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On the Issue of Reproducibility in Psychology and a Model Replication Study

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On the Issue of Reproducibility in Psychology and a Model Replication Study

By

Taylor Boyer

An Honors Thesis Submitted in Partial Fulfillment of the
Requirements for Graduation from the
Western Oregon University Honors Program

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Abstract

The purpose of the present study is to replicate as closely as possible the study titled *“Friendship as a Relationship Infiltration Tactic during Human Mate Poaching”* (Mogilski & Wade, 2013). The purpose of the replication was to further explore the well documented lack of replications within psychology, and to provide a template for how to improve this issue. The authors of the original study sought to determine how friendship affected the success of someone trying to infiltrate a romantic relationship. They hypothesized that a person would be more likely to successfully steal the mate of another if the poacher was friends with their target mate, rather than acquaintances. When the poacher/poached were friends previous to the attempt, it was hypothesized that the poacher would incur fewer costs (e.g., physical retaliation from the poachee). Participants were given one of four vignettes to read then asked to rate the poacher’s likelihood of being successful and incurring future costs. Data was analyzed using a 2(sex) x 2(friendship) Multivariate Analysis of Variance. Overall, the replication study provided supporting evidence for all but one hypothesis. However, only the first (regarding success rate) was replicated successfully in that it was the only statistically significant result that overlapped with the original study. The implication of these conflicting results shows the importance of replication within psychology.

Keywords: Mate Poaching, Friendship, Reproducibility

On the Issue of Reproducibility in Psychology and a Model Replication Study

Psychology, like any other science, follows the scientific method. This includes many required steps in the process of creating and testing a hypothesis. One of these steps is to include a Method section which should include enough information to replicate a study, should someone want to; however, research suggests this section is sometimes subpar and not widely utilized (Kahneman, 2014). The implication of this is that replications are not as highly valued as more cutting-edge, novel research findings. This has led to a severe lack of replications, published or not, because researchers' reputations rely on how much of their research is published. This should not be how science as a whole operates as this current situation relies on the personal status and authority of the author and the institution from which the results originated. Reputations should be highly valued when a discovered effect has numerous studies which provide confirmatory evidence. Currently, there is no set standard for what is considered a valid replication (Kahneman, 2014; Open Science Collaboration, 2012). The purpose of my study was to provide a template for how one might conduct a replication study.

The Open Science Collaboration (2012) sought to replicate 100 studies, 97% of which were reported as being statistically significant. They found that only 36% of their replications were statistically significant. While the authors contributing to this project admit there are limitations to their study, the results remain compelling. A different study sought to investigate the relationship between the statistical power of a replication and the original study. The authors found an alternate explanation for the reproducibility crisis where the responsibility falls on the original researcher to have more high powered

designs (Anderson & Maxwell, 2017). While the implication of this study seems to put the ball back in the court of the original studies, more high powered study designs still need to have replicated supporting evidence. The lack of reproducibility within the field of psychology is widely agreed upon (Bardi & Zentner, 2017; Baxter & Burwell, 2017; Stevens, 2017; Open Science Collaboration, 2012), yet not enough is being done to correct the issue. The purpose of this paper was to not only explore the issue of reproducibility, but to conduct a replication study as well.

The study I aim to replicate was titled, “Friendship as a Relationship Infiltration Tactic during Human Mate Poaching” (Mogilski & Wade, 2013). The purpose of the original study was to investigate the function of friendship in terms of infiltrating a preexisting romantic relationship from an evolutionary perspective (i.e., using friendship as a means of mate poaching). The authors found support for friendship between the poacher and the poached to lead to a higher success rate, some associated less costly outcomes, and more positive mate characteristics. Friendship between the poacher and the poached also lead to the perception that a long term relationship was the primary motivation of poachers.

Previous research has described sex -differentiated reasons for initiating friendships. Bleske-Rechek and Buss (2001) found that women were interested in opposite sex friendships for social and physical protection whereas men initiated opposite sex friendships to gain sexual access. They also found some support that opposite sex friendships can be used to start a new long-term relationship as they can inspire romantic feelings. Furthermore, both sexes reported wanting companionship and emotional support

from their friends. It was suggested that a preexisting friendship also plays a role in the sustainment of a romantic relationship as well as the overall satisfaction and length of the relationship (Graham, 2011).

