

Frequency, Intensity and Expression of Post-Relationship Grief

Craig Eric Morris and Chris Reiber

Department of Anthropology, Binghamton University

ABSTRACT

Following the break-up of a romantic relationship, individuals experience varying degrees and constellations of emotional and physical trauma. Colloquially referred to as “heartbreak,” we term this experience post-relationship grief (PRG). A strict adherence to sexual strategies theory suggests that males and females may experience PRG differently since males have evolved to favor promiscuity and females, to favor mate stability. This suggests that PRG may be more pronounced in females than males. Another plausible argument could be made that since males must compete for mates in this model, a breakup signals a costly resumption of mate competition tactics for males. To evaluate these predictions, we analyzed quantitative and qualitative data collected through a self-report questionnaire that was administered to 1735 university students. Three times as many females as males responded, and nearly four times as many females offered free-response comments when prompted. Of the 98% of respondents who reported experiencing a breakup, 96% reported emotional trauma (such as anger, depression and anxiety) and 93% physical trauma (such as nausea, sleep loss and weight loss). The intensity of PRG was virtually indistinguishable between males and females. However, the expression of PRG varied between genders across a series of recurring themes; females focused on broad self-esteem and trust issues, while males reflected more narrowly on the actual intensity and duration of PRG. PRG levels were lower in individuals initiating the breakups than in those who did not.

KEYWORDS

Evolutionary psychology, sexual strategies, breakups, heartbreak, post-relationship grief

AUTHOR NOTE: Please direct correspondence to Craig Eric Morris, Department of Anthropology, Binghamton University, P.O. Box 6000, Binghamton, NY 13902-6000. Email: cmorris2@binghamton.edu

EvoS Journal: The Journal of the Evolutionary Studies Consortium

ISSN: 1944-1932 - <http://evostudies.org/evos-journal>

2011, Volume 3(1), pp. 1-11.

INTRODUCTION

Much contemporary anthropological, biological and psychological research suggests that the stereotypical Western literary concept of “romance” is not necessarily a human universal, yet some form of romantic love itself is found in virtually all cultures (Bartels & Zeki, 2004; Buss & Schmitt, 1993; Jankowiak & Fisher, 1992; Lampert, 1997). In one noted example, Buss’ survey of over 10,000 subjects in 37 cultures found that both men and women rated love as the single most important criterion in their eventual selection of a mating partner (1989). It seems reasonable to assume that if romantic love is a human universal, then romantic relationships, both successes and failures, would be an equally universal part of the human experience. Fisher’s work has further suggested that relationship failures (breakups) create physical and emotional response patterns that are just as universal as romantic love itself (2004).

The complex web of emotional anguish and physical distress associated with the termination of a romantic relationship is referred to by the authors hereafter as post-relationship grief—PRG.¹ Fisher’s studies have shown that PRG sufferers may have trouble remembering things, difficulty focusing, and can have a feeling of lost purpose or missing direction in their lives (2004). Furthermore, PRG is often accompanied by fear, anger, panic, worry, sadness, and emotional numbness. Anxiety attacks are common, as are loss of appetite, reduced immune system function, and an inability to perform work or academic duties (Dürschlag, Hirzel & Sachser, 1998). Najib and Lorberbaum (2004) found that women whose breakups were particularly distressing showed greater decreases in brain activity in the neural regions linked to feeling, motivation, and concentration when thinking about their former mate than when they thought of another acquaintance they had known for a comparable period. Bartels and Zeki (2004) reported that the areas of the brain associated with romantic love are also associated with the euphoria produced by recreational drugs, like cocaine. Thus, they argue that romantic love operates along the same neural pathways as addiction.

While extensive research has been done on grief related to the death of a loved one, less work has focused on the depression and sense of loss triggered specifically by the termination of a romantic relationship. This is intriguing considering the work of Archer (1999), which suggests that the most common triggers of grief are both death of a loved one and termination of a romantic relationship. A study of anxiety in twins (Krendle, 1998) compared the severity of the breakup response to other episodes of depression experienced by the participants in the previous year and found that the risk of depression and anxiety was significantly higher during months involving a romantic breakup. Several of Nesse’s writings (2000, 2004, 2005; also Nesse & Williams, 1996) on the possible adaptive benefits of grief and depression suggest that PRG may be a cross-cultural defensive response to a situation where personal loss is inevitable. For example, Nesse has argued that in situations where extended effort in pursuing a goal could result in

