Pawlowski & Dunbar, 1999a, 1999b; Waynforth & Dunbar, 1995; Wiederman, 1993).

The contents of personal advertisements have been extensively examined for sex differences, mainly in the United States. The present study is based on a sample of Brazilian personal advertisements, written in Portuguese, and thus contributes to the cross-cultural scope of such analyses.

In addition to analyses of offered and desired attributes by men and women, we also analyzed predictors of the number of responses received by the target ads, which has been done in only a few prior studies (Goode, 1996; Lynn & Shurgot, 1984; Pawlowski & Koziel, 2002; Sitton & Blanchard, 1995). Responses tell us more about human mate selection, since either sex may have misconceptions about what is desired by the other (Robert Young, pers. comm.).

Goode (1996) placed bogus ads to assess the relative importance of attractiveness and occupational status/financial success for both sexes. Men were overwhelmingly more influenced by a woman's attractiveness, whereas women were substantially more influenced by a man's occupational status/financial success. Sitton and Blanchard (1995) also placed bogus ads, in which a woman identified herself either as obese or as a recovering addict. Fewer men responded to the former ad, suggesting that obesity detracts from female attractiveness more than chemical dependency. We also considered using deceptive advertisements, but renounced this option because of ethical considerations.

Lynn and Shurgot (1984) assessed how self-descriptions of physical appearance in actual ads affected response numbers. They found that tall male advertisers and light female advertisers received more responses than their shorter and heavier counterparts, and that response to ads placed by women generally depended more on offerings of attractiveness than responses to ads placed by men. In the present study, we go beyond physical appearance, correlating a greater number of self-descriptors with the number of responses elicited.

A recent Polish study (Pawlowski & Koziel, 2002), published after we conducted the research reported here, also investigated the impact of the traits offered in personal advertisements seeking long-term partnerships on the "hit rate" (responses). The most important predictors for male advertisers were educational level, age, and height offered, all of which were positively correlated with the hit rate. Never-married men received fewer responses than those with previous marital experience. Resources offered were also a significant predictor of the hit rate, but it was surprisingly unimportant, ranking fifth. For female advertisers, by contrast, predictors were weight, height, and to a much lesser extent, education and age, all of which were negatively correlated with the hit rate. Surprisingly, female age was relatively unimportant compared to other factors and attractiveness offered was not a significant predictor of responses elicited.

## 2. Methods

### 2.1. Data source

Personal advertisements placed by heterosexuals in the *Classline* column of *Folha de São Paulo*, a major respectable daily Brazilian newspaper with a readership of 388,440 (March 1997–June 1999), were our data source. Ads published on the penultimate Sunday of each month from March 1997 to June 1999 were collected, and those that met the following criteria were eligible for inclusion in the study: they must (1) not be a duplicate of a prior ad, (2) contain both offered and requested characteristics, and (3) state these characteristics clearly. Ads which provided self-descriptions and requested a potential partner with compatible or similar characteristics were rejected. Then, from the ads that qualified, 500 placed by men and 500 by women were selected using a random number table.

Advertisers who were identified only by post-box numbers, paid R\$30.00 for a four-line ad, which ran on Tuesday, Thursday, and Sunday, plus R\$18.00 for each additional line. Advertisers could access their post-boxes for answers for 12 days after their ad's initial appearance. Respondents paid R\$3.00 fee per minute when they answered one ad. (One Brazilian real was worth approximately 1 US dollar during the study period.)

The sample was subsequently reduced to 807 advertisements (411 females and 396 males) because of a change in response conditions. The newspaper used a telephone service to charge respondents a fee, but in March 1999, a new law prohibited charges for this kind of service, and responses to the last 193 ads were free; we discarded these on the assumption that responses requiring a fee would be more careful and selective.

### 2.2. Procedure

Offers and requests were analyzed in terms of the following coding categories, selected on the basis of previous research (Davis, 1990; Deaux & Hanna, 1984; Gonzales & Meyers, 1993; Harrison & Saeed, 1977; Hirschman, 1987; Wiederman, 1993): attractiveness, sexuality, emotion, affiliative needs, hobbies, optimism, financial resources, instrumental traits, occupational status, educational status, good manners, physical appearance, physical health, addictions, nationality, religion, marital status, age, and children. Only one rater (L. de S.C.) coded the ads, but her agreement with another rater (E.O.) was calculated for 20% of the ads, with resultant kappas varying between 0.88 and 1.00. The newspaper *Folha de São Paulo* recorded the number of answers received by each post-box and gave us this information for analysis.

