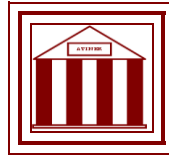


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**The Relation between Rumination and
Emotional Reactions to Infidelity in
Romantic Relationships**

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The Relation between Rumination and Emotional Reactions to Infidelity in Romantic Relationships

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Abstract

The purpose of the study is to examine the relationship between rumination and emotional reactions to infidelity. The sample of the study consisted of 72 participants who reported to being cheated on. Positive and Negative Affect Schedule (Watson, Clark, & Tellegen, 1988) was used to measure the reactions to infidelity and the Ruminative Response Scale (Treynor, Gonzalez, & Nolen-Hoeksema, 2003) was used to measure rumination. Canonical correlation analyses were utilized to determine the relationships between rumination with the canonical variables of Brooding and Reflection and emotional reactions to infidelity with the canonical variables of Positive Affect and Negative Affect of participants from Turkey. Results indicated that brooding and reflection, and negative and positive affect are interrelated. In other words, rumination is positively related with negative affect and negatively related with positive affect as reactions to infidelity.

Keywords: Reactions to Infidelity, Rumination, Positive Affect, Negative Affect.

Introduction

People pursue and maintain relationships in order to fulfill their belongingness need, however according to Blow and Harnett (2005), 25% of relationships end with some form of romantic infidelity. According to Johnson (2003), the extent of infidelity is higher than what is reported. Three types of infidelity were suggested, sexual-only, emotional-only, and combined sexual and emotional. Özgün (2010) defined these types as follows: sexual-only is any kind of sexual contact such as intimate touching, kissing, or sexual intercourse; emotional-only is any kind of emotional attachment to another person, such as dating, flirting, or falling in love; and combined sexual and emotional is a combination of both of them. In dating relationships, prevalence of engaging in at least one type of infidelity behavior such as romantic kissing, dating or sexual activity is 75% for men and 68% for women (Wiederman & Hurd, 1999). A more recent study by Allen and Baucom (2006) showed that 69% of the 504 university students experienced infidelity in last two years. Statistical information about infidelity is very limited in Turkey; only the results of the 2005 Durex Global Sex Survey (Durex, 2005) which was conducted in 41 countries provides statistical information. These results indicated that Turkey had the highest rate of infidelity with 58% of the survey participants reporting an extramarital sexual relationship.

Infidelity has an unclear role in society. Although it is considered as an immoral act (Treas & Gieson, 2000; Jankowiak, Nell, & Buckmaster, 2002), it is presented as an entertaining issue by media. Nevertheless, infidelity damages individuals and their relationships (Whisman, Dixon, & Johnson, 1997). After discovering infidelity, very few couples have improved their relationship (Charny & Parnass, 1995). Research suggesting that there are positive outcomes of infidelity is very limited (Blow & Hartnett, 2005); these include raising self-confidence, increase in the value of the family, increase in self-care and understanding the importance of marital communication (Olson, Russell, Higgins-Kessler, & Miller, 2002). In terms of the negative outcomes of infidelity, depression has been frequently reported (Özgün, 2010). Moreover, offended partners often use survival tactics and revenge which include anger and hostility combined with criticism, defensiveness (Blow, 2005) and changeable emotions (Olson, Russell, Higgins-Kessler, & Miller, 2002). Infidelity can be responsible for murder or suicide (Blow, 2005) and serious emotional difficulties such as grief, depression, anxiety, hyper vigilance, obsessive rumination, attachment trauma, and so forth (Gordon, Baucom, & Snyder, 2004). Therefore, examining emotional reactions to infidelity appears to be important.

Gender plays a significant role in infidelity (Atkins, Baucom, & Jacobson, 2001). Females engage more in emotional infidelity than males, and males engage more in sexual infidelity than females (Barta & Kiene, 2005). Relationship dissatisfaction is the main reason for women's infidelity and sexual dissatisfaction is the main reason for men's infidelity (Allen, Klinrhoades, Stanley, Markman, Williams, Melton, & Clements, 2008;

Whisman & Snyder, 2007; Atkins, Yi, Baucom, & Christensen, 2005). Both types of infidelity may result in jealousy. Moreover, women and men show different reactions to infidelity (Shackelford, LeBlanc, & Drass, 2000). Sexual infidelity of the partner makes men more upset than women whereas emotional infidelity of the partner makes women more upset than men (Groothof, Dijkstra, & Barelds, 2009). Beyond gender and type of infidelity, according to Wang, King, and Debernardi (2012), reactions to romantic infidelity differ; some people, who are constructive, try to solve the problems in their relationship, some people, who are passive, try to deny or avoid the situation, and some people behave revengefully, that is, they try to take a revenge or behave aggressively.

