

Facultative and nonfacultative adaptation analysis of sex differences of attitude toward infidelity

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Abstract:

The study of sex differences in attitudes toward infidelity has been a popular topic to discuss from the evolutionary psychology perspective: Men appear to be more concerned with sexual infidelity while women are more concerned with sexual infidelity. In this essay, we propose that the reason behind this phenomenon is facultative adaptation. We resemble David Buss's research experiment in a community with similar ethnicity and cultural background. From the data we collected, whether or not environmental factors are the dominant reason why there are sex differences in attitudes toward infidelity.

Keywords: Infidelity, Sex differences, Facultative calibration, Income gap, Gender Equity

1. Introduction

Nowadays, there is a common social phenomenon of men and women treating their partners' infidelity differently. For example, conflict arises when a man sniffs out an affair between his wife and a young fellow. As a result, the man would be irritated into displaying actions such as committing violent actions, especially when there's sexual behavior involved in this affair, whereas the woman has lighter reactions.

On the other hand, if a woman finds out her partner is emotionally betraying her, she will perform to be more aggressive than a man (Anderson, 2010). This phenomenon inspires us to investigate the potential reasons behind it.

Evolutionary psychologists tend to explain this phenomenon with the parental investment theory and paternity uncertainty (Sagarin et al., 2012). To illustrate, men and women exhibit different patterns of behavior in jealousy to ensure their reproductive suc-

cess. From the paternity uncertainty perspective, men are more likely to be sexually jealous of their partners because they need to ensure that their offspring are their own (Buss, 1996). On the contrary, women are more likely to be jealous of emotional betrayal because they need to make sure their resources and protection are secured (Bjorklund & Kipp, 1996). It is because of the different concerns and requirements for men and women in an intimate long-term relationship that both sexes tend to show different psychological responses and physiological behaviors when they are jealous. Moreover, men are more likely to take direct actions, such as attacking and invading competitors. Women, on the other hand, are more likely to take indirect actions, such as attacking and invading competitors. Women, on the other hand, are more likely to take indirect actions, such as social exclusion and arguments. (Buss et al., 1992)

Being inspired by this pattern of sex difference in jealousy responses, our group aims to conduct an experiment aimed at elucidating the underlying reasons behind this phenomenon. A way for our interpretation is through the facultative adaptation perspective. Facultative adaptations cause animals living in social groups to change their behavior drastically when historical circumstances change (Roth, 2014). In the context of our experiment, this tendency can be concluded that sex differences in the attitude toward jealousy response could be affected by the change in environmental factors. Among all the potential factors, we will investigate one in particular – the income gap within married couples, which also implies gender inequality (Olsen & Walby, 2004). In a word, our research is to see whether the income gap, as an environmental factor, will affect the pattern of sex differences in jealousy response.

2. Method

2.1 Experiment design

In this study, the two independent variables involved will be the environmental factor, which refers to the varied income gap within a married couple and sex. The dependent variable will be both men's and women's jealousy response, measured by the participants' pulse rate and skin conductance during the experiment, to form an electrodermal activity (EDA) (Boucsein, 2012).

Controlling variables for this experiment include cultural background, social status, and ethnicity. The setting, temperature, and size of rooms being used for the experiment, and the duration of measuring their physical response. Each written instruction must be standardized.

Our experiment will use voluntary sampling in which participants are willing to contribute their efforts to the

experiment without enforcement. In total, we will recruit 200 participants (100 married heterosexual couples from the same community). 50 couples in a condition of large income gap between men and women, whereas the other 50 couples in a condition of no income gap.

We choose to manipulate our experiment via the form of a laboratory experiment, using an independent measure design in which each participant only experiences one condition during the procedure. A counterbalance approach will be used to avoid the order effect.

2.2 Material list

Galvanic skin response sensors will be used to measure participants' skin conductance and pulse oximeters will be used to measure participants' pulse rate. Written instructions will be printed out.

A button will be prepared for participants to inform the researchers once when they are ready, and a timer will be used to record the time.

