

Production and appreciation of humor as sexually selected traits

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Abstract

Both men and women prefer someone with a “good sense of humor” as a relationship partner. However, two recent studies have shown that men are not attracted to funny women, suggesting the sexes use the phrase good sense of humor differently. To investigate this question, we measured the importance participants placed on a partner’s production of humor vs. receptivity to their own humor. Men emphasized the importance of their partners’ receptivity to their own humor, whereas women valued humor production and receptivity equally. In a second task, participants chose whether they preferred a person who only produced humor or a person who only appreciated their own humor for several types of relationships. Women preferred those who produced humor for all types of relationships, whereas men preferred those who were receptive to their own humor, particularly for sexual relationships. Our results suggest that sexual selection may have operated on men’s and women’s preferences during humorous interaction in dramatically different ways.

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1. Introduction

Studies of mate choice reveal a puzzle. When asked to describe traits they value in a relationship partner or asked to choose preferred traits from a provided list, people report that a “good sense of humor” is highly valued (e.g., Buss & Barnes, 1986; Feingold, 1981; Goodwin, 1990; Hendel, 1978). Men and women typically report this preference with about equal frequency (e.g., Daniel, O’Brien, McCabe, & Quinter, 1985; Feingold, 1992). However, two studies that experimentally manipulated humor production yielded a contradictory result: Women preferred relationship partners who produced humor, but men showed no such preference (Bressler & Balshine, 2004; Lundy, Tan, & Cunningham, 1998). Thus, men say they value a partner with a good sense of humor, yet do not rate funny women as more desirable.

Why would ranking the importance of a good sense of humor in a partner produce different results than asking about the desirability of someone who produces humor? One possible resolution is that, by good sense of humor, a man denotes not a partner’s humor production, but rather her receptivity to his own humor.

Several studies have investigated the relationship between humor appreciation and interpersonal attraction (e.g., Bippus, 2000; Murstein & Brust, 1985; Priest & Thein, 2003; Rust & Goldstein, 1989), but none have examined sex differences. One exception is the work of Grammer and Eibl-Eibesfeldt (1990) who found that during mixed-sex dyadic conversations, the amount of laughter a woman produced was more predictive of both sexes’ interest in dating each other than was the man’s laughter. This suggests that a woman’s receptivity to humor may signal her sexual interest.

Miller (2000a, 2000b, 2000c, 2001) suggests that the capacities to produce and appreciate humor have both evolved via sexual selection. He argues that those who carry relatively few deleterious genetic mutations are more competent at the set of cognitive skills—such as intelligence and creativity—required to produce entertaining humor. As a result, sexual selection has favored those who produce humor because it elevates their mating success and those who preferentially mate with funny people, because doing so provides offspring with genetic benefits.

If humor production signals genetic quality and humor receptivity signals sexual interest, the sexes may respond differently to these signals. Signals of genetic quality may have more impact on women’s mating decisions, because women’s higher minimum parental investment imposes higher costs from suboptimal mating (Trivers, 1972). Conversely, signals of receptivity may be more important in men’s mating decisions because male reproductive success is more limited by access to mates (Bateman, 1948; Trivers, 1972). Thus, sexual selection may have more strongly favored women who reacted positively to humor producers and men who attended preferentially to women who appreciated their humor.

In this study, we examined two related questions about men’s and women’s responses to humor production and receptivity. First, we examined sex differences in the impact of humor production and humor receptivity on men’s and women’s categorization of others as having a good sense of humor. We measured participant’s preferences for a relationship partner’s “sense of humor,” humor production, and receptivity to humor. If men’s and women’s use of

the phrase good sense of humor differs, then both sexes may prefer a partner with a sense of humor but have different preferences for humor production and receptivity. Second, we examined men's and women's preference for humor production or receptivity in partners for a variety of sexual relationships. Furthermore, because humor production and appreciation are hypothesized to have evolved for mate attraction, we examined whether preferences would be most apparent in sexual relationships rather than friendships.

2. Method

2.1. Participants

One hundred twenty-nine McMaster University undergraduate students (74 women and 55 men; mean age=18.9; range=17–25) who spoke English fluently participated in all three tasks in this study in exchange for course credit.

2.2. Procedures

After completing the informed consent process, participants completed three questionnaires at a self-directed pace. The order in which participants completed the questionnaires was counterbalanced.

