Shades of Red, Eyes of Green: An Examination

Of Rejection as a Fuel for Jealousy

Student's Name

University of Central Arkansas

Abstract

This study tests previous hypotheses of Buss (1992), DeSeno (2002) and Harris (2009) by further examining different types of jealousy (family, friendship, romantic, coworker/student) with or without rejection as a main component. Participants were asked to imagine 16 scenarios, four for each type of jealousy (family, friendship, romantic, coworker/student), in which two included rejection and two did not. Results indicated that across all scenarios presented, rejection scenarios elicited equally high levels of distress. However, non-rejection scenarios indicated a difference in the level of distress experienced depending on the scenario presented. The results of this study directly support those of Harris (2009).

Keywords: jealousy, distress, rejection, jealousy type

Shades of Red, Eyes of Green: An Examination

Of Jealousy as a Fuel for Rejection

Jealousy is familiar to everyone but can be difficult to measure because it is a subjective emotional experience that varies across individuals. Knowing this difficulty, many researchers have attempted to find the root from which jealousy derives by analyzing the available empirical evidence. To what degree does it come from an evolutionary derived instinct (Buss, 1992) versus a culturally defined concept (Harris, 2000)? This ongoing battle of nature vs. nurture has created a 20-year struggle among researchers to understand this intriguing emotion. Previous research on jealousy has solely focused on romantic type scenarios. As more researchers got involved, the focus changed from romantic to more social situations. Only recently has the issue of rejection as a fuel for jealousy become a central focus.

The study of jealousy became a focus within the emerging field of Evolutionary Psychology. Many researchers wanted to explore this previously unexplored area of psychology by utilizing other concepts within the newly developed field of evolutionary psychology such as parental investment (Trivers, 1972) and male paternity uncertainty (Daly, Wilson, Weghorst, 1982; Symons, 1979). Previous researchers hypothesized that because of paternity uncertainty in males, it was more likely that males would be more upset by sexual infidelity; whereas, the act of retaining resources in females would cause them to be more upset by emotional infidelity (Buss, 1988). Due to the differences in how sexes receive and retain mates, Buss hypothesized that gender determined how jealousy was experienced within the individual. To support his argument, Buss (1992) conducted an experiment that attempted to showcase how men and women differed in jealousy by asking participants, both male and female, to select which type of

scenario (emotional or sexual infidelity) was most distressing to them personally; this type of measure was called the "forced-choice model." To test the level of distress, Buss (1992) measured participant's electrodermal activity (EDA) and pulse rate (PR). Elevated EDA and PR signify autonomic nervous system activation (Levenson, 1988), which is associated with increasing distress. Buss found predicted sex differences in jealousy between the two types of infidelity. It appeared that women responded more to the emotional infidelity scenarios and men reacted more strongly to the sexual. Because the topic of jealousy had been vaguely discussed, no research had previously been done on hypothesized sex differences to verify or falsify research suggested by Buss (1988) or other researchers (Daly, Wilson, Weghorst (1982); Trivers (1972); Telsmann & Mosher, 1978; White & Mullen, 1989).

Buss' (1992) experiment pioneered explanations for jealousy and therefore opened doors for praise and criticism within the psychology community. Desteno was the first to examine and later criticize Buss' study. In 1996, a few years after Buss' (1992) study, Desteno wanted to test the validity of this previous experiment because he was questioning the interpretation of Buss' results. When using other statistical methods, Desteno (1996) found no difference between genders and questioned the previous conclusions. A few years later, Desteno (2002) decided to modify the Buss (1992) experiment and tested the same conditions under a new Likert-Type scale. Instead of participants choosing the more distressing scenario, they rated discress on a 1-7 scale. He also directly compared the Likert-Type scale and forced choice measure. To do this, Desteno (2002) completed two studies: one that replicated Buss' (1992) experiment and one that tested the same conditions with the new Likert-Type scale. Results showed that there was no gender difference between emotional and sexual infidelity scenarios; both men and women found sexual infidelity to be the most distressing infidelity type for both the forced choice and Likert-

Type scale models. When Desteno (1996) first questioned the validity of Buss' (1992) experiment, Buss attempted to validate his arguments by cross-culturally examining jealousy type scenarios (Buunk, Angleitner, Oubaid, & Buss, 1996). By doing this he would prove that jealousy exists in all of us as an instinctual adaptation, showing that many individuals around the world possess this trait. But throughout the psychology community, many began questioning other factors of jealousy itself and thought that the multiple dimensions of the topic were more complex than what Buss had originally attempted to illustrate.