Mate poaching is described by Schmitt and Buss (2001) as a behavior intended to attract someone who is known to already be in a relationship. Cross culturally, there seems to be a high frequency (30-50%) with which both men and women have reported being engaged in a mate poaching attempt (Mogilski & Wade, 2013). This frequency may suggest some kind of advantage for this approach to the start of a new relationship, either long-term or short-term. There are, however, some costs involved with mate poaching. The poacher must be able to avoid potential risks from the poachee's current mate (e.g., physical retaliation). Other costs include family or friend disapproval, personal ethical concerns, and future infidelity concerns. Due to the risk of mate poaching, humans likely have mechanisms to detect potential poachers as well as mechanisms to secure their mates. Schmitt and Buss (2001) showed a tendency to overestimate a poaching attempt of their mate where 70% of their sample thought there had been a poaching attempt on their mate, but only 50% reported that they had attempted to mate poach.

The purpose of the original study (Mogilski & Wade, 2013) was to provide a function of friendship as it is used to infiltrate a relationship. As was done in the original study, I manipulated the sex of the poacher and poached as well as the relationship status (friendship or simply acquaintances) of the poacher and poached. I hoped to find significant results in the same direction as the original study predicted. Hypothesis 1:

when the poacher and the poached were friends, the poacher would be rated as more likely to be successful in their attempt than when the poacher and poached were acquaintances. Hypothesis 2: when the poacher and the poached were close friends, rather than just acquaintances, costly outcomes will be rated as less likely to occur. Hypothesis 3: when the poacher and the poached were close friends as opposed to acquaintances, the poacher and poached will be rated as having more favorable mate attributes. Hypothesis 4: friendship will be rated as more effective for male poachers than female poachers. Hypothesis 5: friend-poachers, as opposed to acquaintance-poachers, will be rated as more likely to be motivated to start a long-term relationship.

Method

Participants

The sample consisted of 104 undergraduate students (79 females, 25 males), recruited from Western Oregon University who agreed to participate in exchange for course credit. Participants were recruited using a web-based system in which participants read a brief summary of posted studies then signed up for specific time slots to complete those studies. The mean age of participants was 21.55 ($SD = 4.78$, range = 18-46). The racial composition of the sample self identified as 70.20% White, 18.30% identified as Hispanic, 5.80% were Asian, 2.90% identified as being Black or African American, 1.90% were Native Hawaiian or other Pacific Islander, and 1.00% identified as Native American or Alaskan Native. A majority of the sample (34.60%) said they were single, while 26.90% said they were in a committed, closed relationship, 21.20% said they were

dating, 9.60% were married, and an equal percentage (3.80%) said they were either in committed, open relationships or engaged.

Materials and Procedure

Participants were first asked to sign a consent form. Once participants provided consent, they were asked to provide demographic information including their age, sex, race, and current relationship status (see Appendix A). They were then presented with the following set of instructions (Mogilski & Wade, 2013):

“For the following experiment, you will be asked to read a short paragraph detailing the relationship between three individuals. Please take your time to fully read the paragraph and form some initial impressions about the individuals described. After hearing their story, you will be asked to make several ratings pertaining to the likelihood of certain events happening between these individuals. You will also be asked to rate the individuals on several measures of their personality and sexuality. While we realize that you cannot learn everything about a person or group of people from one, short story, we ask that you please make these ratings based on your initial impression of the individuals described.”

Participants were then randomly assigned to read one of four short vignettes (see Appendix B) after which they were to answer a series of survey questions on a scale from 1 (highly unlikely) to 7 (highly likely) (see Appendix C). The vignettes depicted a heterosexual mate poaching situation in which one person (the poacher; named either Chris or Rachel) tried to infiltrate the relationship of the other two people (the poached

and the poachee; named John and Sarah). The roles of the poached and the poachee switched based on the sex of the poacher. The vignettes varied by the sex of the poacher and whether or not the poacher and the poached were friends prior to the mate poaching attempt. The survey questions asked participants to rate the poacher's likelihood of being successful and incurring future risks or costs (Mogilski & Wade, 2013). Examples of the risks and costs include the poachee's suspicion of a poaching attempt, the likelihood the poachee would inflict physical harm on the poacher, future infidelity of the poached, friend disapproval of the resulting new relationship, family disapproval of the resulting new relationship, and the likelihood that the poached would later resent the poacher. They were also asked to rate their impressions of both the poacher and the poached on ten mate characteristics on a scale of 1 (not very) to 7 (very) (See Appendix D). The mate characteristics of interest are intelligence, sexual attractiveness, physical attractiveness, warmth, dominance, friendliness, masculinity, nurturance, social competence, and whether they would be a good parent or mate. Once the participants completed the survey questions, they were fully debriefed on the true purpose of the study. Experimentation lasted approximately 10 minutes.