Several variables may impact how people react to infidelity and how they cope with it such as the discovery method of the infidelity (Afifi, Falato, & Weiner, 2001), and cognitive appraisal (Wang, King, & Debernardi, 2012). The present study focuses on ruminative tendencies and its two subtypes of brooding and reflection because rumination is known as a personal trait that puts individuals at risk of developing psychological problems when they are faced with a disruptive event. Therefore, examining rumination as a trait characteristic in the context of infidelity should help to understand the underlying reasons behind individual differences in reactions to infidelity. Rumination is a cycling thinking pattern which focuses on symptoms of distress in a passive and repetitive way and not in taking action to solve or correct the problems (Nolen-Hoeksema, 1998). Ruminative people are more likely to have negative moods which trigger negative memories and decrease motivation to solve problems (Ward, Lyubomirsky, Sousa, & Nolen-Hoeksema, 2003). Furthermore, rumination leads to having more maladaptive strategies to cope with distress (Lyubomirsky & Nolen-Hoeksema, 1995) and ruminators are pessimistic in realizing plans (Ward, Lyubomirsky, Sousa, & Nolen-Hoeksema, 2003). When humans experience a sad mood or a threatening event, they can ruminate on the meaning and the causes of those events and on the reasons to have negative moods. Also, they show negative thinking about themselves and their lives (Lyubomirsky & Nolen-Hoeksema, 1995). Rumination has an important role on intensification of negative affect and negative cognition and thereby, rumination has been found to be positively correlated with negative mood (Moberly & Watkins, 2008).

Treynor, Gonzalez, and Nolen-Hoeksema (2003) defined *reflection* as contemplation and pondering on personal shortcomings and life set-backs and *brooding* as anxious and gloomy thinking which involves efforts to analyze one's self, feelings, thoughts, and events. They found that reflection is less associated with depression; however, brooding is more associated with depression in longitudinal analysis. Moreover, brooding is a more consistent predictor of depressive symptoms and is positively related with negative mood; on the other hand, reflection is mostly associated with more adaptive outcomes, including reduction in depression symptoms and negative relation with negative mood over time (Treynor et al., 2003). If people with ruminative tendencies are more likely to have a pessimistic outlook and to blame

themselves when they are faced with life difficulties such as infidelity, they should appraise the infidelity as a threat and thereby their reactions to infidelity should be rather negative.

In sum, infidelity damages individuals and their relationships (Whisman, Dixon, & Johnson, 1997). The partner offended by infidelity may be both cognitively and emotionally overwhelmed (Meldrim, 2005). Moreover, he/she can experience some symptoms of Posttraumatic Stress Disorder (PTSD) and it can threaten the life of him/her (American Psychiatric Association, 2000). Although the impact of infidelity can be traumatic (Gordon & Baucom, 1999), the scientific knowledge on infidelity and how to handle it is still somewhat limited. Also, who is more likely to react negatively among those with an infidelity experience is yet to be clarified. Therefore, ruminative tendencies as a cognitive risk factor were chosen to be tested in this study due to their reported relationships with several psychological variables as well as poor problem solving behavior. In other words, the present study aims to examine the relationship between the variables of rumination (brooding and reflection) and emotional reactions to infidelity (positive affect and negative affect). The expected result of the study is to find a significant relationship between rumination (brooding and reflection) and affective reactions to infidelity (positive affect and negative affect). The findings of the study should have particular implications for psychological counselors as relationship issues are common presenting problems among help seeking adult populations (Erdur-Baker & Bıçak, 2006; Erdur-Baker, Aberson, Drapper, & Barrow, 2006).

