

Sex differences in responses to relationship threats in England and Romania

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ABSTRACT

Prior research on sex differences in relationship jealousy and on reactions to third-party rivals has been conducted primarily within the U.S., Central Europe, and Asia. As these effects vary in magnitude across cultures, it is important to investigate both how these patterns differ across a wider range of cultures and the key mediating cultural variables. One hundred and fourteen English and 202 Romanian participants provided their reactions to hypothetical relationship infidelity situations and to various traits that a mate rival could possess. In both samples, males were more upset than females by sexual infidelity, as compared with emotional infidelity, but this effect was much smaller for the Romanian sample. In line with evolutionary predictions, men were more upset by a rival who had better financial prospects, greater status and prestige, and was physically stronger, whereas women were more upset by a rival with a more attractive body and face. Additional, unpredicted, sex differences in the evaluation of rival traits were also found. Finally, different correlations were found (both across cultures and across sexes) between reported reactions to infidelities and to specific mate rival traits.

KEY WORDS: cross-cultural differences • human sex differences • infidelity • interpersonal relationships • jealousy

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Understanding the nature and dynamics of intimate relationships is not only personally relevant to most people's lives, but it can help to deal with social issues (such as spousal abuse, sexuality concerns, pregnancy, and child-rearing issues) that sometimes arise out of such relationships. Being able to understand, predict, and control such relationship problems is therefore a significant welfare concern. Recently, however, various cultural and sex differences in relationship attitudes and behaviors have gained further importance as crucibles in which researchers have tried to clarify the relative contributions of evolved predispositions and cultural learning to human nature. In particular, research on jealousy in response to relationship infidelities has been one such area.

Reported levels of jealousy and the types of relationship infidelities producing jealousy vary significantly both across cultures and between the sexes (e.g., Buss et al., 1999; Buunk, Angleitner, Oubaid, & Buss, 1996). One extreme view of such relationship jealousy is the 'innate, modular' position – that males everywhere are inherently wired to be jealous about a partner's sexual infidelity, whereas women everywhere are inherently wired to be jealous about a partner's emotional infidelity (e.g., falling in love with a third party). The contrasting extreme is a 'cultural, learning' perspective – that men and women learn from their ambient cultures about what different types of infidelities signify and how one should react to them (DeSteno & Salovey, 1996a, 1996b; Harris & Christenfeld, 1996a, 1996b). Such extremes are reminiscent of past 'nature versus nurture' debates, and the confrontation of these two views is similarly unlikely to be as productive or accurate as an interactionist position that relationship jealousy is neither inadvertently hard-wired, nor unrestrictedly malleable within males and females (Cummins & Cummins, 1999).

Because relationships come in such a variety of forms, most research tends to look at general patterns and how they vary across circumstances – patterns of male and female behaviors or reactions, patterns across cultures, and patterns across specific contexts. The present research was designed to look at similarities and differences between men's and women's reactions to relationship threats (i.e., mating rivals and partner infidelities), utilizing samples from two cultures – England and Romania – that have not previously been studied using these measures.

Sex differences in reactions to relationship threats

Symons (1979) and Daly and Wilson (1988; Daly, Wilson, & Weghorst, 1982) originally predicted that there should be, in general, a sex difference in which types of infidelities elicit greater jealousy (i.e., levels of upset and distress) for males and females. Specifically, their claim was that men tend to be more upset than women by the idea of a mate's sexual infidelity (e.g., intercourse with someone else), as compared with a mate's emotional infidelity (e.g., falling in love with someone else). The rationale for this sex difference is based on diverging interests and resources on the parts of men and women. Men (being male mammals) face a problem of paternity uncertainty – they can never be as confident as the mother that a particular child

carries their genes – and every generation of males runs the risk of investing time, energy, and other resources into raising a stranger's child. This problem created an evolutionary selection pressure for males to become differentially concerned with the sexual fidelity of their mates, and therefore more severely affected with jealousy by the prospect of sexual infidelity. Women (as female mammals) have no corresponding uncertainty of their maternity. In a high offspring investment species such as humans, however, females faced a different evolutionary selection pressure leading to the development of a differential concern with the ability and willingness of a mate to deliver paternal investments. This concern is differentially stronger in females because males are nearly always able (in theory) to increase their genetic contributions to the next generation by acquiring additional female mates. These second mates and any resulting offspring, from the point of view of the first female, represent a probable diversion of paternal resources away from herself and her children (through either a division of resources or through abandonment). Thus, females should have evolved a stronger reaction to indications that their mate is establishing a romantic extra-pair relationship (e.g., 'falling in love') with another person.