2.2.1. Categorization questionnaire

We created a questionnaire examining categorization of others' sense of humor. After eliminating items deemed to have ambiguous interpretation, the final questionnaire contained 14 statements. Participants rated agreement with on a seven-point scale (1=strongly disagree, 4=neither agree nor disagree, 7=strongly agree). The questionnaire had three subscales, measuring (1) the importance of a relationship partner's good sense of humor (six items; Cronbach's $\alpha=.63$), (2) the importance of a relationship partner's receptivity to the participant's own humor (four items; Cronbach's $\alpha=.65$), and (3) the importance of a relationship partner's production of humor (four items; Cronbach's $\alpha=.54$). As the Cronbach's α for each subscale decreased if any items were removed, all items were included in further analyses. Items from each subscale were presented in mixed order, with four items negatively coded. See Appendix A for example items.

2.2.2. Preferences questionnaires

To examine men's and women's preference for humor production or receptivity, participants completed two additional forced-choice questionnaires. First, participants read two short vignettes, each describing a short interaction between themselves and an opposite sexed individual in one of three situations (on a bus, in a cafeteria, or in a bar). The individual in one vignette was receptive to the participant's own (hypothetical) humor but also produced humor the participant did not enjoy. The individual in the other vignette produced humor the participant enjoyed but was unreceptive to the participant's humor.

Participants then chose one individual as a partner for a one-night stand, a date, a short-term relationship, a long-term relationship, and a friendship. The situation, order of presentation, and order of questions were randomized across participants. See Appendix B for example vignettes.

The second questionnaire was similar to the first. We asked participants to imagine two individuals of the opposite sex who were equal in all respects except in their humorous interaction with the participant. Again, one individual was described as receptive to the participant's humor but producing humor the participant did not enjoy, whereas the other individual was described as producing humor the participant enjoyed but was unreceptive to the participant's own humor. Again, participants chose one individual as a partner for a one-night stand, a date, a short-term relationship, a long-term relationship, and a friendship. The order in which each individual was presented and the order of questions were randomized across participants. See Appendix B for stimuli.

Both preference questionnaires were administered to each participant in order to examine consistency of preference between the two similar tasks (see consistency results below). The order in which these two questionnaires were administered was counterbalanced between participants.

2.3. *Statistical analyses*

For the categorization questionnaire, we calculated the mean score of all items within a subscale. We compared men's and women's mean scores on each subscale to that expected if participants were consistently answering each item without a preference (4=neither agree nor disagree, see Hofstee & Ten Berge, 2004). We performed a repeated-measures ANOVA on the scores for men and women on all subscales, followed by independent samples *t* tests for comparisons between men and women and paired *t* tests for comparisons within each sex.

For the two preference questionnaires, we first compared whether responses across the two questionnaires differed at each level of sex and relationship type using χ^2 tests. There were no differences between the two questionnaires (all $\chi^2 < 1.77$, all *p* values $> .18$), and the responses by each participant across the two tasks were significantly and moderately correlated (all $p < .01$, ϕ correlations ranged from .27 to .53). In addition, all comparisons described in the Results were performed on the data from each preference questionnaire separately and yielded similar results. We therefore collapsed across both preference questionnaires by calculating the proportion of times the humor producer was chosen by each participant (0, 0.5, or 1). The distributions were bimodal and, hence, not appropriate for parametric analyses. We used resampling techniques to perform bootstrapped repeated-measures ANOVAs (Berkovits & Hancock, 2000), followed by bootstrapped one- and two-sample *t* tests (Efron & Tibshirani, 1993) to examine differences from chance and sex differences. These analyses do not require the assumptions of parametric tests, but do not entail the loss of statistical power associated with nonparametric analyses.

All parametric analyses were performed using SPSS version 11. All tests that employed resampling (bootstrapping) techniques were performed with 10,000 iterations, using Rndom (Jadwiszczak, 2003). All tests were two tailed, and all reported *p* values have been multiplied

by a correction factor (equal to the number of comparisons following each ANOVA) to account for possible inflation of Type I error rates.

