The Good Ones are Always Taken

Christina C. S. Duffy and Rianna M. Frazer

Longwood University

Abstract

In this paper we will examine the phenomenon of mate-choice copying. Evidence suggests that human mate preferences and choices are a part of evolution (Kokko, Brooks, Jennions, & Morley, 2003).  ​​Preferred mate choices and behaviors evolved to exploit reproductive potential and reproductive investments (Bonduriansky, 2001).  Women invest heavily in parenting and are particular when choosing mating partners. Participants signed up through SonaSystems, were shown an image (either a single man or a taken man) and asked to fill out a questionnaire about desirability. Using a two-way ANOVA, a significant interaction was found when looking at group differences between participant relationship status and relationship of the man in the image on desirability. Those in the control group who were in a relationship found the man as more desirable than those in the control group who were single. Those in the experimental group who were in a relationship found the man less desirable than those in the experimental group who were single. Personal relationship status has more of an impact on who one finds desirable than relationship status of outside individuals.

*Key words*: Mating, mate choice copying, desirability, attractiveness, relationship

The Good Ones Are Always Taken

Mate choice can be defined as the process by which the traits expressed in one sex leads to selection of another individual with those traits to mate with (Kokko, Brooks, Jennions, & Morley, 2003).  Mate choice can also be expressed when there is variation in the amount of resources invested in an individual (Bonduriansky, 2001).  For example, an individual could provide better socioeconomic status or parental care. This was first demonstrated in sand gobies, a type of fish. Male sand gobies increase their parental care when they are in front of a female to impress the female and to have more mating opportunities in the future (Pampoulie, Linstrom, & St. Mary, 2003).

       Evidence suggests that human mate preferences and choices are a part of evolution (Bonduriansky, 2001). Mate choice is considered important because it is an evolutionary process that creates the vast array of traits found within species such as color, shape, and size.  ​​Preferred mate choices and behaviors evolved to exploit reproductive potential and reproductive investments.  Women invest heavily in parenting and are particular when choosing mating partners. Likewise, men also express the need to compete for access to preferred mates. Evolutionary logic suggests that it is more beneficial for a woman to be with a long-term partner with good genes. This insures her mate has adequate reproductive potential as well as a willingness to invest this potential in her children. Because of this, the act of choosing a mate is considered a reproductive investment (Geary, Jacob, & Byrd-Craven, 2004). This investment is made easier by the process of mate-choice copying (also known as mate poaching) (Buss, 2007).  Mate choice copying is a behavior designed to attract someone who is already in a romantic relationship. According to Buss, 60% of men and 53% of women have attempted to poach mates, as well as 87% of men and 94% of women have been poached themselves. People mate poach because those who are desirable are often already taken.

 There are a few benefits to mate-choice copying, or mate poaching. When one is selected to be someone’s mate, it is obvious to those around them that that person has desirable traits. This makes them more desirable and others are more likely to want to mate with said person. Because the person is mated, this shows valuable information about the quality of the person to other potential mates (Bowers, Place, Todd, Penke, & Asendorpf, 2011). They are seen as having higher quality traits and are thus more desirable to those around them.

Another term that is similar to mate-choice copying but not quite the same concept is intrasexual selection. This is the tendency for one sex to compete with each other in order to have access to the other sex (Buss 2007). It is the basis of what mate-choice copying is defined by. The main difference lies in the fact that intrasexual selection is about the competition regardless of relationship status. But intrasexual selection research has led to key information about characteristics that are seen as highly desirable. Some of these include being considerate, honest, intelligent and interesting to talk to (Buss, 2007).  Specifically for females, physical attractiveness, social level, and kindness are considered to be important traits in potential mates. Ensuring that a mate has desirable traits ensures a sense of security within the relationship.  For example, in human mate selection ensuring the resources in a mate is more important than finding a physically attractive mate, even though both dimensions are desirable (Li, Bailey, Kenrick, & Linsenmeier, 2002).  It is reasonable for a female to assume that a male in a relationship has these qualities because he has already been selected by another female. This is important because females value males that can create a stable relationship with the potential to create a stable family