Other researchers (DeSteno & Salovey, 1996a, 1996b; Harris & Christenfeld, 1996a, 1996b) have contended that this phenomenon is explainable through (culturally learned) rational beliefs that each sex has about the abilities of the opposite sex. Specifically, women believe that men can have sex without love but when in love are probably also having sex. Men, on the other hand, reach the opposite conclusions: that women can be in love without having sex, but when having sex are probably also in love. Thus, this rational belief system of which type of infidelity represents a 'double shot' of infidelity is proposed to be the driving force in the sex difference.

Actual infidelities are not the only situations that can cause distress in relationships. Just the existence of rivals for the attentions of one's mate (i.e., mate rivals) can be upsetting. Buss, Shackelford, Choe, Buunk, and Dijkstra (2000) found that men were more concerned than women by the prospect of a rival with greater financial and social resources (e.g., better financial and job prospects, higher status and prestige), as well as rivals who were physically stronger. Women were more concerned than men by the idea of having rivals who were physically more attractive (e.g. more attractive face and more attractive body). Their explanation for these results is from a relatively nativist perspective, based on the fact that the traits most upsetting to each sex are those traits that have been most valued by the opposite sex over evolutionary history (see Buss, 1994). It is possible, however, to also construct a counter-explanation based more on cultural learning (e.g., Wood & Eagly, 2002).

Cross-cultural differences in relationship threats

Several studies have demonstrated the previously discussed sex difference in relationship jealousy across various cultures around the world (Buss et al., 1999; Buunk et al., 1996). Most of this research, however, has been conducted primarily within the USA, Central Europe, and Asia. The

present study was designed to provide additional cross-cultural data on this topic, using two new cultures – England and Romania. In addition to expanding the range of cultures in which relationship jealousy has been studied, these two countries provide an interesting contrast between both each other and the heavily studied U.S. culture. England and the U.S. share many cultural similarities, as a result of the latter having originated as a colony of the former. The U.S. and England thus not only share some common history, but also share a common origin for their legal systems, languages, religious mixtures, and governmental structures. Romania, on the other hand, is relatively isolated, culturally, from the U.S. and England. The Romanian language is Latin-based (whereas the U.S., England, and all countries neighboring Romania speak Germanic, Slavic, or Finno-Ugrian languages), it is a former Soviet-bloc country that is only now developing democracy and capitalism, it is economically impoverished, and most of its citizens follow the Romanian Orthodox church. To the extent that cultural factors – shared beliefs, values, customs, behaviors, and artifacts – influence reactions to sexual and emotional infidelity scenarios, American and English samples should show more similar responses to each other than to a Romanian sample.

Evolution, culture, and context

The origins and contents of cultures, including sex differences in attitudes, beliefs, and behaviors, is a crucial topic across the social sciences. As with the specific topic of jealousy, there are more strongly nativist views (e.g., Tooby & Cosmides, 1992) and more strongly environmentalist views (e.g., Woolf & Eagly, 2002). An intermediate position generally must realize that the evolved cognitive structures that produce jealousy reactions are quite possibly – in fact should be expected to be – sensitive to the local cultural environment and able to adjust the levels of activation, relevant cues, and so on, in order to produce locally more appropriate behavioral outputs. In other words, the ambient culture (generally defined here as the shared beliefs, values, customs and behaviors, and artifacts among a group of people) should adjust men's and women's reactions, within the parameters set by the evolved structure of the human mind.

One approach to forming better linkages between particular beliefs and levels of jealousy in response to infidelity is to broaden the scope of which types of events and beliefs are associated with jealousy in relationship contexts. For instance, if men are differentially upset by sexual infidelity because of paternity uncertainty implications, then this sexual jealousy should be correlated with concern about a rival male with superior abilities in regards to physical attractiveness, physical strength, and sexual prowess (e.g., male rivals who would contribute superior genetic material or be more likely to successfully conceive a child). If females are differentially upset by emotional infidelity because of resource diversion implications, they should show a correlation between emotional jealousy and concerns about a rival female with traits that would elicit long-term commitment from males (e.g., female rivals who are superior in companionship

qualities such as being kind and understanding and having a better sense of humor).