Method

Research Design

Correlational research designs are appropriate for describing relationships between two or more quantitative variables that have not been manipulated experimentally (Fraenkel & Wallen, 2006). The present study is interested in describing such relationships; hence a descriptive/correlational research design has been employed

Participants & Procedure

Participants were recruited from Turkey by using convenience sampling. Participants were 210 (159 female, 51 male) and their age varied between 18 and 49 ($M = 28.77$, $SD = 6.10$). Only, seventy-two of them had experienced infidelity, and consequently, all subsequent analyses concern these participants. More specifically, the 72 participants who were cheated on were 64 female and 8 male and their age varied between 19 and 42 ($M = 28.61$, $SD = 4.30$).

The Research Center for Applied Ethics Committee of METU approved the research prior to online data collection. The purpose of the study was explained at the beginning of the questionnaires, which were administered to voluntary participants. Administration took approximately 5 minutes.

Instruments

A demographic information form and two instruments were utilized: the Positive and Negative Affect Schedule (PANAS), and the Ruminative Response Scale (RRS).

Demographic Information Form

This form was designed by the researchers and included the following: gender, age, education level, discovery of the infidelity as the length of time since he/she discovered, and if she/ he is currently with that partner.

Positive and Negative Affect Schedule (PANAS)

The Positive and Negative Affect Schedule (PANAS) was developed by Watson, Clark, and Tellegen (1988). The PANAS has 20 items using a 5-point Likert-scale (1 “very slightly or not at all” to 5 “extremely”) and is measuring positive and negative affect. PANAS has 10 items on Positive Affect (PA), and 10 items on Negative Affect (NA) scales. The internal consistency of the Positive Affect subscale and Negative Affect subscales were found as .88 and .85, respectively and test-retest reliability showed a correlation of .47 for both of the subscales. Gençöz (2000) translated and adapted the scale to Turkish. The internal consistency reliability of the Turkish version was found as .83 and .86 for PA, and NA, respectively. Test-retest reliability was .40 for PA, and .54 for the NA. In the current study, the Cronbach’s alphas for the positive affect subscale and negative affect subscale were found as .82 for both of them.

Ruminative Response Scale (RRS)

Ruminative Response Scale (RRS) was developed by Nolen-Hoeksema and Morrow (1991); it is a subscale of the Response Style Questionnaire. The RRS is a 22-item, 4-point rating scale (1 “almost never” to 4 “almost always”) which is measuring responses to depressed mood, symptoms or possible causes and consequences of their mood (Luminent, 2004). Treynor, Gonzalez, and Nolen-Hoeksema (2003) eliminated similar items in the Ruminative Responses Scale and suggested 10 items with 2 factors, brooding and reflection, with each containing 5 items. The coefficient alpha of the Reflection subscale and Brooding subscales were found as .72 and .77, respectively and test-retest reliability showed the correlation of .60 and .62, respectively. The Turkish adaptation of the short version of the Ruminative Response Scale was conducted by Erdur-Baker and Bugay (2012). They reported Cronbach’s alpha of the short version RRS as .85 and for the subscales as .77 and .75. In the present study, the two factor (brooding and reflection) short version of the RRS was used. The Cronbach’s alphas for the RRS were found as .87; for the brooding and reflection subscale were found as .76 and .80, respectively.

Data Analysis

Before conducting the main analysis, the missing values and assumptions of the Canonical Correlation Analysis were checked. In the first step of the analysis, the descriptive statistics were utilized to examine the characteristics

of the sample and the variables of the study. The correlation coefficients among the variables were also examined. Then, to examine the main research question, which inquires about the relationships between emotional reactions to infidelity (positive and negative affect) and rumination (brooding and reflection), Canonical Correlation Analysis was conducted.

Results

Descriptive statistics indicated that out of the 72 participants who were cheated in their romantic relationship, 46 (64%) were university students and 26 (36.1%) were university graduates. Twenty-four (33.4 %) of the participants were informed that they were cheated on, less than 3 months ago, 14 (19.4 %) of them, 5 years ago and the other 33 (45.8%) between 3 months to 5 years ago; 4 (5.6%) of the participants are still with their partners who cheated on them. The mean score for the “brooding” subscale was 12.60 ($SD = 3.63$) while the mean score of the “reflection” subscale was 12.36 ($SD = 3.53$). The mean scores for the “positive affect subscale” and “negative affect” were $M = 27.74$ ($SD = 8.30$) and $M = 32.11$ ($SD = 8.19$), respectively. Gender was not evaluated in any analysis because of the inadequate number of male participants.