3. Results

3.1. Are there sex differences in how men and women use the phrase a good sense of humor?

Men and women both valued a good sense of humor in a relationship partner [one-sample t test: women, $t(73)=15.4$, $p<.001$; men, $t(54)=7.10$, $p<.001$] as well as their partners' receptivity to their own humor [women, $t(73)=11.1$, $p<.001$; men, $t(54)=6.56$, $p<.001$]. However, only women valued their partner's ability to produce humor [women, $t(73)=8.40$, $p<.001$; men, $t(54)=0.70$, $p=1$] (see Fig. 1).

There was a significant interaction between the sex of the participant and the scores on the subscales [repeated-measures ANOVA: $F(2,252)=9.44$, $p<.001$]. Women valued a partner's sense of humor and production of humor more than men did [independent samples t tests: *sense of humor subscale*, $t(127)=4.20$, $p<.001$; *partner's production of humor subscale*, $t(127)=5.14$, $p<.001$], but the sexes did not differ in the degree of value placed on a partner's receptivity to their own humor [$t(127)=0.97$, $p=1$]. See Fig. 1.

Within-sex analyses revealed that women valued a partner's production of humor as much as they valued a partner's receptivity to their own humor [paired t test, $t(73)=1.10$, $p=.10$], whereas men valued a partner's receptivity to their own humor more than a partner's production of humor [$t(54)=5.07$, $p<.001$] (see Fig. 1).

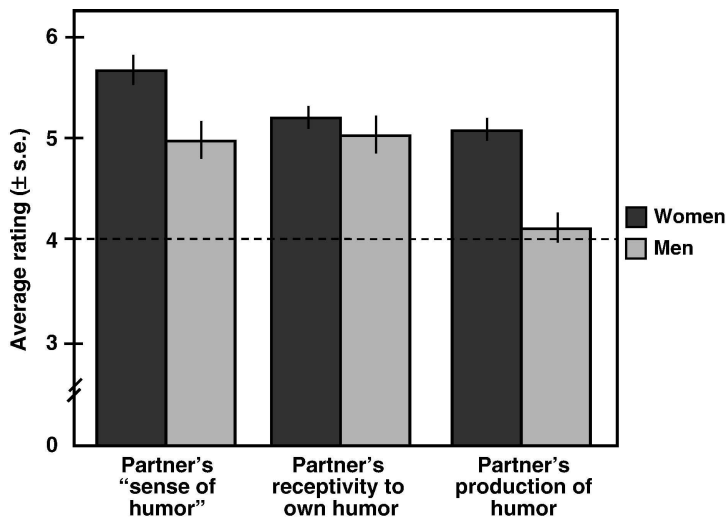


Fig. 1. Women's and men's mean ratings of the importance of a relationship partner's sense of humor, humor production, and receptivity to humor. The dashed line at four equals the score expected if participants consistently responded to items with no preference (4=neither agree nor disagree).

3.2. Are men and women attracted to different behaviors during humorous interaction?

Participants' choices for humor producers or appreciators depended on their sex and the type of relationship they were considering. Women responded similarly to the different types of relationships [repeated-measures ANOVA, $F(4,292)=1.56$, $p=.17$] and showed directional preferences for humor producers for every relationship type. Women's preference for humor producers was significantly different from chance for *dates* [one-sample t tests: $t(73)=3.94$, $p<.01$], *long-term relationships* [$t(73)=2.72$, $p=.04$], and *friendships* [$t(73)=3.45$, $p<.01$], but not *one-night stands* [$t(73)=0.82$, $p=1$] and *short-term relationships* [$t(73)=1.56$, $p=.60$] (see Fig. 2).

Men's preferences were directionally opposite to those of women in most cases; men preferred partners who were receptive to their own humor. However, this preference varied across the different relationship types (repeated-measures ANOVA: $F(4,216)=3.22$, $p=.03$). As with women, men's preferences were significantly different from chance for *dates* (one-sample t tests: $t(54)=-4.90$, $p<.01$), and a nonsignificant trend was found for *long-term relationships* [$t(54)=-2.47$, $p=.09$] but not for *one-night stands* [$t(73)=-0.78$, $p=1$], *short-term relationships* [$t(54)=-1.27$, $p=1$], and *friendships* [$t(54)=0.53$, $p=1$]. Between the different relationships, men had a greater preference for receptive partners for *dates* compared to *friendships* [$t(54)=4.16$, $p<.001$], but there were no differences between any other relationships (see Fig. 2).