¹ Existing research has deemed this experience as “heartbreak,” a “broken heart,” and other colloquial terms that we feel do not fully capture the broad physical and emotional suffering involved. Furthermore, the linkage of “love” to the human heart is not a culturally universal linguistic convention.

personal loss or wasted effort, a depressed or unmotivated response would be predicted evolutionarily as it would provide a fitness advantage by deterring: 1. futile challenges to dominants, 2. actions lacking planning or resource allocation, and 3. disrupting a currently unsatisfactory major life enterprise when the alternative is likely to be even worse (Nesse, 2000). In addition, Nesse has argued that incidents of social loss (breakup, death of a loved one) would be expected to produce a particularly traumatic emotional response (Keller & Nesse, 2005). Relatedly, in her work linking grief and depression, Fisher (2002) found that administering serotonin could help hasten recovery from a breakup.

Questions regarding human universals that are related to reproductive fitness are often initially scrutinized via Buss' sexual strategies model, and PRG is no exception. Buss (2003) has suggested that in the environment of evolutionary adaptedness (EEA), those individuals who possessed any suite of behaviors that would allow them to overcome PRG quickly and return to the mating "game" effectively would be evolutionarily favored, while those individuals whose behaviors exacerbated PRG to the detriment of future pairings would, obviously, be selected against. Already, a range of inquiry presents itself: Is PRG itself adaptive in a Bussian fashion or is it adaptive as part of Nesse's broader suite of grief response? Is it both? Perhaps, neither?

Importantly, sexual strategies theory also suggests that men and women have disparate agendas concerning romantic relationships (Buss, 1989, 2003; Buss & Schmitt, 1993). For example, it is claimed that men, in virtually all instances, are hard-wired for increased promiscuity relative to females. This behavior reflects the clear reproductive fitness benefits of multiple sexual partners. One oft-cited study (Clark & Hatfield, 1989) found that while 75% of males would agree to have sex with a virtual stranger when offered, not a single female participant would do so. Buss (2000) has concluded that most women demand a degree of emotional involvement concomitant with sex, while men have far less difficulty participating in "no strings" sex. As long-term male investment in any offspring is optional, it has been logical to conclude that maximum reproductive attempts would facilitate maximum reproductive success in males.

Copious research demonstrates that females are much choosier in mate selection (for an overview, see Buss, 2003). Women invest substantial biological resources in their offspring and for a longer time than do men, and thus favor mates who exhibit traits complementary to that behavior. The female agenda is to secure a mate with the best possible combination of compatible genes and abundant resources (Harris, 2004). As predicted by this agenda, women valued a mate's economic resource level twice as highly as did men (Buss & Dedden, 1990).

The propensity for men to select young, physically attractive mates, and women to choose older, financially secure mates also appears in cross-cultural studies to varying but notable degrees (Buss, 1989; Sprecher, Sullivan & Hatfield, 1994). For men, this behavior is designed, theoretically, to exploit the optimal reproductive years in a mate. Therefore, an effective lifetime mating strategy for men—as suggested by sexual strategies theory—is to invest only as much in a mate and her offspring as is necessary to keep them healthy, while keeping as many additional resources available for securing reproductive access with other, younger, mates.

If one has confidence in this (simplified) but generally accepted paradigm and the gender differences it ascribes, then we should expect that the physical and emotional traumas evoked by the termination of a romantic relationship would be disparate as well. In particular, we would expect women to experience demonstrably higher levels of PRG as the termination of a productive relationship for a female would leave her and her (potential) offspring without the expected resources and protection of the male. In a standard Bussian model, men should express lower overall levels of PRG because a breakup is, in many ways, merely a transition period to the next, inevitable, mate. However, sexual strategies theory also allows for the opposite expectation; as males are assumed to compete for mating opportunities while females are afforded the luxury of choosiness from the near-constant availability of mating options, one could argue that for a majority of males, the termination of a relationship would foreshadow the need for a renewed, and costly, competition for a mate.

The purpose of this pilot study is to establish possible gender differences in PRG and then evaluate the two different potential explanations for their existence. Quantitative data were collected to measure and evaluate the potential difference in frequency and intensity of PRG between genders. Qualitative data were collected to allow examination of narrative text that might elucidate themes and patterns of PRG expression that are not easily reducible to numeric scales, but which might differ by gender in important ways.