The required assumptions of the canonical correlation analysis (missing data, outliers, multivariate normality, homoscedasticity, linearity, and multicollinearity) were examined and no gross violation was observed. Hence, canonical correlation analysis was conducted to examine the relationship between rumination and reactions to infidelity. In this analysis, rumination variables are referred to as the independent variable set (IV set), comprising brooding and reflection. Reactions to infidelity variables, on the other hand, are regarded as the dependent variable set (DV set), consisting of positive and negative affect. The results of the canonical correlation analysis are summarized in Table 1.

Table 1. *Correlations, Standardized Canonical Coefficients, Canonical Correlations, Percentages of Variance, and Redundancies between Rumination and Reactions to Infidelity Variables*

	First Canonical Variate	
	Correlations	Coefficients
Rumination		
Brooding	-.99	-.90
Reflection	-.79	-.13
Percentage of Variance	.80	
Redundancy	.23	
Reactions to Infidelity		
Positive Affect	.39	.12
Negative Affect	-.99	-.96
Percentage of Variance	.57	
Redundancy	.16	
Canonical Correlation	.54	

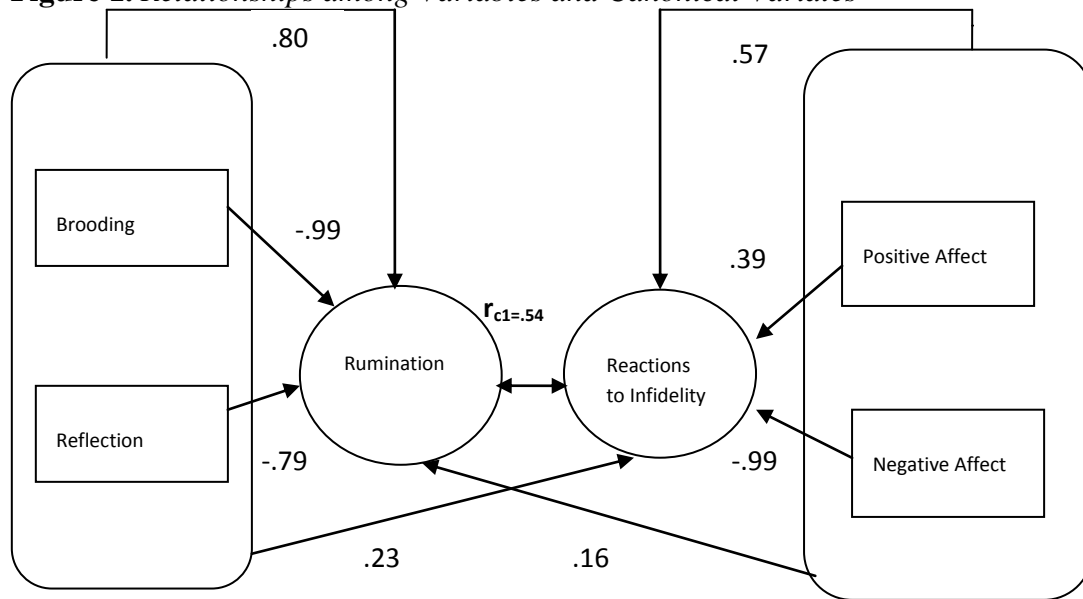
There are two results of canonical correlation for the sample. As Hair, Anderson, Tatham, and Black (2006) suggested the canonical coefficient which is greater than .30 is taken into consideration. The first canonical coefficient is greater than .30 and is .54 (29 % overlapping the variance); therefore, it is significant and has been used to explain the results ($p < .05$). The rumination variables are significantly correlated with the reactions to infidelity variables ($\chi^2(4) = 23.25, p = .00$) in the first canonical variate. Therefore, the first canonical variate accounts for the significant relationships between the two sets of variables.