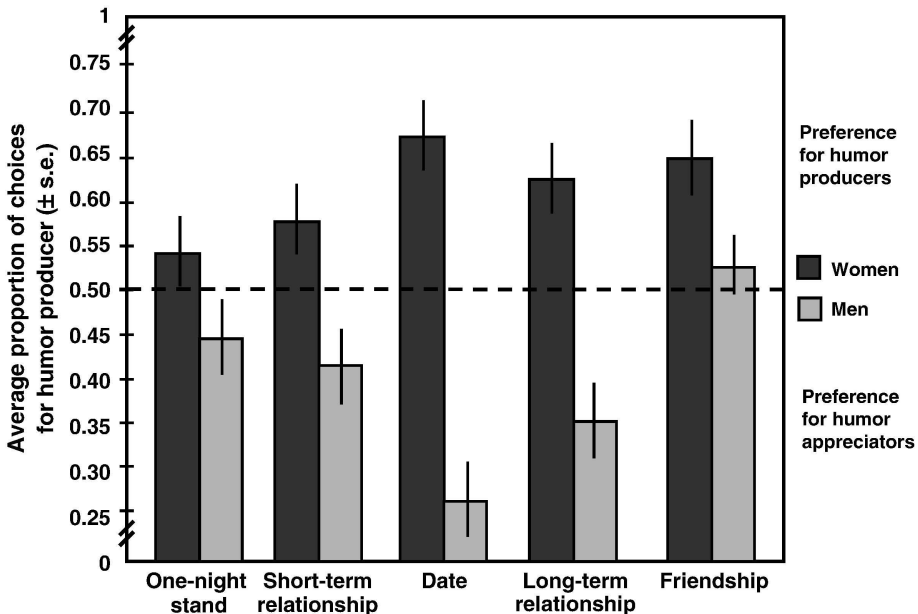


Fig. 2. Women's and men's average proportion of choices for the humor producer rather than the humor appreciator for four types of sexual relationships and for friendships. The dashed line represents the chance expectation. Values above chance represent a preference for the humor producer, whereas values below chance represent a preference for the humor appreciator.

Comparing preferences between the sexes for each of the sexual relationships, women showed a stronger preference for humor producers than did men for *dates* [independent samples t tests: $t(127)=6.21, p<.0001$] and *long-term relationships* [$t(127)=3.67, p<.001$], but not for *short-term relationships* [$t(127)=1.99, p=.20$], *one-night stands* [$t(127)=1.12, p=.26$], and *friendships* [$t(127)=1.88, p=.24$] (see Fig. 2).

4. Discussion

Our two experiments suggest that the sexes differ in the value they place on a partner's humor production vs. receptivity. The results of the categorization questionnaire suggest that women value a partner who can produce humor and who is receptive to their own humor, whereas men value only a partner's receptivity to their own humor. Therefore, the apparent discrepancy between men's valuation of a good sense of humor (e.g., Daniel et al., 1985; Feingold, 1992) and their lack of attraction to funny women (Bressler & Balshine, 2004; Lundy et al., 1998) appears to be resolved: Men's representation of partners who have a good sense of humor does not encompass their ability to produce humor. Furthermore, when forced to choose between humor production and humor appreciation in potential partners, women valued humor production, whereas men valued receptivity to their humor. Only when evaluating friendship partners do men show a directional preference for humor production.

Preferences for humor producers or appreciators varied across the five types of relationships, especially for men. Although men generally chose humor appreciators and women chose humor producers, these preferences were significant only for dates and long-term relationships. We offer two potential explanations for why these preferences did not hold for one-night stands and short-term relationships. First, it is possible that due to our young participants' lack of experience or to ambiguity in the terms used, it may have been more difficult for them to imagine or report preferences for the latter two types of relationships than for the former relationships. Alternately, the lack of humor preferences in these contexts might be genuine. If so, this suggests an imprecision in Miller's (2000a, 2000b, 2000c, 2001) sexual-selection-of-humor model. If humor production signals genetic quality and humor receptivity signals sexual interest, then we should see the most sexually dimorphic preferences in the context of short-term and one-night stand relationships, because such relationships provide minimal benefits (e.g., parental care) beyond genes; but this is not what we observe.