## 3. Results

Similar proportions of female (86.2%) and male (83.8%) advertisers stated their ages ( $\chi^2 = 1.13$ ,  $df = 1$ ,  $P = .29$ ). The age distributions of male and female advertisers were also similar ( $\chi^2 = 5.75$ ,  $df = 4$ ,  $P = .22$ ). Only 0.5% of advertisers were under 20 years old, so we

limited our analyses to four age groups: 20–29, 30–39, 40–49, and 50+. These age groups included 14.1%, 53.9%, 25.3%, and 6.7% of male advertisers, respectively, and 17.6%, 48.0%, 27.8%, and 6.0% of female advertisers.

Significant sex differences in offered and desired attributes as a function of age are summarized in Table 1. In general, female advertisers became less demanding with increased age, showing progressively less interest in occupational status and physical appearance of prospective partners. Instrumental traits were more valued in the 30s and 40s than in the 20s or later. Marital status information was valued by all age groups, but most valued in the 40s.

In sharp contrast with female advertisers, males became generally more demanding with age, becoming progressively more interested in childless partners, and asking for more information about sexuality and weight. They were relatively uninterested in physical health and religion, but these concerns increased above 50 years.

Older advertisers of both sexes offered more information about marital status and financial resources than younger ones, but it is notable that in all age groups women were more likely

Table 1  
Frequency distribution (%) of offered and desired attributes as a function of the advertiser's age and sex

Attributes	<i>n</i>	20–29	30–39	40–49	> 50	$\chi^2$
<i>Desired by females</i>						
Marital status	190	40.8	39.1	55.8	42.3	9.1*
Physical appearance	109	36.8	25.6	20.0	15.4	8.5*
Instrumental traits	42	3.9	10.6	14.2	0.0	8.5*
Occupational status	19	10.5	4.3	1.7	0.0	10.0*
<i>Desired by males</i>						
Weight	73	6.8	15.5	27.4	17.9	12.5**
Childless partner	36	11.9	4.9	10.4	25.0	14.8**
Sexuality	23	1.7	4.0	7.5	17.9	11.7**
Occupational status	9	0.0	1.3	5.7	0.0	8.9*
Religion	8	0.0	0.9	3.8	7.1	8.5*
Physical health	5	1.7	0.9	0.0	7.1	10.0*
<i>Offered by females</i>						
Marital status	241	42.1	56.5	60.0	76.9	11.4**
Sincerity	21	5.3	1.9	10.0	3.8	10.7**
Financial resources	24	0.0	4.8	7.5	19.2	14.7**
<i>Offered by males</i>						
Marital status	181	18.6	44.7	51.9	50.0	18.5***
Financial resources	55	8.5	11.1	16.0	28.6	8.6*
Nationality	55	1.7	17.3	12.3	7.1	11.1**
Occupational status	118	8.5	26.1	38.7	46.4	22.2***
Physical health	7	3.4	1.3	.0	7.1	12.5*

\* 0.05.

\*\* 0.01.

\*\*\* 0.001.

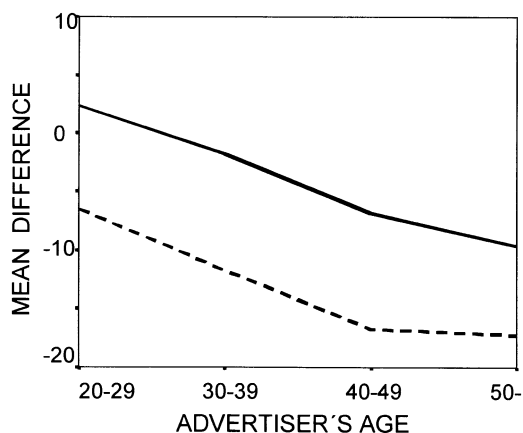


Fig. 1. Mean differences between male advertiser's own age and the lower and upper limit of requested age in a potential partner.

than men to provide this information, whereas men provided more information than women about financial resources. Furthermore, men provided more and more information about occupational status and physical health as they aged. At middle age, they were particularly concerned with nationality. Finally, women 40–49 were more likely to self-describe as sincere than in other age groups.