With a cut of correlation of .30 (Tabachnick & Fidell, 2007) the rumination set indicates that it is correlated with the first set of variables which are brooding (-.99), and reflection (-.79). The variables in the reactions to infidelity set shows that Reactions to infidelity are correlated with the second set of variables which are positive affect (.39) and negative affect (-.99). The canonical loadings for the factors of rumination and reactions to infidelity are higher than .30 and prove that change in the brooding and reflection is significantly parallel to the change in positive and negative affect (*Figure 1*).

The “Percent of Variance” values are used to evaluate the strength of the relation between a variate of the equation and variables on the same side. The percentage of values shows that the first set of variables explains 80% of the rumination and the second set of variables explains 57% of the reactions to infidelity variables.

The “Redundancy” values are used to evaluate the strength of the relation between a variate of the equation and variables on the other side. The redundancy values, 23% of the total variance of rumination is clarified by all of the reactions to infidelity; and 16% of the total variance of reactions to infidelity variables has been explained with all of the rumination variables.

Figure 1. Relationships among Variables and Canonical Variates



Discussion & Conclusion

This study examined the relationships between the emotional reactions to infidelity (positive and negative affect) and ruminative tendencies (brooding and reflection) in a Turkish sample. The results of canonical correlation analysis indicated that the reactions to infidelity variable set and the rumination variable set are correlated with each other. Examining the relationships on the bases of the dimensions of the main variables, revealed that negative and positive affect are all associated with emotional reactions to infidelity and they are also related with the brooding and reflection which are in the set of rumination. Furthermore, brooding and reflection are all associated with rumination and they are also related with negative and positive affect as reaction to infidelity. Among two variables, brooding has the greatest contribution on the rumination variable set. Brooding and reflection strongly contribute to negative affect as a reaction to infidelity. Negative affect has a great contribution on the reactions to infidelity set. However, the positive affect is not highly correlated like the other variables and as it was expected it has a negative relationship with variables which are brooding, reflection and negative affect. In brief, when brooding and reflection decrease, negative affect decreases too, while on the other hand, positive affect increases.

When ruminative people are faced with difficulties such as infidelity, they see it as a threat and both negative mood and negative affect rise. It was expected to find a negative relationship between positive affect and rumination because the ruminative people are more likely to have negative moods (Ward, Lyubomirsky, Sousa, & Nolen-Hoeksema, 2003) and to focus on negative affect and on negative cognition (Moberly & Watkins, 2008). Moreover, brooding is positively related with negative mood (Treyner et al., 2003) and

this explains the high contribution of brooding to negative reactions. Reflection is relatively more adaptive with negative mood over time (Treyner et al., 2003). In the present study, this could be the reason why reflection does not contribute to negative reaction as highly as brooding. On the other hand; it should be said that 33.4 % of the participants were informed that they were cheated, less than 3 months ago; hence, one could expect that the reflection scores might change over time.

The results of this study can be beneficial to couples, families and professionals in the mental health area. It may be useful for professionals, in the field of psychological counseling, to more fully understand how rumination is related with a person's reactions to romantic infidelity. This understanding, in turn, may help in improving treatments pertinent to romantic infidelity, thus assisting couples before and after experiencing infidelity. Given that family, marriage and pre-marriage counseling is one of the most rapidly emerging areas of counseling, mental health professionals working in this area, are in great need of scientific knowledge deriving specifically from the empirical study of relationship phenomena, so that therapeutic skills can be developed accordingly.

The present study has several limitations. The convenient sampling method and the small number of male participants limit the generalizability of the results. In addition, self-report measures involve social desirability problems that might have affected the results.

To amend the above limitations future research should aim for greater generalizability, by employing a larger sample with a more or less equal number of men and women. Generalizability could also be improved by using a random sampling method for collecting data, along with an alternative to online administration procedure. To counter social desirability effects, commonly associated with such sensitive issues as cheating, and in order to extract richer information, alternative to the self-report methods should be employed, such as focus-groups of people who have been cheated on or in-depth interviews with them, followed by content analyses. Finally, cross-cultural comparisons could help us understand what are the broader, macro-societal factors (such as religion, social values, urban living, socioeconomic status and education), that might contribute to people's reactions to infidelity.

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