Concerns about these particular traits are in sharp contrast with some of the traits found previously to be major concerns for men and women when considering potential rivals. While we expect that men will, as in Buss et al. (2000), be differentially concerned by rivals with greater financial and social resources, these concerns should not be correlated with sexual jealousy. This is because men's status and access to resources has been theorized to contribute to their perceived attractiveness because it indicates an ability to provide for partners and offspring; hence, a rival superior in these areas is more of a threat in general, but not regarding the specific possibility of cuckoldry. Similarly, we expect that women will continue to be more concerned than men by the idea of rivals who are physically more attractive, but this concern should not be correlated with levels of jealousy. Female physical attractiveness is believed to contribute to their perceived attractiveness because it is an indicator of health and fertility; hence, a more attractive rival constitutes more of a threat in general, but not regarding relationship commitment. On the other hand, if reactions to relationship infidelities and reactions to mate rivals are both strongly determined by cultural learning of general sex-role appropriate attitudes and behaviors, then the strength of these reactions should be correlated with each other (e.g., participants with stronger sex-typical reactions for one context should show strong sex-typical reactions for other contexts).

In summary, the present study evaluated the following five predictions: (i) both English and Romanian males will be more upset, on average, than their female counterparts by sexual infidelity scenarios, as compared with emotional infidelity scenarios; (ii) reactions to mate rivals will replicate prior research on this topic in other cultures (i.e., males overall will be more upset by rivals with better financial and job prospects, higher status and prestige, and greater physical strength, and women overall will be more upset by rivals with more attractive faces and bodies); (iii) the response pattern of English participants will be closer to those found by studies done in the U.S., as compared with the results from Romanian participants; (iv) greater reported sexual jealousy on the part of men will be correlated with greater concern about more attractive, stronger, and sexually skilled rival males; and (v) greater reported emotional jealousy on the part of females will be correlated with greater concern about more kind and understanding rivals.

Method

Participants and procedure

English participants. One hundred and fourteen university students (60 males and 54 females) in northeast England voluntarily completed the study questionnaires in a classroom setting. All the participants were born in the U.K. and identified themselves as either English or U.K. citizens. The mean age of the

participants was 21.9 years (21.5 for males and 22.3 for females), with a standard deviation of 5.9 years and a range of 18–58 years. The classroom instructor explained to the participants the general purpose of the study, the confidentiality of the individual results, and discussed the general nature of the results with the participants in the course of the class.

Romanian participants. Two hundred and two Romanians, primarily university students (101 males and 101 females) in the major universities of the country (located in Cluj-Napoca, Timișoara, Bucharest, and Iași) participated. Participants were recruited from in and around the universities, and each participant was offered a payment for his or her participation (payments were 5000 Lei; about 50 U.S. cents). All the participants were born in Romania and identified themselves as ethnic Romanians. The mean age of the participants was 25.1 years (25.0 for males and 25.1 for females), with a standard deviation of 3.7 years and a range of 19–37 years. The questionnaires were administered by the second author, a native Romanian, who explained the general purpose of the study, the confidentiality of the individual results, and was available to the participants after they had completed the questionnaire if they desired additional information regarding the study.

Both samples, in being university students, were comparable with most previous research on this topic. The Romanian participants were slightly, but significantly, older than the English participants (3.2 years difference; $F(1,311) = 34.59, p < .001, \eta^2 = 0.10$), which is likely a reflection of the longer duration of prerequisites to enter a university in Romania.

Materials

The questionnaire used in this study was based on the items from two previous measures: the Infidelity Dilemmas Questionnaire (IDQ) from Buss et al. (1999) and the Mating Rival Questionnaire (MRQ) from Buss et al. (2000). Both of these questionnaires instruct students to ‘think of a serious or committed romantic relationship that you have had in the past, that you are currently having, or that you would like to have. Imagine that you discover that the person with whom you’ve been seriously involved became interested in someone else.’ These general instructions were followed by directions for marking responses on the questionnaire.

The first six items (the IDQ) presented participants with forced-choice options that pitted sexual infidelity against emotional infidelity in various ways (e.g., ‘Imagine that your partner *both* formed an emotional attachment to another person *and* had sexual intercourse with that other person. Which aspect of your partner’s involvement would upset you more?’; see axis labels in Figures 1 and 2). The seventh item of the questionnaire (the MRQ) asked participants to rank-order 11 possible traits in terms of how upsetting it would be to discover that a serious romantic rival possessed that trait to a greater extent than one also possesses each trait (traits listed in Tables 1 and 2).