Previous research focused on romantic jealousy. Desteno (2004) suggested that the central theme in all jealousy is that a valued relationship of any type may be usurped by a rival, which showcases that jealousy can have multiple forms. In addition to romantic jealousy (Buss, 1992; Desteno, 2002), many questioned other types of jealousy that exist, such as family jealousy (Volling, McElwain, & Miller, 2002), coworker jealousy (Vecchio, 2000), and friendship jealousy (Harris, 2009; Masiuch & Kienapple, 1993). Jealousy elicits multiple emotions. Feelings of jealousy are aversive and best described as a combination or blend of the feelings of anger, anxiety, betrayal, and hurt (Barelds, 2007; Buck, 1999). Throughout these experiments, researchers narrowed their focus to rejection as a primary initiator for jealousy. Evidence showed that blows to self-esteem, in combination with rejection, triggered emotions more similar to that of jealousy than any other case (Desteno, 2006; Harris, 2000). In 2009, Christine Harris conducted a study that included rejection by having participants simulate throwing a ball between each other. Within the experiment, all participants were "ostracized" by not having the ball thrown to them by either the same gender or different gender. The experiment illustrated that not getting the ball thrown to you (rejection) seemed to be the most irritating part

to all participants, not the gender of the thrower. This signified that rejection was the main cause of distress within the experiment.

There are few studies like that of Harris (2009) that evaluate rejection as a main component of jealousy within an experimental setting, and there are even fewer studies that evaluate whether rejection scenarios cause more jealousy than non-rejection scenarios. It would seem that because rejection appears to be an important component of jealousy, the next step would be to evaluate this component in different types of jealousy situations. Previous studies did not directly compare different types of jealousy situations. Our study will be an extension of previously successful techniques used in previous experiments. The focus of our study was to evaluate the rejection component of jealousy, and to determine which type of jealousy scenario is most distressing. We hypothesized that participants would rate rejection scenarios as more distressing than non-rejection scenarios and romantic scenarios more distressing than family, friendship, and coworker/student scenarios.

Method

Participants

A total of 24 students (10 men, 14 women) participated from various undergraduate psychology courses at a south central state university. They ranged in age from 18 to 38 years, with a mean of 20 years. They received enrichment credit in their psychology classes.

Materials

Participants received a four page questionnaire in paper form with a space to signify gender and age at the top. The questionnaire contained 16 scenarios with a 1 to 9 Likert scale that asked the participant to rate the level of distress after each scenario, with higher numbers

indicating greater distress. The questionnaire included the four main types of jealousy (Family, Friendship, Romantic, Workforce/Academics) across the 16 scenarios that were dispersed throughout (see Appendix). Two out of the four scenarios for each jealousy type included rejection, while the other two did not. A random number table determined the order of all 16 scenarios.

Procedure

Participants wrote their gender and age and then carefully read, along with a researcher, the instructions. They were instructed to carefully read each scenario and thoughtfully rate (circle) the number to indicate the imagined level of distress for the given scenario.

Results

We analyzed our data with a 2 (participant gender) x 2 (level of rejection) x 4 (type of relationship) mixed ANOVA (see Table 1). Figure 1 shows mean level of distress for each type of scenario. It appears that the first hypothesis that rejection scenarios would elicit greater distress than the non rejection scenarios was supported by the analysis (F (24) =86.03, p<.001). There was also a significant effect within the type of scenario (F (24) =14.43, p<.001) as well as interaction between rejection and type of scenario (F (24) =23.57, p<.001). There appeared to be no significant effect for gender and the interactions of gender with the scenario and rejection (See Table 1).

Our second hypothesis that romantic jealousy was the most distressing type of jealousy was also supported, but only within non-rejection scenarios. The mean scores of distress for non rejection jealousy scenarios went in the linear order of romantic, family, work/academia, and friend (see Figure 1). The interesting part of this study was that rejection based scenarios elicited

similar distress responses within romantic (*M*=6.66), family (*M*=6.66), work/academia (*M*=6.37), and friend (*M*=6.54), which directly supports our first hypothesis that rejection elicits greater distress overall.