Studies on guppies and mollies have indicated that by observing other female mate preferences, it eliminates the risk of mating with someone with unwanted traits (Buss, 2007).  Other instances of mate choice copying can be observed in ocellated wrasse.  Female ocellated wrasse express mate choice in two ways. First, the probability that a female would mate was significantly higher in the presence of another female. Second, females were more likely to spawn at nests with a recent history of mating success. This demonstrates that the presence of another female significantly increases the chances of another female mating with said male (Alonzo, 2008).  Female mate choice copying has also been shown to occur in other animals, including multiple birds, one being the zebra finch. Research has been done with female zebra finches showing that the females preferred male zebra finches that were of similar color and pattern to males they had previously witnessed being chosen by other females (Bowers et al., 2011). It does not have to be the exact same male, just one that looks similar, for mate-choice copying to occur. The zebra finches were drawn to the male simply because he looked like a male previously seen with another female.

 Research has been done with mate-choice copying and humans in naturalistic settings. Participants would watch real videos of people speed dating. This led to an increase in mate choice-copying effects (Place, Todd, Penke, & Asendropf, 2010). When the videos were viewed by men, there was an increase in relationship interest. This increase only occurred with women participants when the individuals viewed were interested in each other. There was a decrease in relationship interest for the women participants when the speed dating video that was viewed had singles in it that were not interested in each other. Results also showed that men are more likely to show mate-choice copying effects when the female is slightly more attractive than themselves (Place et al, 2010).

 The present study was conducted using an experimental design to separate young females into two groups (viewing a single man vs. viewing a man portrayed to be in a relationship), demonstrating the independent variable. The dependent variable was measured through a questionnaire that looked into ratings of desirability. Mate-choice copying is an act that occurs throughout the animal kingdom. It occurs when a mate appears more desirable when they are already coupled with someone else. Facts and knowledge from multiple sources and previous research has shown that males who are seen with another female, and perceived to be in a relationship with them, are seen as more desirable than those who are single.

**Method**

**Participants**

There were 143 female (69 freshmen, 34 sophomores, 17 juniors, 22 seniors, 1fifth-year senior) undergraduate students from a small, rural, liberal arts university in Central Virginia who participated in the study. These participants were selected through SonaSystems. SonaSystems is an online based research system. Participants received 1 extra credit point for a class they were enrolled in as compensation for participating.

**Materials and Procedures**

 There were two groups; the first viewed a photograph of a man by himself (Figure 1). The second viewed a photograph of a man with a woman whose arms were around his shoulders, portrayed to be his significant other (Figure 2). A questionnaire (Appendix A) was presented with questions regarding desirability. Participants received two questions after the first part of the questionnaire was completed (Appendix B).

 The participants arrived to the study and waited for further instructions. Attendance was taken from the roster and the deceptive study title was presented to the participants. The deceptive title was, “How Hair Color Affects Individual Attractiveness.” Participants were informed that they would be viewing images on the projector screen and filling out a questionnaire. Participants had the option to view consent forms upon request. They were reminded that they could leave at any time, without penalty, if they became uncomfortable.

The participants were asked to fill out the demographic portion of the questionnaire, appropriately, and then were presented with a photo on the projector screen of either a single male or a male in a relationship with a female. The image stayed up throughout the experiment, which lasted approximately 10 min.

The participants filled out the questionnaire, which took approximately 7 minutes. They were asked to flip their papers over once completed and a separate questionnaire was passed out. They flipped these papers over as well when they were completed and the papers were then collected. Participants were then debriefed and informed of the actual title, “The Good Ones Are Always Taken”. Participants were informed which group they had participated in and then were allowed to leave.

**Results**

We tested the reliability of the similarity of the questions on the questionnaire by grouping five questions together (questions 1, 2, 3, 4 and 5)  and looked at the Cronbach's alpha which showed that they were somewhat related (α = .662). Because they were not as similar as we thought, we analyzed them separately. An independent *t* test showed there was no significant difference between desirability and the condition the participant was in, where a female was shown a single male (*M* = 3.464; *SD* = .778) or a male in a relationship (*M* = 3.569; *SD* = .766), *t*(139) = - .813, *p* = .418, *d*= -.137, 95% CI[- 0.363, 0.151] (two-tailed). Figure 3 depicts these findings. On the Likert scale used, a rating of 1 meant the participant strongly disagreed, a rating of 3 meant the participant neither agreed nor disagreed, and a rating of 5 meant that the participant strongly agreed.