Figs. 1 and 2 show discrepancies between advertisers' ages and the maximum and the minimum ages sought (cf. Kenrick & Keefe, 1992). Positive values indicate that partners older than oneself were being sought, negative values younger. There is a significant

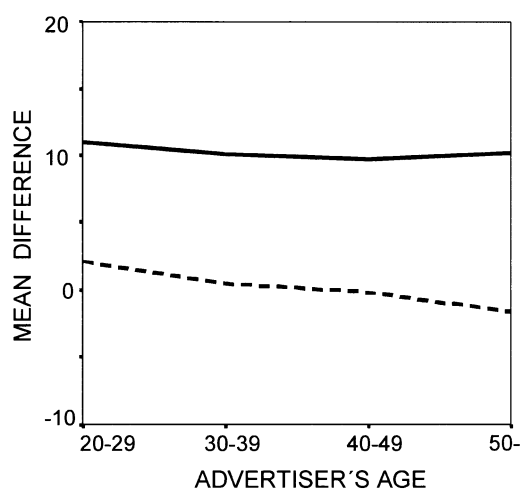


Fig. 2. Mean differences between female advertiser's own age and the lower and upper limit of requested age in a potential partner.

Sex  $\times$  Advertiser's age interaction for both the upper limit measure ( $F=27.47$ ,  $df=3,566$ ,  $P<.001$ ), and the lower limit measure ( $F=10.16$ ,  $df=3,438$ ,  $P<.001$ ). As they got older, male advertisers preferred progressively younger partners than themselves, whereas female advertisers exhibited a more stable pattern of preference.

The number of responses that ads received was first assessed in relation to the advertiser's age and sex. Responses received by male advertisers increased steeply over the life span, whereas responses received by women decreased. In their 20s, women received more responses than men, but never thereafter (Fig. 3). This interactive effect of age by sex is significant ( $F=17.95$ ,  $df=3,778$ ,  $P<.001$ ).

Following Pawlowski and Dunbar (1999a), we estimated advertisers' "market value" as the proportion of individuals seeking partners of a given age divided by the proportion of available partners of that age in our sample. Fig. 4 plots this market value measure as a function of sex and age. Women's market value was highest in the youngest group, men's in the oldest. Only in their 30s are women and men of approximately equal market value by this measure.

To examine which offered attributes best explained hit rates, we conducted separate forward stepwise ordinary least-square regressions (OLSR) for female ( $F=12.21$ ,  $df=4,107$ ,  $P<.001$ ), and male ( $F=26.91$ ,  $df=3,96$ ,  $P<.001$ ) advertisers. Attractiveness [ $\beta=0.206$ ,  $t(409)=2.517$ ,  $P<.01$ ] and optimism [ $\beta=0.222$ ,  $t(409)=2.739$ ,  $P<.01$ ] were positive predictors of hit rate for female advertisers, while age [ $\beta=-0.389$ ,  $t(409)=4.770$ ,  $P<.001$ ] and weight [ $\beta=-0.222$ ,  $t(409)=2.724$ ,  $P<.001$ ] were negative predictors. Height [ $\beta=0.372$ ,