METHODS

Participants

An email invitation to participate in a confidential “heartbreak” survey was sent to the entire student population of a Northeastern state university (~14500) and 4265 students visited the secure survey website donated by StudentVoice.com[®] over a ten-day period. To be included in the analysis, respondents had to report their age as 18 years or older and report having experienced a breakup of a past romantic relationship; thus, $N=1735$. The 1735 respondents (1295 women and 440 men) ranged in age from 18 to 52 years ($M = 20$ years, $SD = 4.86$). The methods used in this study were approved by the university’s Institutional Review Board and all research conformed to the guidelines for the ethical treatment of human subjects. No tangible material or monetary compensation was offered to participants, though gratitude was expressed for participation.

Procedure

The survey was brief and initially screened respondents for age and incidence of breakup of a romantic relationship in the past. If respondents had experienced more than one breakup, they were asked to focus on the most recent. Respondents were asked if they had experienced emotional and/or physical trauma related to the breakup and if so, to rate the trauma on a ten point scale, from one (“minimal”) to ten (“unbearable”). Respondents were also asked which, if either, party initiated the breakup. Lastly, respondents were asked if they would like to

submit any additional, confidential comments about their breakup experience. Because this is a pilot study geared at distinguishing, on a large scale, between the response patterns predicted by alternative hypotheses, we did not specifically investigate length of relationship, whether a marriage or offspring was involved, sexual identities, or same-sex relationships. Ongoing research will address these additional important issues that are beyond the scope of this initial inquiry.

Analyses

Data were grouped by gender and basic descriptive statistics were computed using Excel 2010[®]. Emotional Trauma Level (ETL) is the mean emotional response and Physical Trauma Level (PTL) is the mean physical response. Data were imported into Atlas.ti 6.0 for qualitative analyses. A set of codes was generated by the experimenters to include categorical states-of-mind and commonly occurring issues and themes. For example, “anger” was frequently conveyed, sometimes directly and sometimes indirectly but clearly through the use of synonyms or descriptive phrases pointing to that emotional state. Other codes included: ongoing trauma, depression, appetite issues, personal improvement, insomnia, identification of breakup as worst life experience to date, weight loss, vulgarity, length of recovery exceeding one year, nausea, reliance on social network, substance abuse and loss of self-esteem. Every free-response statement was evaluated with respect to each of the codes. The codes were related specifically to key words and phrases that appeared most frequently; such as “worst,” “couldn’t sleep,” “depressed,” and any use of profanity. The keywords were tagged *sui generis* by the software and not shoe-horned into categories by the researchers. Summaries were then generated to reflect how many times each code appeared by gender and by relationship-ending status (breaker, breakee, mutual). Qualitative analyses were objectively interpreted via the Atlas.ti 6.0 knowledge workbench that creates visual, grammatical and mathematical correlations between variables independent of any theoretical model/hypothesis under investigation.

RESULTS

When asked to ascribe responsibility for the breakup, 436 (25%) felt the breakup was mutual (“Mutuals”), 556 (32%) felt that they themselves had initiated the breakup (“Breakers”), and 721 (42%) felt they were “broken up with” by the other party (“Breakees”). Twenty-two participants had no response. Participants were asked to rate the severity of emotional trauma caused by the breakup on a scale from one to ten. Table 1 presents these results. Overall, respondents reported an average Emotional Trauma Level (ETL) of 7.22 ($SD = 1.68$, $N = 1670$). There was no statistically significant difference in ETL between men and women overall, $t(1668) = .0076$, $p = 0.994$. Breakees reported the highest average ETL, Mutuals were slightly lower, and Breakers were the lowest.

When asked if they had experienced any physical trauma (such as anxiety, appetite loss or insomnia) as part of the breakup experience, 1276 participants reported that they had, while 378 had not, and 81 had no response. Participants were asked to rate the severity of physical trauma caused by the breakup on a scale

from one to ten. Respondents reported an average Physical Trauma Level (PTL) of 6.08 ($SD = 1.94$, $N = 1276$). There was also no statistically significant difference in PTL between men and women, $t(1338) = .0078$, $p = 0.433$. Again, Breakees reported the highest average trauma level, Mutuals were slightly lower, and breakers were the lowest. Within genders, ANOVA tests revealed no statistically significant differences in emotional or physical trauma levels based upon perceived responsibility for terminating the relationship. In addition, no visible age-related trends were evident in this sample except for a slight but consistent tendency of overall PRG level to increase with age.