Results

In order to test Hypotheses 1 and 2, a 2(poacher sex: male vs. female) x 2(friendship condition: friends vs. acquaintances) MANOVA was analyzed for poaching outcomes. There was a main effect for the friendship condition where poachers who were friends with the poached ($M = 5.31$, $SD = .17$) were rated as more likely to be successful than when they were just acquaintances ($M = 3.64$, $SD = .17$), $F(1,100) = 11.26$, $p = .001$,

$\eta^2 = .10$. There were no other statistically significant results for friendship present situations and other poaching outcomes. Interestingly, though there were no hypotheses created for poaching outcomes and sex, there was a main effect found for poacher sex where female poachers ($M = 4.23$, $SD = .17$) were rated as more likely to be successful than male poachers ($M = 3.77$, $SD = .17$), $F(1,100) = 4.89$, $p = .03$, $\eta^2 = .05$.

In order to test Hypothesis 3, a 2(poacher sex: male vs. female) x 2(friendship condition: friends vs. acquaintances) MANOVA was analyzed for mate characteristics regarding the poacher. A main effect for poacher sex on the perceived masculinity of the poacher was found such that men ($M = 4.90$, $SD = .20$) were rated as more masculine than women ($M = 2.98$, $SD = .20$), $F(1,100) = 47.05$, $p < .001$, $\eta^2 = .32$. A main effect for poacher sex was found for the perceived sexual attractiveness of the poachers such that women ($M = 4.79$, $SD = .18$) were rated higher than men ($M = 4.17$, $SD = .18$), $F(1,100) = 6.05$, $p = .02$, $\eta^2 = .06$. Lastly, a main effect for the poacher sex condition was found regarding the perceived friendliness of the poacher such that men ($M = 5.23$, $SD = .19$) were rated as more friendly than women ($M = 4.46$, $SD = .19$), $F(1,100) = 8.52$, $p = .004$, $\eta^2 = .08$. Main effects for the friendship condition were found regarding warmth, $F(1,100) = 36.91$, $p < .001$, $\eta^2 = .03$; friendliness, $F(1,100) = 20.47$, $p < .001$, $\eta^2 = .17$; nurturance, $F(1,100) = 45.29$, $p < .001$, $\eta^2 = .31$; social competence, $F(1,100) = 13.59$, $p < .001$, $\eta^2 = .12$; and perceived ability to be a good parent or mate, $F(1,100) = 11.02$, $p = .001$, $\eta^2 = .10$. Overall, conditions involving friends versus acquaintances were rated higher for these traits. Regarding warmth, poachers who were friends with their target ($M = 4.98$, $SD = .18$) were rated as being more warm than poachers who were only

acquaintances with their target ($M = 3.14$, $SD = .22$). Those who were friends ($M = 5.44$, $SD = .19$) were rated as being more friendly than poachers who were acquaintances ($M = 4.25$, $SD = .19$). Friend poachers ($M = 4.85$, $SD = .20$) were perceived as having more nurturance than acquaintance poachers ($M = 2.96$, $SD = .20$). Regarding social competence, friend poachers ($M = 4.90$, $SD = .19$) were rated as being more competent than poachers who were simply acquaintances ($M = 3.90$, $SD = .19$). Finally, poachers who were friends with the poached ($M = 3.38$, $SD = .16$) were rated as likely to be better parents or mates than poachers who were acquaintances with the poached ($M = 2.62$, $SD = .16$). Two trends were also revealed. A trend for the friendship condition was found for the perceived intelligence of the poacher such that friend poachers ($M = 4.35$, $SD = .16$) were rated as more intelligent than acquaintance poachers ($M = 3.92$, $SD = .16$), $F(1,100) = 3.65$, $p = .06$, $\eta^2 = .04$. A trend for poacher sex on physical attractiveness was found such that women ($M = 4.69$, $SD = .17$) were rated as being more physically attractive than men ($M = 4.29$, $SD = .17$), $F(1,100) = 2.97$, $p = .09$, $\eta^2 = .03$.

A 2(poacher sex: male vs. female) x 2(friendship condition: friends vs. acquaintances) MANOVA was also analyzed for mate characteristics regarding the poached. Main effects for sex include significant differences in ratings for physical attractiveness, $F(1,100) = 5.45$, $p = .02$, $\eta^2 = .05$; sexual attractiveness, $F(1,100) = 5.05$, $p = .03$, $\eta^2 = .05$; warmth, $F(1,100) = 6.16$, $p = .02$, $\eta^2 = .06$; dominance, $F(1,100) = 7.81$, $p = .006$, $\eta^2 = .07$; friendliness, $F(1,100) = 4.92$, $p = .03$, $\eta^2 = .05$; masculinity, $F(1,100) = 145.61$, $p < .001$, $\eta^2 = .59$; nurturance, $F(1,100) = 4.80$, $p = .03$, $\eta^2 = .05$; and perceived ability to be a good parent or mate, $F(1,100) = 5.07$, $p = .03$, $\eta^2 = .05$. When the poacher was male (M