Discussion

Results indicated a significant distinction between rejection and non-rejection jealousy inducing scenarios. Rejection across all jealousy types appeared to elicit the same amount of distress and therefore supported our first hypothesis that rejection scenarios caused greater distress than non rejection scenarios. Due to the fact that most people do not like to be rejected, this study indicated that no matter the jealousy situation one experiences, it is the rejection and not the situation that is most hurtful.

Non rejection scenarios, on the other hand, indicated a difference between the type of scenario and the level of distress experienced. Participants rated romantic scenarios without rejection as the most distressing type and rated friendship non rejection scenarios as the least distressing type (hypothesis 2), but across all types of scenarios, rejection scenarios shows to elicit a much larger amount of distress overall (see Figure 1). This may indicate that when one imagines a scenario in which there is no personal rejection, the person evaluates the situation more critically and experiences different levels of emotions depending on the different situations. Within our experiment, gender was also analyzed as a component of jealousy in scenarios with and without rejection, but no significant effect was found between any interaction of rejection or scenario which directly supports Desteno (2002) and Harris (2009), but contradicts Buss (1992).

Rejection was first studied and hypothesized as a component of jealousy by Harris in 2009. Within her study, rejection was displayed by having participants simulate throwing a ball

between each other. All participants were "ostracized" at some point in the study by not having the ball thrown to them by either the same gender or different gender. The experiment illustrated that not getting the ball thrown to you (rejection) seemed to be the most irritating issue for all the participants, not the gender of the thrower. This suggests that rejection is the main cause of distress and not gender. In our study, rejection as a component of jealousy was supported, but was also expanded to include the analyzing of the rejection component of jealousy in conjunction with jealousy type. Harris (2003) hypothesized that there were other types of jealousy than romantic that had not been studied. If romantic was the most prominent type of jealousy scenario with the highest distress levels, then it would provide support for Buss (1992) and Desteno (2002). Because, there appeared to be no difference within the jealousy inducing scenario and the rejection component, one can deduce that if this scenario is eliminated altogether, one can focus on the deep rooted cause or rejection.

Some limitations of our study stem from the inherent faults of any imagined scenario. Participants were not actually a part of any of the situations and could therefore experience different levels of distress in a real life situation. The limited age range for participants may limit the generalizability of our findings to young adults. It would be interesting to collect data from varying age groups to determine whether the same patterns found in young adults would be similar in older age groups.

Some ideas for future research can include self-esteem in conjunction with jealousy or rejection. Do people with low self-esteem view rejection or jealousy inducing scenarios more strongly distressing than others with high self-esteem? Another idea may include distinguishing the blurred line between jealousy and envy. Does jealousy stem out of rejection based scenarios or envy out of non rejection scenarios? Cross cultural effects are always useful when attempting

to validate evolutionary theories. If jealousy is evolutionary and rejection is a component, then does the idea of jealousy exist in every culture?

In all cases, it would seem that rejection plays a vital role in understanding a very difficult topic within psychology, as well as help us understand what we all experience occasionally in our lives. If rejection is one of the main components of jealousy, then it would be useful to consider theories in evolutionary psychology such as Hamilton's idea of "Reciprocal Altruism" (Roberts, 2005) and Buss' current research on cross cultural examinations of jealousy (Buunk et al., 1996). In all cases, it is rejection that helps us to better understand why jealousy occurs and perhaps gives us a more or defined direction for future jealousy studies.

References

Buck, R. (1999). The biological affects: A typology. *Psychological Review, 106*, 301–336.

Buss, D. M. (1988). The evolution of human intrasexual competition: Tactics of mate attraction. *Journal of Personality and Social Psychology, 54(4)*, 616-628. doi:10.1037/0022-3514.54.4.616

Buss, D.M., Larson, R.J., Weston, D., Semmelroth, J., (1992). Sex differences in jealousy: evolution, physiology, and psychology. *Psychological Science*. *3*,

Buunk, B.P., Angleitner, A., Oubaid, V., Buss, D.M., (1996). Sex differences in jealousy in evolutionary and cultural perspective tests from the Netherlands, Germany and the United States. *Psychological Science*. *7*,

Daly, M., Wilson, M. I., & Weghorst, S. J. (1982). Male sexual jealousy. *Ethology & Sociobiology, 3(1)*, 11-27. doi:10.1016/0162-3095(82)90027-9

Daly, M., & Wilson, M. (1983). *Sex, evolution, and behavior* (2nd ed.). Belmont, CA: Wadsworth.