The English version of the jealousy questionnaire was first translated into Romanian by an individual who was experienced in English-to-Romanian translations and was naive as to the research hypothesis. This first Romanian version was back-translated by a second (naive) individual, and discrepancies between the original and the back-translated English versions were resolved by discussions between the two translators and the first author to develop a final Romanian version. This questionnaire was given to a third person (the second

author), a native Romanian, who made a few minor changes in grammatical structure to make the text more in line with native Romanian writing.

Results

Infidelity Dilemmas Questionnaire

For each of the first six questionnaire items, the percentages of participants who reported being more upset by sexual infidelity, as opposed to emotional infidelity, are shown in Figure 1 (English participants) and Figure 2 (Romanian participants). As predicted, men were generally more upset than women by sexual infidelity.

For the English sample, in which the average percentages found 52% of males versus 26% of females more upset by sexual infidelity, all but one (item 4) of the individual questions demonstrated a statistically significant sex difference using one-tailed difference of proportions tests (Bhattacharyya & Johnson, 1977; item 1: $z = 3.90, p < .001, \phi = .37$; item 2: $z = 3.10, p = .001, \phi = .29$; item 3: $z = 3.22, p < .001, \phi = .30$; item 4: $z = 0.86, p = .10, \phi = .08$; item 5: $z = 3.74, p < .001, \phi = .35$; and item 6: $z = 2.47, p = .007, \phi = .23$). Phi (ϕ) is a correlational measure of effect size that can be used on dichotomous data,

FIGURE 1
The percentages of English males and females indicating more distress to sexual infidelity scenarios (as opposed to emotional infidelity scenarios) as a function of how this choice is expressed (Questionnaire items 1–6).

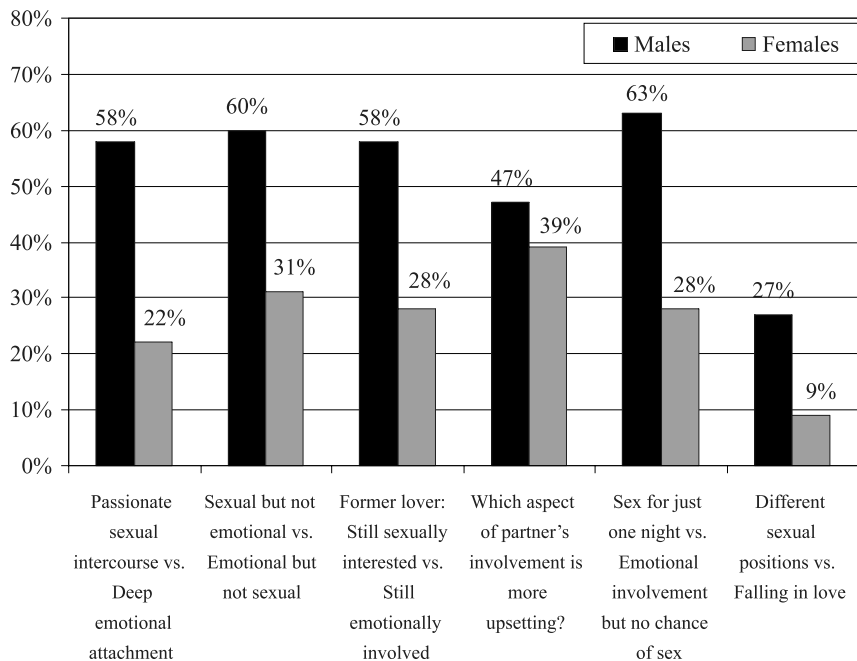
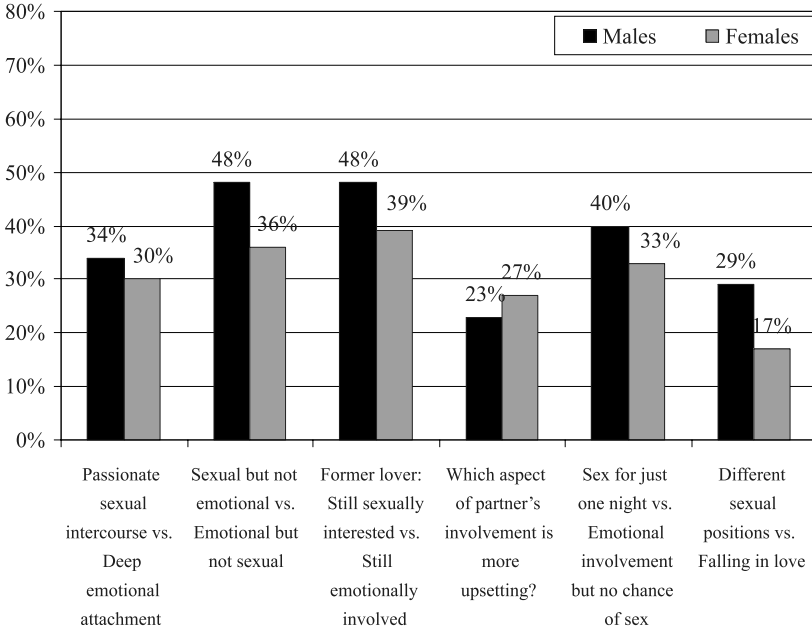