= 5.33, $SD = .15$), the poached was rated as more physically attractive than when the poacher was female ($M = 4.83$, $SD = .15$). The poached was also rated as more sexually attractive when the poacher was male ($M = 5.33$, $SD = .16$) than when the poacher was female ($M = 4.83$, $SD = .16$). When the poacher was male ($M = 4.81$, $SD = .16$), the poached was rated as more warm than when the poacher was female ($M = 4.25$, $SD = .16$). When the poacher was female ($M = 4.01$, $SD = .17$), the poached was rated as more dominant than when the poacher was male ($M = 3.37$, $SD = .17$). When the poacher was male ($M = 5.31$, $SD = .14$), the poached was rated as being more friendly than when the poacher was female ($M = 4.87$, $SD = .14$). When the poacher was female ($M = 5.00$, $SD = .16$), the poached was rated as being more masculine than when the poacher was male ($M = 2.25$, $SD = .16$). When the poacher was male ($M = 4.33$, $SD = .17$), the poached was rated as more nurturant than when the poacher was female ($M = 3.81$, $SD = .17$). Finally, when the poacher was male ($M = 4.15$, $SD = .16$), the perceived ability of the poached to be a good parent or mate was rated as higher than when the poacher was female ($M = 3.65$, $SD = .16$). There was also a main effect for the friendship condition regarding friendliness such that when the poached and poacher were friends ($M = 5.37$, $SD = .14$) the poached was rated as more friendly than when they were acquaintances ($M = 4.81$, $SD = .14$), $F(1,100) = 7.82$, $p = .006$, $\eta^2 = .07$.

To test Hypothesis 4, each MANOVA was also analyzed in order to examine the interaction between poacher sex and the friendship condition. There was an interaction between sex and the friendship condition on the likelihood that the poached would cheat on the poacher in a new relationship, $F(1,100) = 5.03$, $p = 0.03$, $\eta^2 = .05$, such that when

the poacher was female, infidelity was rated as higher for acquaintances than for friends but when the poacher was male, possible future infidelity was rated as lower for acquaintances than for friends (see Figure 1). There was an interaction between sex and the friendship condition for perceived dominance of the poacher, $F(1,100) = 12.59, p = .001, \eta^2 = .11$, such that when the poacher was female, dominance was rated as higher for friends than acquaintances, but when the poacher was male, dominance was rated as lower for friends than acquaintances (see Figure 2). There was also a trend in the opposite of the predicted direction between sex and the friendship condition for friend (i.e., third party friends) approval, $F(1,100) = 3.73, p = .06, \eta^2 = .04$, such that when the poacher was female, approval was rated as higher for friend poachers than acquaintance poachers, but when the poacher was male, approval was rated as lower for friend poachers than acquaintance poachers (see Figure 3). There were no significant interactions for the mate characteristics of the poached; however there was a trend in the opposite of the predicted direction between sex and the friendship condition for the perceived dominance of the poached, $F(1,100) = 3.37, p = .07, \eta^2 = .03$, such that when the poacher was female, dominance of the poached was rated as higher for friends than acquaintances, but when the poacher was male, dominance of the poached was rated as lower for friends than acquaintances (see Figure 4).

In order to test Hypothesis 5, a Chi-Square Test for Independence was analyzed and revealed an interaction between the friendship condition and the predicted motivation of the poacher in terms of resulting relationship length, $\chi^2(2, N = 104) = 12.77, p = .002$. Three Chi-Square Goodness of Fit analyses were used to address pair-wise comparisons.

Participants were not more likely to say the motivation was a one night stand when the poacher and poached were friends versus acquaintances, $\chi^2(1, N = 9) = .11, p = .74$; nor were participants more likely to say the motivation was a short term relationship when the poacher and poached were friends versus acquaintances, $\chi^2(1, N = 70) = 3.66, p = .06$, although this is a trend in the predicted direction. However, more participants ($n = 20$) than expected ($n = 12.5$) said the motivation of the poacher was to start a long term relationship if they were friends with the poached while fewer participants ($n = 5$) than expected ($n = 12.5$) said the motivation of the poacher was to start a long term relationship if they were just acquaintances with the poached, $\chi^2 = (1, N = 25) = 9.00, p = .003$.

Results from the original study are briefly summarized here. A main effect for the friendship condition where friends were rated as more likely to be successful in their poaching attempt as opposed to acquaintances. A main effect for sex was found such that female poachers were more likely to suspect potential poaching than male poachers. The original results also included significant results where male poachers were rated as more likely to suffer physical retaliation from the poacher's significant other when compared to female poachers. Family members were more likely to approve of a resulting relationship between the poacher and poached if the poacher was female rather than male. This relationship was also true of a friend's approval. The poacher was rated as more intelligent, warm, friendly, and nurturant when the poacher and poached were acquaintances than friends. When the poacher was male as opposed to female, poachers were rated as more sexually attractive, less masculine, and the poached was rated as more

intelligent and more masculine. There were no significant differences in the ratings for the poached. The original authors did not find any significant interactions. The predicted motivation for acquaintance poachers was a short-term relationship while the predicted motivation of friend poachers was a long-term relationship.