Prior research has shown that certain aspects of humor interaction, such as similarity of sense of humor between partners, predict relationship cohesion and marital satisfaction (Murstein & Brust, 1985; Rust & Goldstein, 1989; Ziv, 1988), suggesting that humor may play more of a role in relationship maintenance than formation. However, we know of no theory to explain why men and women would show *opposing* preferences for humor production and appreciation for long-term partners. Further research needs to more thoroughly investigate the extent to which humor-related behaviors are valued by men and women for different types of relationships.

More research is necessary on the relationship between humor receptivity and the communication of sexual interest. Our finding, together with that of [Grammer and Eibl-Eibesfeldt \(1990\)](#), suggests that men prefer sexual partners who appreciate their own humor because that response signals sexual interest, but this interpretation is not definitive. A related question is how specific the laughter and smiling of the opposite sex are in communicating sexual interest in comparison to signals of general proceptivity (such as direct eye contact, open posture, and facial expressions).

In summary, our results augment prior studies on the sexual selection of humor. We have provided further evidence that sexual selection may have influenced humor production because it is specifically preferred by women in relationship partners. Furthermore, men's reported preferences for humorous partners may be the result of sexual selection shaping a male preference for partners who signal sexual interest through humor appreciation.

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Appendix A. Sample items from categorization questionnaire

Importance of partner's sense of humor

1. I am not interested in dating someone who does not have a good sense of humor.
2. I find that I am sexually attracted to people who have a great sense of humor.
3. Whether someone has a good sense of humor or not is irrelevant in determining whether I am attracted to them. (reverse coded)

Importance of partner's humor production

1. If someone cannot make me laugh, I am not interested in him/her as a relationship partner.
2. It doesn't matter to me whether the person I am dating can make me laugh. (reverse coded)
3. All of the people that I have dated were people who were very good at making me laugh.

Importance of partner's humor receptivity

1. All of the people that I have had or wanted relationships with were especially good at appreciating my sense of humor.
2. If I were dating someone who didn't enjoy my humor, I would be very likely to end the relationship.
3. It is very important to me that the person I am dating appreciates my sense of humor.

Appendix B. Sample stimuli from the preference questionnaires

Stimuli from preference questionnaire 1

Please imagine that you are taking the bus to school, and that an attractive young woman (man) you have never met before strikes up a conversation with you. You talk about school, which classes you are taking, and what you might do after you graduate. You have a very friendly conversation with her (him), and she (he) jokes around with you. There are several times when something she (he) says makes you laugh. When you make joking comments, she (he) does not laugh that much at your jokes. You obviously haven't offended her (him) with your comments, it simply seems that they don't seem to suit her (his) sense of humor. When the bus comes to your stop, you both exchange phone numbers, and you consider whether you will call her (him) or not.

Please imagine that you are in a bar with your friends. You've been drinking and enjoying the live music. As you go to get another drink, you find yourself waiting for the bartender next to an attractive young woman (man) who strikes up a conversation with you. You both talk about the music you like, as well as your other interests. Naturally, you joke around with her (him), and she (he) jokes around with you. You notice that she (he) seems to find many of the things you say funny. As you joke around, she (he) laughs quite a bit, and you believe that she (he) thinks you are very funny. Although she (he) seems to appreciate your humor, you don't find her (his) humor all that funny. She (He) jokes around plenty, but you never find yourself laughing out loud at the things she (he) says. Eventually, you get your drink, and she (he) tells you she (he) has to bring her (him) friend home. She (He) gives you her (his) phone number, and you wonder whether you will call her (him) or not.

Stimuli from preference questionnaire 2

Imagine that you are in a situation in which you are choosing between two potential dating partners. In all respects they are equal; they are equally physically attractive, intelligent, interesting, friendly, compassionate, caring, and so on. There are only two differences between them: in how much they make you laugh, and in how much they laugh at your humor.

The first woman (man) is great at making you laugh, and you think she (he) is very funny. However, she (he) doesn't laugh all that much when you joke around. She (He) listens attentively to you, but when you joke around you rarely get more than a smile from her (him).

The second woman (man) laughs at all your jokes. She (He) obviously thinks that you are a very funny person. However, you don't find her (his) humor all that funny. You don't find her (him) offensive and you get her (his) jokes, but she (he) rarely makes you laugh.

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