DeSteno, D. A., & Salovey, P. (1996). Evolutionary origins of sex differences in jealousy? Questioning the 'fitness' of the model. *Psychological Science, 7(6)*, 367-372. doi:10.1111/j.1467-9280.1996.tb00391.x

DeSteno, D., Bartlett, M. Y., Braverman, J., & Salovey, P. (2002). Sex differences in jealousy: Evolutionary mechanism or artifact of measurement? *Journal of Personality and Social Psychology, 83(5),* 1103-1116. doi:10.1037/0022-3514.83.5.1103

DeSteno, D. A. (2004, May). *New perspectives on jealousy: An integrative view of the most social of social emotions*. Paper presented at the meeting of the American Psychological Society, Chicago, IL.

Harmon-Jones, E., Peterson, C. K., & Harris, C. R. (2009). Jealousy: Novel methods and neural correlates. *Emotion, 9(1),* 113-117. doi:10.1037/a0014117

Harris, C. R., & Christenfeld, N. (1996). Gender, jealousy, and reason. *Psychological Science, 7,* 364–366.

Harris, C. R. (2000). Psychophysiological responses to imagined infidelity: The specific innate modular view of jealousy reconsidered. *Journal of Personality and Social Psychology, 78(6),* 1082-1091. doi:10.1037/0022-3514.78.6.1082

Harris, C. R. (2003). A review of sex differences in sexual jealousy, including self-report data, psychophysiological responses, interpersonal violence, and morbid jealousy. *Personality and Social Psychology Review, 7,* 102–128.

Masciuch, S., & Kienapple, K. (1993). The emergence of jealousy in children 4 months to 7 years of age. *Journal of Social & Personal Relationships, 10,* 421–435.

Roberts, G. (2005). Cooperation through interdependence. *Animal Behaviour, 70,* 901-908. doi:10.1016/j.anbehav.2005.02.006

Symons, D. (1979) *The Evolution of Human Sexuality*. New York: Oxford University Press.

Trivers, R.L. (1972). Parental investment and sexual selection. In B. Campbell (Ed.), *Sexual selection and the descent of man*, 1871-1971 (pp.136–179). Chicago, IL: Aldine.

Thomhill, R,, & Alcock, J. (1983). *The evolution of insect mating systems.* Cambridge, MA: Harvard University Press

Vecchio, R. P. (2000). Negative emotion in the workplace: Employee jealousy and envy. *International Journal of Stress Management, 7*, 161–179.

Volling, B. L., McElwain, N. L., & Miller, A. L. (2002). Emotion regulation in context: The jealousy complex between young siblings and its relations with child and family characteristics. *Child Development, 73*, 581–600.

Appendix

Upon receiving this packet, write your gender and age at the top of the page in the designated area. After reading each individual scenario carefully, rate (circle) how distressing the scenario would make you feel on a scale of 1 to 9. Distress is a term used for many emotions such as: anger, sad, upset, and mad. Each scenario is to be thoughtfully answered based on how you ***imagine*** you would feel.

If you have any questions, feel free to ask at anytime during the experiment.

Start:

1) Imagine you have had a crush on the same person for over a year. You attempt to talk to them, but you get so nervous you do not know what to say. One semester, you ended up having a class with this person and had the opportunity to have conversations with them and even had to complete an end of the semester project. During this project, you spent extended amounts of time together. Throughout the semester, you never worked up the courage to ask them out on a date. A week later, they begin dating another person in your class.

   1 2 3 4 5 6 7 8 9

(1=No Distress 5=Moderate Distress 9=Very High Distress)

2) Imagine you and your sibling are arguing about money. To mediate between you and your sibling, your parents attempted to see both sides but sided with your sibling in this instance.

   1 2 3 4 5 6 7 8 9

(1=No Distress 5=Moderate Distress 9=Very High Distress)

3) Imagine you are about to go to college, but as everyone knows it is a very costly endeavor. Upon becoming accepted, you find out that your parents cannot afford to send you to college and are going to have to take out loans. Within a few months of attending school, you find out that your parents had previously paid for all of your sibling's college including graduate school.