Table 1. Mean Emotional and Physical Trauma Levels

Category	Emotional Trauma Level			Physical Trauma Level		
	Mean	Std Dev	N	Mean	Std Dev	N
Men	6.98	2.18	416	6.11	1.99	352
Breakees	7.49	1.84	177	6.36	1.90	135
Mutuals	6.95	2.14	116	6.35	1.95	102
Breakers	6.28	2.32	123	5.42	1.89	115
Women	7.30	1.90	1254	6.08	1.92	988
Breakees	7.59	1.57	528	6.28	1.89	442
Mutuals	7.17	1.18	305	6.04	1.82	240
Breakers	6.90	2.09	421	5.81	2.01	306

Qualitative Results

Nearly 45% of survey participants—610 (125 men and 485 women) — submitted comments in an open text field when asked if they wished to share any additional thoughts or feelings regarding their breakup experience. While most of the text responses were brief statements (30-40 words), many were at least a paragraph or two long. Some can be considered short essays, approaching 500 words in length. Thirty-seven percent of women and 28% of men submitted comments. One hundred twenty seven comments were submitted by Mutuals, 191 by Breakers, and 210 by Breakees; 82 comments were submitted by participants who had no opinion on responsibility. After excluding valueless vocabulary words such as “and,” “the,” “he,” “she,” and “me”, the most frequent meaningful terms appearing in the additional comments were *relationship(s)* [143 occurrences], *hard* [110], *still* [109], *over* [86], and *after* [86]. While cause of the breakup was not directly queried, many of the qualitative responses expounded on the cause(s) of the dissolution. The most commonly reported were: 1. infidelity, 2. distance, 3. lack of communication and 4. the actions/opinions of others.

While frequency and intensity levels between genders of PRG were very similar, notable variation was found in the expression of PRG as evidenced by the trends in the additional comments (see Table 2). Anger was a topic of discussion for an equivalent proportion of men and women, and was most often related to infidelity—which itself was also referenced by an equivalent proportion of men and

women. Name-calling or general use of profanity was twice as common in men. Sleep loss, nausea and actual appetite loss were twice as likely to be reported by women. Unwanted weight loss, ranging from 10 to 40 pounds, was also about twice as common in women as in men. None of the respondents presented their weight loss in a positive manner, and several went on to discuss major eating disorders spurred by PRG. Several reported that they are still dealing with the eating disorders at present. Only one respondent reported any weight gain.

Women addressed a severe, and often lasting, loss of self-esteem about twice as often as men, and in many cases noted that it hindered their ability to form future romantic relationships. Many women respondents questioned their body shape, weight, and even choice of clothing following the breakup. Also common was self-doubt related to judgment and personality flaws that women perceived themselves to have following the breakup. Often, respondents posed reflexive questions addressing attributes and judgments. Of note, the respondents who explicitly mentioned trust or trust-specific issues were all women. Women were also twice as likely to mention the standard symptoms of depression as were men. At the same time, most comments identifying a “silver lining” of increased personal awareness and perceived shrewdness in future relationships were submitted by women.

Men were three times as likely as women to report abusing alcohol (most commonly) or recreational drugs in an attempt to ameliorate PRG effects. Men were as likely as women to describe the experience as the “worst” or “most trying” of their lives and, notably, nearly twice as many men reported that their PRG was still present at the time of the survey. Men were also more likely than women to express that their recovery from PRG took a full year or longer.

Table 2. Themes from Additional Comments Regarding Breakup Experience

Code	Theme	Total Mentions	Mentions by Women	Mentions by Men	F/M Ratio*
Ongoing	Breakup is still a physical/emotional hardship	50	35	15	7:12
Depression	Depression, devastation, misery	43	38	5	2:1
Appetite	Appetite loss and eating disorders	40	36	4	8:3
Better person	PRG led to increase in savvy/ emotional strength	31	26	5	3:2
Insomnia	Mild to complete sleep loss	31	27	4	2:1
Weight loss	Unwanted weight loss	28	25	3	5:2
Worst	"Worst," "hardest," "most painful," experience of respondent's life	23	18	5	1:1
Self	Lasting loss of self-confidence and/or self-esteem	20	19	1	5:1
Anger	Anger and/or physical violence	19	15	4	1:1
Language	Response includes profanity and/or name calling	18	11	7	1:3
Year	PRG took 12 months or more to recover from	17	13	4	2:3
Nausea	"Sick feeling" unrelated to appetite	14	12	2	2:1
Network	Family/ friends/ church aided in recovery	11	10	1	3:1
Substance	Abuse of drugs and/or alcohol to mediate PRG	9	5	4	1:3