We conducted a two-way Analysis of Variance (ANOVA) to determine whether there were any group differences between the experimental or the control condition and the participant relationship status on desirability.  There was a significant main effect for participant relationship  status with participants in a relationship (*M* = 3.641; *SD* = .764, 95% CI[3.456, 3.826) rating the man in the image as more desirable than  participants who were single (*M* = 3.387; *SD* = 0.751, 95% CI[3.213, 3.555]), *F*(1, 135) = 4.045 , *p* = .046, η2 = .029. There was not a significant main effect between the control group and the experimental group, with participants who saw the image of the single man (*M* = 3.464; *SD* = .778, 95% CI[3.304,3.662]) rating his desirability similar to the participants who saw the image of the man in a relationship (*M* = 3.543; *SD* = .755, 95% CI[3.364, 3.720]), *F*(1, 135) = .213 , *p* = .645, η2 = .002. The ANOVA also indicated a significant interaction between participant relationship status and condition they were in on desirability, *F*(1, 135) = .213 , *p* = .031, η2 = .002. Participants who were in a relationship in the control group (*M* = 3.531; *SD* = .842, 95% CI[3.270, 3.793]) rated the man as more desirable than participants who were single in the control group (*M* = 3.216; *SD* = .787, 95% CI[2.973, 3.460]). However, participants who were single in the experimental group (*M* = 3.551; *SD* = .686, 95% CI[3.312, 3.793]) rated the man more desirable than participants who were taken in the experimental group (*M* = 3.531; *SD* = .842, 95% CI[3.270, 3.793]). Figure 4 depicts these findings.

After participants answered the question, "When people are in a relationship I find that I am more attracted to them." (Question 8), we conducted a two-way Analysis of Variance (ANOVA) to determine whether there were any group differences.  There was a significant main effect for relationship status, with participants in a relationship (*M* = 2.188; *SD* = .990, 95% CI[1.932, 2.443) disagreeing with the question more than participants who were single (*M* = 2.693; *SD* = 1.078, 95% CI[2.460, 2.931]), *F*(1, 135) = 8.358 , *p* = .004, η2 = .058. There was not a significant main effect for relationship status portrayed in the image with individuals who saw the single male (*M* = 2.478; *SD* = 1.051, 95% CI[2.202,2.695]) rating the question similar to the individuals who saw the taken male (*M* = 2.443; *SD* = 1.085, 95% CI[2.190, 2.680]), *F*(1, 135) = .005 , *p* = .941, η2 = .000. The ANOVA also indicated an approaching significant interaction between participant relationship status and the condition they were in on question 8, *F*(1, 135) = 3.431 , *p* = .066, η2 = .025. Participants in the control group who were taken (*M* = 2.031; *SD* = .861, 95% CI[1.670, 2.392]) disagreed with the question more than participants who were single in the control group (*M* = 2.865; *SD* = 1.058, 95% CI[2.529, 3.201]). Participants in the experimental group who were single (*M* = 2.526; *SD* = 1.084, 95% CI[2.195, 2.858]) agreed with the question more than participants in the experimental group who were in a relationship (*M* = 2.344; *SD* = 1.096, 95% CI[1.983, 2.705]). Figure 5 depicts these findings.

**Discussion**

We found that our hypothesis, males who are seen with another female and perceived to be in a relationship with them are seen as more desirable than those who are single, was not verified in this particular experiment. We believe that the hypothesis was not verified because of age restrictions, neutral responses, biases and personal relationship status. If  a different population was sampled, for example individuals in an age range from 25-35, we believe our results may have differed to find significant results between desirability and the relationship status of the man in the image.  Our sample consequently played a role in the outcome of our research.