1 2 3 4 5 6 7 8 9

(1=No Distress 5=Moderate Distress 9=Very High Distress

4) Imagine you are about to go to college, but as everyone knows it is a very costly endeavor. Upon becoming accepted, you find out that your parents cannot afford to send you to college and are going to have to take out loans. Within a few months of attending school, you find out that your parents had previously paid for all of your sibling's college including graduate school. Your parents attempted to pay for your school, but because of financial circumstances could not afford it.

   1 2 3 4 5 6 7 8 9

(1=No Distress 5=Moderate Distress 9=Very High Distress)

5) Imagine you and a fellow student are in the same major, in which you have both taken the same classes and received similar grades. They apply for a prestigious graduate school and get accepted.

1 2 3 4 5 6 7 8 9

(1=No Distress 5=Moderate Distress 9=Very High Distress)

6) Imagine you have been dating your significant other for three years. You have been dating since high school, and potentially thought there could be a future in the relationship. One day, you get a phone call and you are informed that your significant other has told you they don't love you anymore.

1 2 3 4 5 6 7 8 9

(1=No Distress 5=Moderate Distress 9=Very High Distress)

7) You and your friend have been best friends for five years. In a class, they befriend another person and begin bringing them to everything that you and your friend had originally done together.

1 2 3 4 5 6 7 8 9

(1=No Distress 5=Moderate Distress 9=Very High Distress)

8) Imagine you and a fellow student are in the same major, in which you have both taken the same classes and received similar grades. You and this student apply to the same prestigious graduate school. They get accepted and you do not.

1 2 3 4 5 6 7 8 9

(1=No Distress 5=Moderate Distress 9=Very High Distress)

9) Imagine you and a coworker have been working together for a few years and you both have been working for the same company for the same amount of time. You and this coworker both apply for the same promotion and your coworker receive this very high promotion, including a raise and his/her own office.

1 2 3 4 5 6 7 8 9

(1=No Distress 5=Moderate Distress 9=Very High Distress)

10) Imagine you and your friend are very competitive. You have been friends since you were in elementary school and have been through most life events together. You both decide to try out for the same competitive sport team in your school. Your friend makes the cut, but you did not.

1 2 3 4 5 6 7 8 9

(1=No Distress 5=Moderate Distress 9=Very High Distress)

11) You and your friend have been best friends for five years. In a class, your friend befriends another person and begins bringing them to everything that you and your friend had originally done together. Then they stop inviting you to things and personally do most things together, without you.

1 2 3 4 5 6 7 8 9

(1=No Distress 5=Moderate Distress 9=Very High Distress)

12) Imagine you and a coworker have been working together for a few years and this coworker has been with this company for a total of six years. You have only been with this company a total of 4 years. Your coworker receives a very high promotion, including a raise and his/her own office.

1 2 3 4 5 6 7 8 9

(1=No Distress 5=Moderate Distress 9=Very High Distress)

13) Imagine you have had a crush on the same person for over a year. You attempt to talk to them, but you get so nervous you do not know what to say. One semester, you ended up having a class with this person and had the opportunity to have conversations with them and even had to complete an end of the semester project. During this project, you spent extended amounts of time together. Throughout the semester, you worked up the courage to ask them out on a date and they said no. A week later, they begin dating another person in your class.

1 2 3 4 5 6 7 8 9

(1=No Distress 5=Moderate Distress 9=Very High Distress)

14) Imagine you and your friend are very competitive. You have been friends since you were in elementary school and have been through most life events together. Your friend decides to try out for a competitive sport team in your school and your friend makes the cut.

1 2 3 4 5 6 7 8 9

(1=No Distress 5=Moderate Distress 9=Very High Distress)

15) Imagine you have been dating your significant other for three years. You have been dating since high school, and potentially thought there could be a future in the relationship. One day, you get a phone call and you are informed that your significant other has told you they don't love you anymore and is leaving you for another.

1 2 3 4 5 6 7 8 9

(1=No Distress 5=Moderate Distress 9=Very High Distress)

16) Imagine you and your sibling are arguing about money. To mediate between you and your sibling, your parents always get involved and no matter the issue they always side with your sibling.

1 2 3 4 5 6 7 8 9

(1=No Distress 5=Moderate Distress 9=Very High Distress)

When you are done, turn your paper over and look up to let one of the investigators know you are finished.