2.3 Procedure

1. Ask 100 married couples to sign the consent forms.
2. Divide them into two groups: Group 1 (large income gap) involves 50 married couples; Group 2 (no income gap) involves 50 married couples as well.
3. Every participant will read the instructions and be asked to relax for 5 minutes.
4. Each participant will be assigned to a separate room and be asked to put on a galvanic skin response sensor and a pulse oximeter.
5. For group 1, each participant will be first asked to imagine a scenario in which his/her current wife/husband is having sexual intercourse with another female/male. As they have an image already in their mind, they will be asked to directly press the button until the experimenter says stop. The computer will start to collect physiological data for people in their 20s.
6. Then, each participant will be asked to imagine a scenario in which his/her current wife/husband is falling in love and forming an emotional attachment with another female/male. As they already have an image in their mind, they will be asked to press the button directly until the experimenter says stop. The computer will start to collect physiological data for people in their 20s.
7. For group 2, each participant will be first asked to imagine a scenario in which his/her current wife/husband is falling in love and forming an emotional attachment with another female/male. As they have an image already in their mind, they will be asked to directly press the button until the experimenter says stop. The computer will start to collect physiological data for people in their 20s.

8. Then, each participant will be asked to imagine a scenario in which his/her current wife/husband is having sexual intercourse with another female/male. As they have an image already in their mind, they will be asked to directly press the button until the experimenter says stop. The computer will start to collect physiological data for people in their 20s.

9. After the experiment finishes, all participants will be debriefed.

2.4 Prediction

Null hypothesis (H0): There is no significant relationship between the environmental factor and the sex difference in attitudes toward infidelity.

Alternative hypothesis (H1): There is a significant relationship between the environmental factor and the sex difference in attitudes towards infidelity. The pattern of sex differences toward marital infidelity (men are more concerned about sexual infidelity while women are more about emotional infidelity) will be changed due to different income gaps.

3. Discussion

3.1 Non-facultative calibration

If the experiment result appears to be congruent with David Buss's theory (Buss et al., 1992), the adaptation of sex differences to infidelity is not related to environmental factors. No matter whether there is an income gap between the partners, the sex differences in attitudes toward infidelity vary as men concerning sexual fidelity and women concerning emotional fidelity. The income gaps between the partners are a phenomenon of gender inequality. Gender inequality serves as an environmental factor of the adaptation. Therefore, non-facultative calibration occurs with no effect by environmental changes and is due to an innate mechanism.

3.2 Facultative calibration

If the experiment result reveals a negative correlation between gender equality and sex differences of attitudes toward infidelity, the adaptation of sex differences to infidelity is affected by the social environment. The low payment gaps here serve as an environmental factor. Since facultative calibrations are the immediate physiological responses to the environment, environmental factors are the reasons why there is a different attitude toward infidelity in this case.

If the experiment result shows a positive correlation between gender equality and sex differences of attitudes to-

ward infidelity, the adaptation of sex differences to infidelity is also affected by the social environment. As gender equality increases, the sex differences of attitude toward infidelity increase as well.

3.3 Limitations

Since our sample size is 50 pairs per group, there is no certainty that these 50 pairs are representative of the entire population or that the conclusions will still stand in different cultural contexts. The experiment result may lack the ability to generalize to other groups from different social levels.

In addition, the payment gap is hard to define within different communities. For instance, the large payment gap is hard to bridge between a slum and Beverly Hills.

Some of the jobs in the society earn high salaries whereas they are not respected by the bystanders. The result of our experiment is unable to be generalized to these populations either.

3.4 Recommendations for further studies

We can expand our sample size to more different cultural backgrounds. Therefore, we can better ensure that the conclusion we made is reliable. In cases of different societal levels, upper-class couples, where men have high incomes and women have low incomes, appear to have the same phenomenon or a different one as lower-class couples. Whether equal incomes for men and women appear to have the same phenomenon or a different one for upper-class couples and lower-class couples.

4. Conclusion

This experiment uses the control variable method to design the experiment. In this study, the individual independent variables are environmental factors. The two independent variables involved will be environmental factors referring to the income gaps between married couples and men and women. The dependent variable is jealous reactions in men and women. We divided 100 married couples into two groups. The first group had a large income gap, and the second group had no income gap. The computer began the experiment by collecting data from an electric skin response sensor and a pulse oximeter. If the experimental results are consistent with David Buss's theory (Buss et al., 1992). Gender differences in adaptation to infidelity were independent of environmental factors. Regardless of whether there was an income gap between couples, gender differences in attitudes toward infidelity focused on sexual fidelity for men and emotional fidelity for women. If the experimental results reveal a negative

correlation between gender equality and differences in attitudes toward infidelity, the adaptation of gender differences to infidelity is influenced by social context.

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