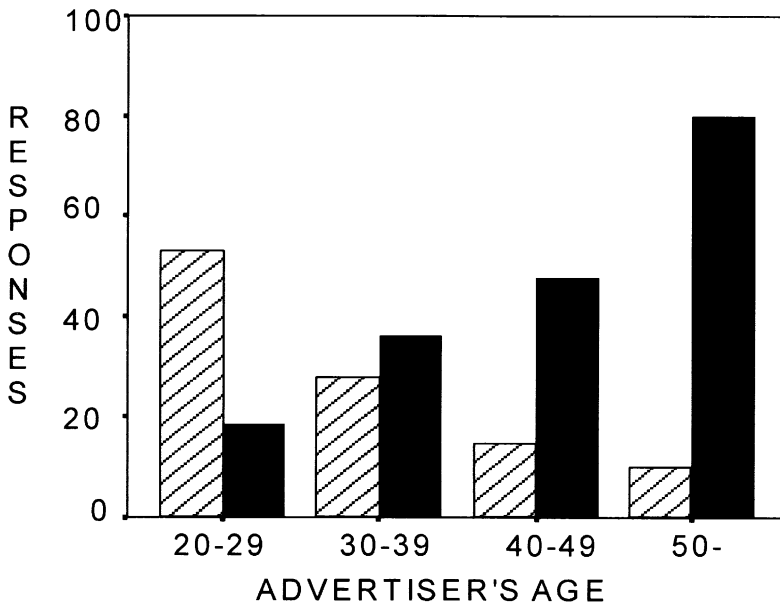


Fig. 3. Mean response number elicited by male (black bars) and female advertisers (striped bars) as a function of age.

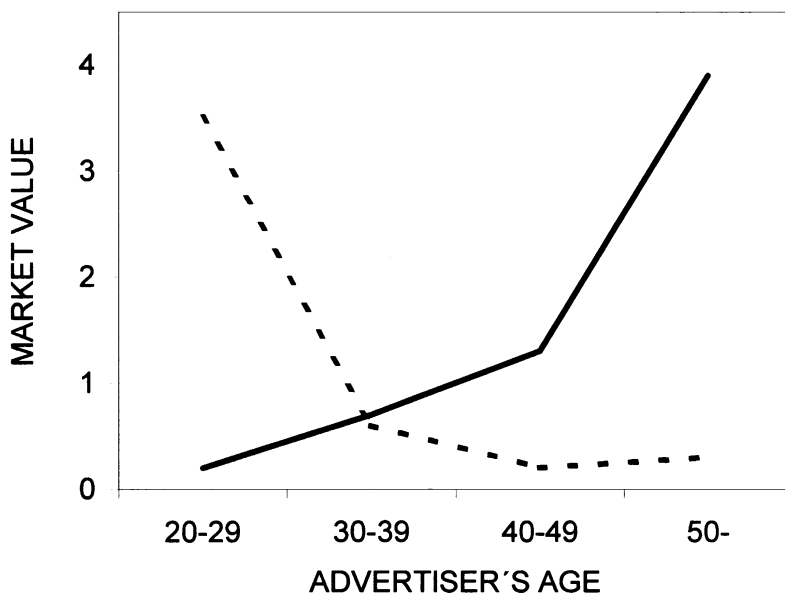


Fig. 4. Market value of males and females as a function of age.

$t(394)=4.806$ ,  $P<.001$ ], age [ $\beta=0.443$ ,  $t(394)=5.730$ ,  $P<.001$ ], and widowhood [ $\beta=0.451$ ,  $t(394)=5.969$ ,  $P<.001$ ] were positive predictors for men's ads. Adjusted  $R^2$  values for the total effects of predictors were .313 for women's ads and .457 for men's.

Finally, results were analyzed using a classification and regression tree (CART) technique (SPSS AnswerTree software). The dependent variable was the number of answers each ad received and the predictors were advertiser's sex, age, and the resources both offered and sought (see Methods section). The root node of our CART had 807 advertisements. Moving forward, data were partitioned into mutually exclusive subsets, using the chi-square automatic interaction detector (CHAID) algorithm (see Biggs, de Ville, & Suen, 1991; Kass, 1980). The first partition was based on sex: male advertisers had an average of 45.5 responses and female advertisers, 26.3. From there on, relevant partitions were different for each sex: female data, for example, were partitioned by age and male data, by marital status. Relevant partitions for women in their 20s were also different from those women in their 30s, and so on. Gain or loss of responses was evaluated as a function of the attributes offered/sought with reference to the number of responses obtained by an advertiser if one only had information about sex.