*Corrected for variance in response rate; 485F/125M=3.88. EX: "Ongoing" = 35: (15 x 3.88) = 7:12

DISCUSSION

These results suggest that breakups are common, and that in virtually every instance, PRG accompanies the breakup. Ninety-eight percent of respondents reported experiencing at least one breakup; over 96% of these reported experiencing some degree of emotional trauma (ETL) while 93% experienced physical trauma (PTL) because of their breakup.

Intensity was generally high. Considering that a trauma level of 10 was identified as “unbearable”, the overall ETL 7.22 and PTL 6.08 are noteworthy. It is also of interest that in all but a handful of instances, emotional trauma was experienced at a greater intensity than physical trauma. Intensity of PRG appears to be roughly equivalent between men and women, with women having slightly higher emotional trauma and men slightly higher physical trauma. Trauma levels and frequency of PRG are virtually identical between genders. Indeed, the only notable difference in PRG frequency and intensity along any variable appears to be that those who initiate a breakup appear to be slightly less traumatized than those who feel they were broken up with. Perhaps as expected, the trauma levels of those who feel the breakup was a mutual decision fell between these values. Because responses were not weighted by perceived responsibility in any way, it seems fair to conclude that either “breakees” are more likely to wish to discuss their breakup experience or that individuals more often view themselves as the victim of a breakup rather than an instigator. These numbers may be inflated, however, as one could argue that since the email invitation referenced a “heartbreak survey,” those predisposed towards an opinion on the subject were more likely to respond. Conversely, those most likely to have a particularly strong response to a past PRG experience may have eschewed the survey altogether after noting the subject material.

As nearly three quarters of respondents were between the ages of 18 and 21, further research will be needed among older survey populations to determine if PRG intensity and expression varies by age. Specifically, additional research could help to establish if the breakup itself causes higher trauma at an older age, memory of a past breakup is more or less intense, or perception of a recent breakup varies directly by age. Since cause of the breakup was not a specific survey criterion, further study will also be needed to examine why both men and women equally report a partner’s infidelity as contributing to a breakup, if males are assumed to cheat at a substantially higher rate (Buss, 2000).

The results of this study suggest that the coarse interpretation of sexual strategies theory is not an adequate predictor of PRG along gender lines. Where frequency and intensity would be assumed to be lower in males, it is equivalent or higher.² When expression of PRG is described, it is often described as more harrowing and lasting for a longer period of time in males. Perhaps the freedom with which men expressed that breakups may indeed be more severe for them, or at least longer lasting overall, is the most intriguing result of this preliminary

² It is interesting to note that while intensity of PRG varied by the respondents’ role in the breakup, expression tended to only vary by gender.

investigation. This may indicate that the finer grained use of sexual strategies theory will be a more accurate predictor in future research—relationship termination is more traumatic for males as most must compete for mates.

The claims made by this pilot study are modest due to its narrow focus. We recognize the importance of several factors that were not included in this particular piece of research including, but not limited to: length of relationship, whether a marriage or offspring were involved, sexual identities and same-sex relationships. In addition, the meaning of a “long-term” romantic relationship was left to the discretion of the respondent and was intended mainly to screen out “hook up” behavior (see Garcia & Reiber, 2008; Reiber & Garcia, 2010). True “short-term” relationships as suggested by the pluralistic approach (Schmitt, 2003) will also be a critical qualifier and research is ongoing to investigate each of these additional factors. Moreover, sex differences in self-esteem loss are potentially related to a general sex difference in global self-esteem for the age range of the test population (Kling, Hyde, Showers, & Buswell, 1999).

Expanded examination of the topic between the genders, across wider age groups and with added focus on cause/responsibility should lead to a more complete evolutionary explanation of why breaking-up is so, quantifiably, hard to do.