Discussion

The purpose of this study was to explore friendship as an infiltration tactic in romantic relationships. Hypothesis 1 (i.e., increased poaching success) was supported in both the original study and the replication study. Thus, there is evidence for friendship having an effect on the success rate of a poaching situation. Hypothesis 2 (i.e., mitigated costly outcomes) was partially supported in the original study finding significant results for two poaching outcomes. The replication study found no other significant results for this dependent variable. Hypothesis 3 (i.e., favorable mate attributes) received significant results from both the original and replication studies; however, each study found significant results for different attributes and in opposite directions. Hypothesis 4 (i.e., greater friendship effectiveness for male poachers) was not supported by the original study's results. The replication study's results, however, found two significant interactions between sex and the friendship condition, one that was in the predicted direction and one that was in the opposite of the predicted direction. Lastly, the replication results for Hypothesis 5 (i.e., poacher motivations) partially supported those of the original where the motivation of friend poachers was rated as more likely to be a long-term relationship than acquaintance poachers; however, the motivation of

acquaintance poachers was not rated as more likely to be a short-term relationship than friend poachers.

Both studies point to friendship as being important to the success of the poacher. Both men and women prefer certain qualities (i.e., warmth, nurturance, etc.) in an opposite-sex friendships and use these qualities to inspire romantic feelings (Bleske-Rechek & Buss, 2001). Therefore, the foundation of friendship is important in the initiation and maintenance of a long-term relationship (Graham, 2011; Guerro & Mongeau, 2008; Hartl, Laursen, & Cillessen, 2015). Essentially, friendship previous to a romantic relationship may be a signal of compatibility between the poacher and poached thus leading to the higher success rate for friend poachers seen in both studies.

Though the goal was to replicate as closely as possible the methodology of the original study, it is important to note some of the key differences; the main difference being sample type and size. The original study included information from a nationwide sample as well as a sample of undergraduate students. The replication study's sample is purely made up of undergraduate students. Though it is a recurring concern across psychological studies to state sample size as a limitation, this is likely the main contributing factor for the differences in results.

Another important note is that the original study collected data on participant's birth control usage. The authors state research that reported that using hormone-based birth control can affect long term and short term mate preferences, perceptions of masculinity, and attraction (Cornwell et al., 2004; Jones et al., 2005, 2008; Little, Jones, Penton-Voak, Burt, & Perrett, 2002; Penton-Voak, Little, Jones, Burt, & Perrett, 2003;

Smith, Jones, Little, DeBruine & Welling, 2009, as cited in Mogilski & Wade, 2013).

While birth control usage is not a variable in the analyses of the original or replication studies, there are significant results regarding perceptions of masculinity and attraction.

The original study reported that a majority of their sample (83.95%) was not currently taking birth control medication of any type. Without this information, it is not possible to rule out birth control usage as a contributing factor to significant and non significant findings alike.

One interesting limitation that applies to the replication of this study is the amount of information available in order to design the replication study. While the necessary materials were provided, some information regarding other aspects of study design were not. For example, the Method section does not clarify how the ratings for the dependent variable were combined, and which variables were included in this combination. It was necessary to reverse score one rating before combining all of the risky/costly outcomes. The results section also implies statistical tests were performed involving sex (i.e., they analyzed 2 x 2 MANOVAs) however, the hypotheses in question seemed purely based on the friendship variable. The rationale behind this decision was not provided. This information, while not detrimental to the replication of this study in particular, becomes more important when looking at the overall lack of information in Method sections across psychology which leads to a lack of reproducibility (Kahneman, 2014).

The results of the replication require that more research be done on the subject of friendship and how it relates to poaching situations as there are discrepancies in the results of the original and replication studies. It is also necessary to understand how

poacher sex plays a role. While sex was a variable in the present study, no hypotheses were made regarding poacher sex. This would be an interesting area to conduct further research as the original study did not find any significant interactions and the replication identified two. If the replication serves as prior research, friendship should be more effective for female poachers than male poachers.

One area relevant to the study content rather than the replication itself, is the idea that preexisting friendship may actually hinder the unsuccessful poacher. This study primarily focuses on the benefits that friendship provides in a poaching situation. If opposite sex friendships have evolved to mitigate certain risks associated with mate poaching (Schmitt & Shackelford, 2003), then it is entirely possible that one of these risks would be losing the friendship if the poaching attempt is unsuccessful. More research is necessary to tease apart the mechanisms for maintaining friendship while effectively attempting to mate poach.