Table 2 shows profiles associated with significant gain or loss in the number of responses received by female and male advertisers. The highest loss of responses was found for female advertisers in their reproductive years (less than 39 years) that asked for a religious partner, followed by women in their 30s that offered religion. Women above 40 suffered somewhat lesser, but also significant response loss. The highest gain of responses was obtained by attractive women in their 30s interested in sex, followed by women under 30 who did not

Table 2

Profiles associated with significant gain or loss in the number of answers received by female and male advertisers, according to “AnswerTree” analysis

Gain/loss	Profiles
<i>Female advertisement profiles</i>	
+ 36.8	30–39 year old, attractive and sensuous woman
+ 13.4	< 30 years old woman
+ 10.1	30–39 years old woman asked for attractive partner
– 7.9	> 40 years old woman
– 9.9	30–39 years old woman provided information about her religion
– 13.0	< 39 years old woman asked for a religious partner
<i>Male advertisement profiles</i>	
+ 51.6	Separated man, provided information about his profession
+ 47.2	Widower
+ 34.4	40–49 years old, attractive, single/available man
+ 14.7	> 50 years old single/available man
– 7.8	30–49 years old single/available man
– 17.8	Available man
– 20.8	20–29 years old, single/available

offer any other resource besides their youth. A profile that was also positive in terms of the number of responses elicited was being in one’s 30s and interested in an attractive partner. Contrasting spiritual resources versus bodily resources, the latter had much greater appeal in the lonely hearts advertisement context.

Among male advertisers, the highest loss of responses was incurred by young (<30), single, or available men, followed by available men that omitted their age. Female respondents might have considered “being available” a suspicious attribute. Significant response gains were obtained by older men, by widowers, and by separated men who provided information about their profession.

#### 4. Discussion

Men preferred increasingly younger partners as they became older. This trend is consistent with that found previously in the USA (Kenrick & Keefe, 1992; Kenrick et al., 1995; Wiederman, 1993), UK (Greenlees & McGrew, 1994), Hungary (Berecsei et al., 1997), and Poland (Pawlowski & Koziel, 2002), as well as with our findings on actual age differences between spouses in Brazilian marriages (Otta, Queiroz, Campos, Silva, & Silveira, 1999).

In the present study, however, the lower limit for this difference was not different for men in their 40s versus older men, perhaps because of the type of relationship being sought. Buunk, Dijkstra, Kenrick, and Warntjes (2001) found that there was a much smaller difference in preferred age for long-term relationships than for short-term relationships and



sexual fantasies, and suggested that men settle for long-term partners close to their own age because of constraints on their ability to convert their wishes in reality.

Greenlees and McGrew (1994) found that 25% of female advertisers withheld their ages, compared to 14% of men. Pawlowski and Dunbar (1999b) found a similar but smaller difference (19% vs. 14%), and proposed that because men's demand for youth in partners is high, women may withhold their ages relatively frequently as a deception tactic to enhance their bargaining position. In our study, however, men were actually a bit more likely to withhold their ages (16%) than women (14%).

In striking contrast with their male counterparts, female advertisers showed a rather stable pattern of age preference for prospective partners over the life span (Fig. 2). These age preferences of Brazilian women are very similar to those found in the US (Kenrick & Keefe, 1992; Kenrick et al., 1995; Wiederman, 1993) and the UK (Greenlees & McGrew, 1994), and accord well with life history considerations (Kenrick & Keefe, 1992). The pattern of age preferences by female advertisers is also consistent with data on age differences between spouses in Brazilian marriages (Otta et al., 1999).

The demands made for a prospective partner changed as a function of age of the advertiser in predictable sex-differentiated ways. Like Waynforth and Dunbar (1995), we found that women became less demanding in their ads as they aged. Older women, especially after menopause, required less information than young women about such characteristics as occupational status, instrumental traits, and marital status. Presumably, they can no longer be so selective because they have lost the most valued features for exchange (Peres & Meivar, 1986). The proximate explanation can be found in the decreasing response rate as female advertisers age. The ultimate explanation may be found in the age-dependent decrement of fertility and perhaps also in increased risks associated with pregnancy.

We calculated advertisers' market value as suggested by Pawlowski and Dunbar (1999a) by dividing the proportion of individuals seeking partners of a given age by the proportion of available partners of that age in our sample. The age distributions of advertisers were similar for women and men, but the demand was notably different, resulting in discrepant market values as a function of age. By this measure, women in their 20s had the highest market value, and they accordingly elicited high hit rates, even when they offered little else: the "AnswerTree" analysis suggested that youthfulness did not demand any correction. As female advertisers got older, however, additional resources became necessary, the most effective of which were attractiveness and interest in sex. The worst addition was religion (both offered and sought), perhaps because of its connotations of being opposed to sexuality.