REFERENCES

- Archer, J. (1999). *The nature of grief*. NY: Routledge
- Bartels, A., & Zeki, S. (2004). The neural correlates of maternal and romantic love. *NeuroImage*, 21, 1155–1166.
- Buss, D. M. (1989). Sex differences in human mate preferences: Evolutionary hypotheses tested in 37 cultures. *Behavioral and Brain Sciences*, 12, 1-49.
- Buss, D. M. (2000). *The dangerous passion: Why jealousy is as necessary as love and sex*. New York, NY: The Free Press.
- Buss, D. M. (2003). *The Evolution of desire (revised edition)*. New York: Basic Books.
- Buss, D. M., & Dedden, L. (1990). Derogation of competitors. *Journal of Social and Personal Relationships*, 7, 395-422.
- Buss, D. M., & Schmitt, D. (1993). Sexual strategies theory: An evolutionary perspective on human mating. *Psychology Review*, 100, 204-232.
- Clark, R. & Hatfield, E. (1989). Gender differences in receptivity to sexual offers. *Journal of Psychology and Human Sexuality* 2, 39-55.
- Dürschlag, M., Hirzel, D., & Sachser, N. (1998). Social relationships and the management of stress. *Psychoneuroendocrinology*, 8, 891-904.
- Fisher, H. (2002). Defining the brain systems of lust, romantic attraction, and attachment. *Archives of Sexual Behavior* 31, 413-420.
- Fisher, H. (2004). *Why we love: The nature and chemistry of romantic love*. NY: Henry Holt.
- Garcia, J. R. & Reiber, C. (2008). Hook-up behavior: A biopsychosocial perspective. *Journal of Social, Evolutionary & Cultural Psychology*, 2, 192-208

- Harris, C. R. (2004). The evolution of jealousy: Did men and women, facing different selective pressures, evolve different “brands” of jealousy? *Sigma Xi, The Scientific Research Society*. Electronic document, retrieved on November 2, 2006: <http://www.americanscientist.org/IssueTOC/issue/521>.
- Jankowiak, W. & Fisher, H. (1992). A cross-cultural perspective on romantic love. *Ethnology*, 31, 73-85.
- Keller, M. and Nesse, R. M. (2005). Is low mood an adaptation? Evidence for subtypes with symptoms that match precipitants. *Journal of Affective Disorders* 86, 27-35.
- Kling, K. C., Hyde, J. S., Showers, C. J., & Buswell, B. N. (1999). Gender differences in self-esteem: A meta-analysis. *Psychological Bulletin*, 125(4), 470-500.
- Krendle, C. (1998). Neuroendocrine perspectives on social attachment. *Psychoneuroendocrinology* 23, 779-818.
- Lampert, A. (1997). *The evolution of love*. Westport, CT: Praeger Publishers
- Najib, A. & Lorberbaum, J. (2004). Regional brain activity in women grieving a romantic relationship breakup. *American Journal of Psychiatry*, 161, 2245-56.
- Nesse, R. M. (2000). Is depression an adaptation? *Archives of General Psychiatry*, 57(1), 14-20.
- Nesse, R. M. (2004). Natural selection and the elusiveness of happiness. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 359(1449), 1333-1347.
- Nesse, R. M. (2005). Evolutionary Psychology and Mental Health. In D. M. Buss (Ed.) *Handbook of Evolutionary Psychology* (pp. 903-927). Hoboken: Jon Wiley and Sons.
- Nesse, R. M. & Williams, G. C. (1996). *Why we get sick: The new science of Darwinian medicine* (1st ed.). New York: Vintage Books.
- Reiber, C. and Garcia, J. R. (2010) Hooking Up: Gender Differences, Evolution, and Pluralistic Ignorance. *Evolutionary Psychology*, 8(3), 390-404.
- Schmitt, D. P. & 118 Members of the International Sexuality Description Project (2003). Universal sex differences in the desire for sexual variety: Tests from 52 Nations, 6 Continents, and 13 Islands. *Journal of Personality and Social Psychology*, 85(1), 85-104.
- Sprecher, S., Sullivan, Q., & Hatfield, E. (1994). Mate selection preferences: Gender differences examined in a national sample. *Personality Processes and Individual Differences*, 66, 1074-1080.

**Received June 27, 2010; Revision received December 20, 2010;
Accepted December 22, 2010**