 Significant interactions were found, but not all main effects were significant. One of the results showed that there was no difference in desirability rating between females who saw a single male and females who saw a male portrayed to be in a relationship. However, we did find that there were significant results with females who were taken on rating the male as more desirable than their single counterparts. Due to the average age of the participants, the females who are in a relationship are most likely not as committed to their partners until marriage. According to Kendrick and Keefe (1993), women are attracted to more men in their younger years. As women age, however, they are more likely to seek a mate to spend their life with. Because of this factor, they are looking for the best possible mate and comparing their current mate to the male that was portrayed in the study. There is also a double standard in which females feel less supported in liberal sexual thoughts and behaviors.  Females who perceive little support for liberal sexual behaviors are more likely to engage in them  (Feingold, 1992). We can assume that the participants in a relationship have more pressure and less support than the single participants and are more likely to rate the male as more desirable.

 The interaction showed that participants who were in a relationship and saw the image of the single male rated him as more desirable than the single participants who saw the same image. On the contrary, the participants who were in a relationship and saw the image of the male portrayed with his significant other rated him as less desirable than participants who were single saw the same image.  Participants who were in a relationship rated the man who was single as more desirable.  This may be due to the fact that, because they are in a relationship themselves, they have a better understanding and more respect for other people’s relationship. We believe that these individuals also desired the single male more because he was more available and less complicated to mate with. There was no need to respect his relationship status since there were no extraneous factors, like a girlfriend or wife.

When participants had to answer a personal question about themselves regarding whether they find that when people are in a relationship they are more attracted to them, there were approaching significant results as well. Participants who were in a relationship themselves disagreed with the question more than participants who were single. One reason this result could have occurred is because the participants in a relationship could have felt a need to disagree with the question due to pressures to follow societal norms, which say they are not attracted to people outside of their own relationship, since that is frowned upon.

The approaching significant interaction between personal relationship status and relationship status of the man in the image on question 8 showed that participants who were in a relationship and saw the image of the single male disagreed with the question more than participants who were single and saw the same image. Also, participants who were in a relationship and saw the image of the male portrayed to be in a relationship disagreed with the question more than single participants who saw the same image. Overall, the single participant’s agreed with the question more than the ones in a relationship. This could have occurred because the question had to do with viewing other people as more attractive. We hypothesize that people in a relationship feel a need to see their mate as most attractive and do not want to say there are others who are more attractive.

If this research were conducted again, one change to make would be to shorten the rating scale.  We found that many participants opted to rate many questions with a 3 (*neither agree nor disagree*).  In order to avoid all participants choosing 3, completely taking out this option and having the scale from 1-4, with 1 being strongly disagree, 2 being disagree, 3 being agree and 4 being strongly agree, could eliminate this problem.  Another alteration to make to this experiment would be to add a scenario with each condition. The participants would see the same images, however after viewing the image the same scenario would be read across conditions.  This scenario would include details about the male.  We believe including details about the male will increase how desirable he is and make it more personal.  For future research, it would be interesting to examine the different results gained from testing heterosexual males. The same procedure would be used expect the participants would be heterosexual males only. The images would than be a single female and a female portrayed to be in a relationship. We would like to examine these results because there is little research on mate-choice copying phenomena in men.

In conclusion, we found that participant relationship status played more of a role on mate selection then relationship status of the individual being pursued.  A significant interaction found between relationship status of the participant and the relationship status of the man supports this idea.  We hypothesis that this may be due to the fact that individuals who are single see more reproductive potential in an already mated individual, whereas participants in a relationship seek out individuals who are single because they seem to be in a less complicated situations. This is why we believe personal relationship status plays more of a role than portrayed relationship status of outside individuals.