Another related future direction is to modify the study design to allow participants to be part of the poaching situation. Humans have well researched mechanisms in place to promote themselves in the best possible way (Kurzban, 2012). Kurzban (2012) argues for the idea that what is associated with the self is a module he calls the press secretary which is responsible for self promotion. Self promotion combined with the mechanisms that help secure mates would likely lead to different results than those where the mechanisms responsible for self promotion (i.e., the press secretary) are not activated as in the original study design.

This study shows the effect of friendship and poacher sex on several mate poaching outcomes as well as several mate characteristics. Supporting evidence was found in both the original study and replication study for a difference in the success rate of the poacher based on the presence of friendship. Significant results were found regarding other outcomes as well as mate characteristics in both studies; however, there is little overlap. This is relevant to the bigger issue of reproducibility within psychology in that it shows why replication is important. It is not only necessary to investigate topics of interest (i.e., mate poaching) on a broader level, but also to replicate findings of more specific hypotheses and predictions. Doing so will provide greater confidence in the ability to understand and predict human behavior. Results of these studies add to the supporting evidence regarding how friendship may be an overall effective way to infiltrate an existing romantic relationship through mate poaching.

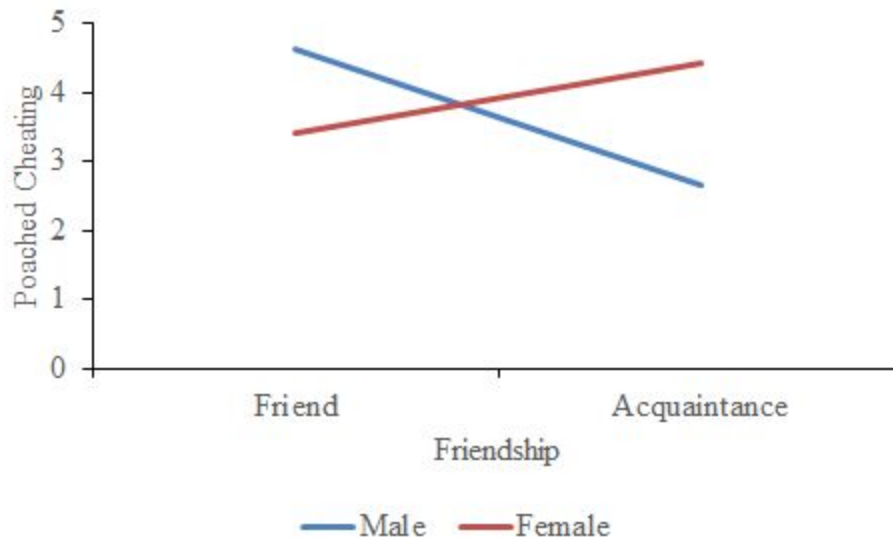


Figure 1: Interaction between poacher sex and the friendship condition on the likelihood that the poached would cheat on the poacher in a new relationship.

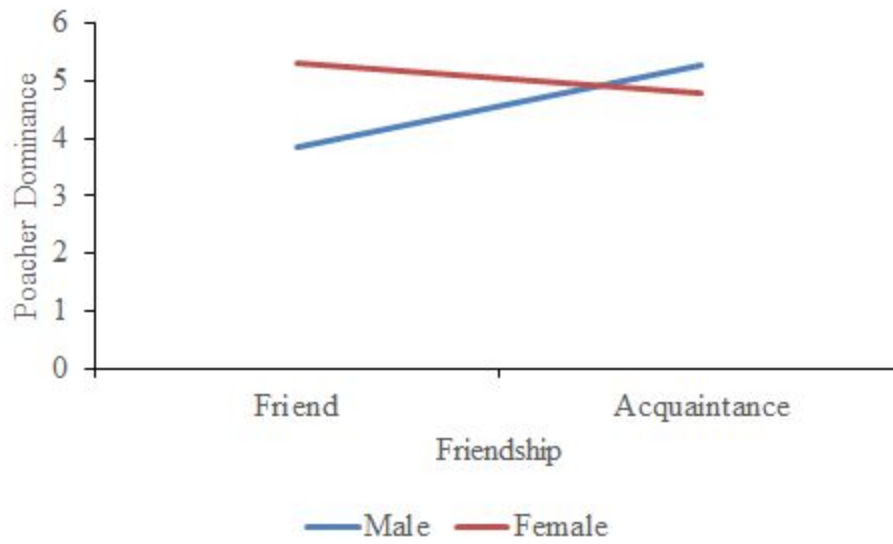


Figure 2: Interaction between poacher sex and the friendship condition on the perceived dominance of the poacher.