Female age was a stronger important predictor of the hit rate in our study than in Pawlowski and Koziel's (2002). The importance of age was confirmed by regression analysis, which also identified attractiveness and optimism as positive predictors and weight as a negative predictor of responses to Brazilian women's ads. Weight was also a strong negative predictor for Polish women. Educational status was not a significant predictor in Brazil, but constituted a handicap for women in Poland.

Quite unlike women, aging men's value in the romantic market place increased, and their hit rate rose steeply with age. In keeping with this strong bargaining position, older men

adjusted their demands upwards (Pawlowski & Dunbar, 1999a), in striking contrast to older female advertisers. Older men were progressively more likely to request childless partners, and asked for more information about weight and sexuality.

In our study, male advertisers attracted nearly 50% more responses than female advertisers. This result is in sharp contrast with Goode's (1996) data in which male advertisers attracted 79 replies while female advertisers attracted 908. However, it must be considered that he placed deceptive ads and that his fictitious women were younger than our real women. Our result also contrasts with Pawlowski and Koziel's (2002) results for real ads. Pawlowski (pers. comm.) suggests that men with many chances for short-term partners may be unlikely to answer newspaper ads for long-term partners. However, our sample of Brazilian ads elicited high response rates from both sexes: the women received an average of 26.3 responses, compared to just 7.5 in the Polish sample; the Brazilian men's ads elicited 45.5 responses versus 5.3 for Polish men. These comparisons are remarkable when one considers that there was a monetary fee for responding only in Brazil.

Men in their 40s, and those who did not mention their age but stated explicitly that they had a previous relationship, but were presently uncommitted and seeking a stable relationship, elicited the highest number of responses. Similarly, Pawlowski and Koziel (2002) found that never-married men ("primary mate market") received fewer responses than those divorced, living in separation, or widowed ("secondary mate market"). It would seem that a previous marital history raises a man's value in the mating market. However, our AnswerTree analysis suggests that whereas being a widower was enough to enhance a man's attractiveness, being separated was not, without some additional "resource," the best of which was offered information about his profession. The worst resource that a male advertiser seeking a stable relationship could offer was being young (under 30), which is understandable considering the age of women using personal advertisements and their tendency to seek older partners. Potentially deceptive statements about marital status were also unfavorable for male advertisers: being "available" was apparently sufficiently ambiguous that women reacted with distrust.

Men's market value and hit rate increased progressively over the life span. We can suppose that older men tend to have more resources and therefore are more attractive as providers, but it is also important to consider that the sex ratio is increasingly female-biased in older ages, such that older men will also tend to receive more responses simply because there are fewer of them.

Male age was an important positive predictor of the hit rate both in our study and in Pawlowski and Koziel's. In our study, regression analysis also indicated widowhood and height as positive predictors. Financial resources did not appear as a significant predictor in Brazil, and were relatively unimportant in Poland, perhaps because claims in this domain are often vague and hard to verify. The only important physical characteristic was height, which accords with a wide variety of evidence that people value tall men (e.g., Barber, 1995; Berkowitz, Nebel, & Reitman, 1971; Frieze, Olson, & Good, 1990; Loh, 1993; McGinnis, 1976). In accordance with the finding that tall men are perceived as more desirable dates and date more often (Barber, 1995; Shepherd & Strathman, 1989), tall male advertisers received more answers than shorter male advertisers in Lynn and Shurgot's (1984) North American

sample, in Pawlowski and Koziel's (2002) Polish sample, and in our Brazilian sample. Pawlowski (2000) has argued that this preference is justified in that male height is a valid cue of health.

In general, results of the present study provided support for predictions derived from evolutionary considerations. Individuals that used personal advertisements, a relatively recent unconventional way for selecting mates, expressed conventional preferences, suggestive of evolved psychological mechanisms.

## Acknowledgments

We are indebted to the direction of the newspaper *Folha de São Paulo* for providing us with the number of responses received by each advertiser. We also acknowledge the constructive inputs of Boguslaw Pawlowski, Vera Silvia Raad Bussab, Fernando Leite Ribeiro, Eduardo Benedicto Ottoni, Renato da Silva Queiroz, Sandro Caramaschi, Martin Daly, Margo Wilson, and two anonymous referees. Their comments greatly improved this paper. This work was supported by FAPESP and CNPq.

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