References

Alonzo, S. H. (2008). Female mate choice copying affects sexual selection in wild populations of

the ocellated wrasse. *Animal Behaviour, 75*, 1715-1723. doi:10.1016/j.anbehav.2007.09.031

Bonduriansky, R. (2001). The evolution of male mate choice in insects: A synthesis of ideas and

evidence. *Biological Reviews of the Cambridge Philosophical Society, 76(3)*, 305-339. doi: http://dx.doi.org/10.1017/S1464793101005693

Botwin, M. D., Buss, D. M., & Shackelford, T. K. (1997). Personality and mate preferences:

Five factors in mate selection and marital satisfaction. *Journal of Personality, 61(1)*, 107-136. doi: 10.1111/j.1467-6494.1997.tb00531.x

Bowers, R. I., Place, S. S., Todd, P. M., Penke, L., & Asendorpf, J. B. (2011). Generalization

in mate-choice copying in humans. *Behavioral Ecology, 23(1)*, 113-

124.  doi: 10.1093/beheco/arr164

Buss, D. M. (2007). The evolution of human mating. *Acta Psychologica Sinica, 39(3)*, 502-

512.

­­­­Buss, D. M., Barnes, M. (1986). Preferences in human mate selection. *Journal of Personality*

*and Social Psychology, 50(3),* 559-570. doi: 10.1037/0022-3514.50.3.559

Feingold, A. (1992). Gender differences in mate selection preferences: A test of the parental

investment model. *Psychological Bulletin, 112*(1), 125-139. doi:10.1037/0033-2909.112.1.125

Geary, D. C., Jacob, V., & Byrd-Craven, J. (2004). Evolution of human mate choice. *The*

*Journal of Sex Research, 41(1)*, 27-42.

Kendrick, D. T., Keefe, R.C. (1993). Age preferences in mate reflects sex differences in human

reproductive strategies. *Behavioral and Brain Sciences, 15(1)*, 75-91. doi: 10.1017/S0140525X00067595,

Kokko, H., Brooks, R., Jennions, M. D., & Morley, J. (2003). The evolution of mate choice and

mating biases. *Proceedings of the Royal Society of Biological Sciences, 270(1515)*, 653-664. doi:  10.1098/rspb.2002.2235

Li, N. P., Bailey, J. M., Kenrick, D. T., & Linsenmeier, J. A. W. (2002). The necessities and

luxuries of mate preferences: Testing the tradeoffs.*Journal of Personality and Social*

*Psychology, 82,*947-955*.*​ doi: 10.1037//0022-3514.82.6.947

Pampoulie, C., Lindstrom, K., & St. Mary, C. M. (2003). Have your cake and eat it too: male

sand gobies show more parental care in the presence of female partners. *Behavioral Ecology, 15(2),* 199-204. doi: 10.1093/beheco/arg107

Place, S. S., Todd, P. M., Penke, L., & Asendorpf, J. B. (2010). Humans show mate copying

after observing real mate choices. *Evolution and Human Behavior, 31,* 320-325. doi: 10.1016/j.evolhumanbehav.2010.02.001



*Figure 1.* This is the image the control group saw. This is a single, Caucasian male.



*Figure 2.* This is theimage the experimental group saw. This is a Caucasian male in a relationship.

*Figure 3.* Bar graph depicting ratings of desirability between conditions.

*Figure 4.* Bar graph depicting interaction between conditions and relationship status on ratings of desirability.

*Figure 5.* Bar graph depicting approaching interaction between conditions and relationship status on ratings of Question 8 (“When people in are in a relationship, I find that I am more attracted to them”).

Appendix A

*Please fill out the* *demographics below. Do this by only circling or writing down one answer for each line in the demographics section. Once this is complete, please move on to the survey below.*

**Demographics**

Age: \_\_\_\_

Sex: M F Other:\_\_\_\_\_\_\_\_\_\_\_\_

Relationship Status: Single In a Relationship

Year: Freshman Sophomore Junior Senior Other \_\_\_\_\_\_\_\_\_\_\_\_\_

**Questionnaire**

*Please answer these following questions according to the Likert scales provided by circling the answer most appropriate.*

1. This man is attractive.
2. I would date this man.



1. This man appears reliable.
2. This man would be a good father.



1. This man is desirable.



1. This man does not look confident.

*Please fill in the following question.*

1. List adjectives to describe this man:

Appendix B

1. When people are in a relationship, I find that I am more attracted to them.



1. When I am in a relationship, I find that people are more attracted to me.