Table 1

Within-subjects effects

Source	F	Significance
Rejection	86.0369	.000*
Rejection*Gender	.318	.578
Scenario	15.434	.000*
Scenario*Gender	1.598	.198
Rejection*Scenario	23.576	.000*
Rejection*Scenario*Gender	2.605	.059

Note. *p<.001

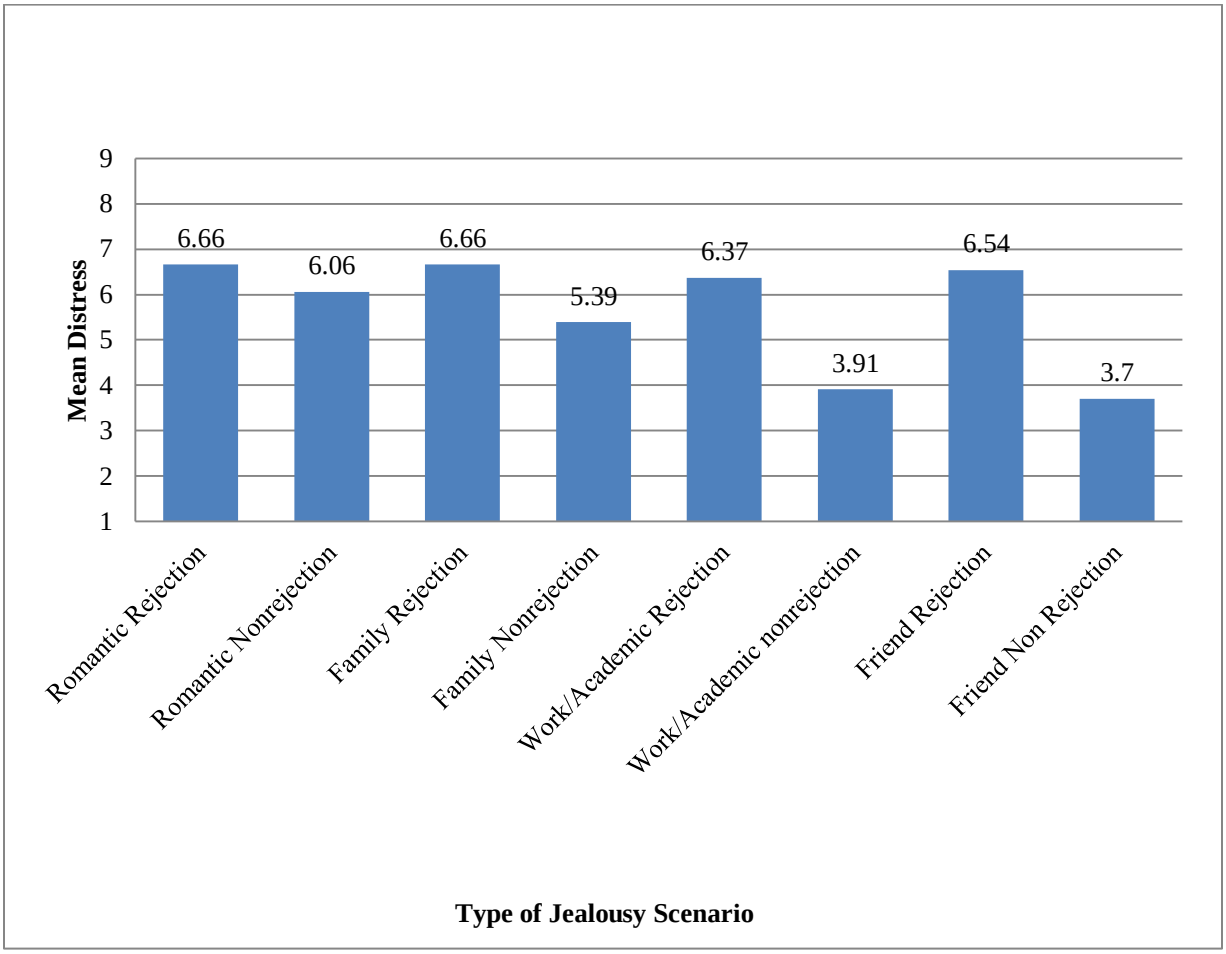

Figure 1: Mean distress within jealousy scenarios.