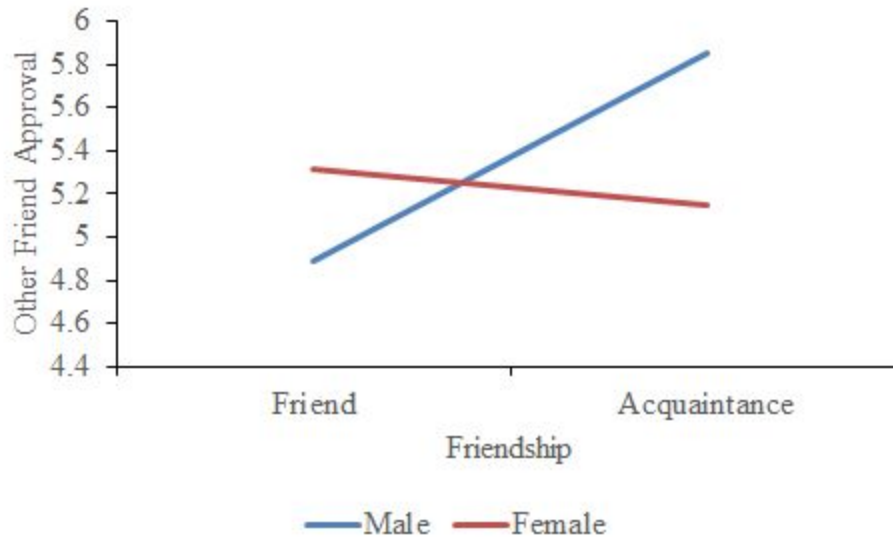


Figure 3: (Trend) Interaction between poacher sex and the friendship condition on the approval from others in the poached and poacher's friend group.

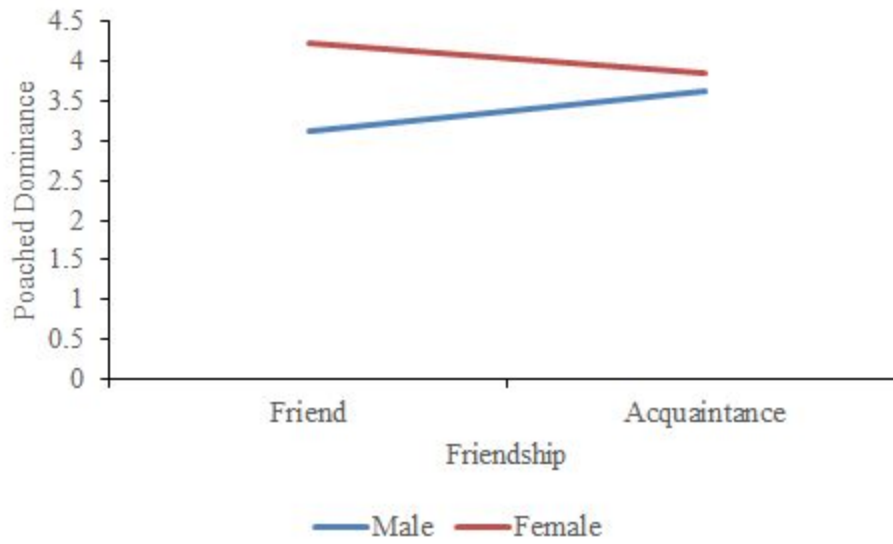


Figure 4: (Trend) Interaction between poacher sex and the friendship condition on the perceived dominance of the poached.

Appendix A

Demographics Questionnaire

Demographics Questionnaire:**Gender:**

- Male
 Female
 Other

Age: _____

Relationship Status:

- Single
 Dating
 In a committed open relationship (nonexclusive relationship)
 In a committed, closed relationship (exclusive relationship)
 Engaged
 Married

Race:

- American Indian/ Alaskan Native
 Asian
 Black or African American
 Native Hawaiian or Other Pacific Islander
 White
 Hispanic
 Other

Appendix B

Vignettes

Vignette Examples:

The following examples demonstrate how the friendship variable was manipulated (see bolded text) (Mogilski & Wade, 2013):

Friendship Condition:

You happened to hear an interesting story the other day about three people, John, Sarah, and Chris. Through your own experiences and a few rumors, you piece together the following information about them.

John and Sarah have been in an exclusive relationship for about a year. Recently, John and Sarah have been having problems in their relationship and their relationship has been uneasy. **Sarah often talks about the problems in her relationship with Chris, a close friend she goes to for advice and comfort, and with whom she enjoys spending time.**

Chris is attracted to Sarah. He realizes that she is in an exclusive relationship, yet he still flirts with her in hopes that something may happen between Sarah and him.

Friendship Absent Condition:

You happened to hear an interesting story the other day about three people, John, Sarah, and Chris. Through your own experiences and a few rumors, you piece together the following information about them.

John and Sarah have been in an exclusive relationship for about a year. Recently, John and Sarah have been having problems in their relationship and their relationship has been uneasy. **Chris is an acquaintance of Sarah's and they know very little about each**

other. Chris is attracted to Sarah. He realizes that she is in an exclusive relationship, yet he still flirts with her in hopes that something may happen between Sarah and him.”

Appendix C

Survey Questions

Survey Questions:

- 1) How likely is it that Chris will succeed in attracting Sarah away from John?
- 2) How likely is it that John will suspect that Chris is trying to attract Sarah away from him?
- 3) How likely is it that John will inflict physical harm on Chris for trying to attract Sarah?
- 4) If Chris and Sarah formed a new long-term relationship, how likely is it that the relationship would last for more than a year?
- 5) If Chris and Sarah start a new long-term relationship, how likely is it that Sarah would cheat on him in the future?
- 6) How likely is it that their friends will not approve of how Chris and Sarah started their relationship?
- 7) How likely is it that either of their families will not approve of how Chris and Sarah started their relationship?
- 8) How likely is it that Sarah will later resent Chris for the way they started their relationship?
- 9) In your opinion, is it OK that Chris is trying to attract Sarah away from John?
(Yes No)
- 10) What is most likely the type of relationship that Chris intends to start with Sarah by attracting her away from John?
(A one-night stand. A short-term affair. A new long-term relationship.)

Appendix D

Mate Characteristic Ratings

Characteristic Ratings**Intelligence**

1 2 3 4 5 6 7

Physical attractiveness

1 2 3 4 5 6 7

Sexual attractiveness

1 2 3 4 5 6 7

Warmth

1 2 3 4 5 6 7

Dominance

1 2 3 4 5 6 7

Friendliness

1 2 3 4 5 6 7

Masculinity

1 2 3 4 5 6 7

Nurturance

1 2 3 4 5 6 7

Social competence

1 2 3 4 5 6 7

Whether (s)he would be a good parent or mate

1 2 3 4 5 6 7

References

- Anderson, S. F., & Maxwell, S. E. (2017). Addressing the 'replication crisis': Using original studies to design replication studies with appropriate statistical power. *Multivariate Behavioral Research*, 52(3), 305-324.
- Bardi, A., & Zentner, M. (2017). Grand challenges for personality and social psychology: Moving beyond the replication crisis. *Frontiers in Psychology*, 8(2068).
- Baxter, M. G., & Burwell, R. D. (2017). Promoting transparency and reproducibility in *Behavioral Neuroscience*: Publishing replications, registered reports, and null results. *Behavioral Neuroscience*, 131(4), 275-276.
- Bleske-Rechek, A. L., & Buss, D. M. (2001). Opposite-sex friendship: Sex differences and similarities in initiation, selection, and dissolution. *Personality and Social Psychology Bulletin*, 27, 1310-1323.
- Graham, J. M. (2011). Measuring love in romantic relationships: A meta-analysis. *Journal of Social and Personal Relationships*, 28, 748-771.
- Guerrero, L. K., & Mongeau, P. A. (2008). On becoming “more than friends”: The transition from friendship to romantic relationship. In S. Sprecher, A. Wenzel, and J. Harvey (Eds.), *Handbook of relationship initiation* (pp. 175-194). New York: Psychology Press.
- Hartl, A. C., Laursen, B., & Cillessen, A. N. (2015). A survival analysis of adolescent friendships: The downside of dissimilarity. *Psychological Science*, 26(8), 1304-1315.

- Kahneman, D. (2014). A new etiquette for replication. *Social Psychology, 45*(4), 299-311.
- Kurzban, R. (2012). *Why everyone (else) is a hypocrite: Evolution and the modular mind*. New Jersey: Princeton University Press.
- Mogilski, J. K., & Wade, T. J. (2013). Friendship as a relationship infiltration tactic during human mate poaching. *Evolutionary Psychology, 11*(4), 926-943.
- Open Science Collaboration. (2012). An open, large-scale, collaborative effort to estimate the reproducibility of psychological science. *Perspectives on Psychological Science, 7*, 657–660.
- Schmitt, D. P., & Buss, D. M. (2001). Human mate poaching: Tactics and temptations for infiltrating existing mateships. *Journal of Personality and Social Psychology, 80*, 894-917.
- Schmitt, D. P., & Shackelford, T. K. (2003). Nifty ways to leave your lover: The tactics people use to entice and disguise the process of human mate poaching. *Personality and Social Psychology Bulletin, 29*, 1018-1035.
- Stevens, J. R. (2017). Replicability and reproducibility in comparative psychology. *Frontiers in Psychology, 8*(862).