FIGURE 2
The percentages of Romanian males and females indicating more distress to sexual infidelity scenarios (as opposed to emotional infidelity scenarios) as a function of how this choice is expressed (Questionnaire items 1–6).



thereby measuring the relationship between the variables independent of the sample size (Rosnow & Rosenthal, 1999). The size and pattern of the sex difference in this sample of English participants (52% of males and 26% of females were more upset by sexual infidelity) is very close to the results found in American studies (56% of males and 26% of females; averaged across all U.S. studies cited here).

For the Romanian sample, in which the mean percentage of men who reported being more upset by sexual infidelity was 36.6%, compared with 30.0% of women, all but one of the items (item 4) showed the predicted direction for the sex difference. However, only two of these comparisons showed a significant difference (item 2: $z = 1.71, p = .04, \phi = .12$, and item 6: $z = 2.01, p = .03, \phi = .14$, one-tailed tests). The other items did not produce statistically significant differences. Item 4, in fact, actually failed to show a sex difference in the predicted direction. In summary, the size of the sex difference in this sample of Romanian participants (36.6 versus 30.0%) is considerably smaller than those found in any previous cross-cultural studies.

Mate Rivals Questionnaire

Tables 1 and 2 show the results for the final item of the questionnaire, which asked participants to rank-order how upsetting it would be for a mating rival

to have various characteristics. The tables provide the mean ranks and the ordinal rankings for both males and females, in England and in Romania, as well as the results of Mann–Whitney *U*-tests with associated *p*-values and Cohen's *d* effect size measures (although Buss et al., 2000, used two-tailed independent samples *t*-tests in their analysis, we felt that the ranking data from this

TABLE 1
English participants' mean rankings (from Mann–Whitney *U*-tests), by sex, of upset as a function of rival characteristics

Rival characteristic	Females mean rank	Males mean rank	<i>Z</i>	<i>p</i>	<i>d</i>
1 Attractive body (11)	41.28	72.10	−5.02	<.001	1.00
2 Attractive face (10)	48.36	65.72	−2.83	.005	.56
3 Kind and understanding (9)	49.99	64.26	−2.33	.020	.51
4 Sense of humor (8)	51.43	62.97	−1.87	.061	.40
5 Virgin (7)	52.56	61.94	−1.58	.114	.21
6 Willingness to commit (6)	53.46	60.13	−1.08	.278	.17
7 Job prospects (5)	60.88	54.46	−1.04	.297	.19
8 Status and prestige (4)	64.25	51.42	−2.08	.037	.38
9 Sexually skilled (3)	66.28	49.60	−2.71	.007	.37
10 Financial prospects (2)	66.36	48.73	−2.87	.004	.57
11 Physically strong (1)	73.44	43.16	−4.93	<.001	.97

Note. Analyses based on 101 females and 99 males, for all Mann–Whitney *U*-tests; *p*-values are one tailed. Rival characteristics are presented from most (1) to least (11) upsetting, as reported by women (and conforming to the structure used in Buss et al., 2000). The number in parentheses following each characteristic is the corresponding upset ranking for that characteristic, as reported by men.

TABLE 2
Romanian participants' mean rankings (from Mann–Whitney *U*-tests), by sex, of upset as a function of rival characteristics

Rival characteristic	Females mean rank	Males mean rank	<i>Z</i>	<i>p</i>	<i>d</i>
1 Attractive body (11)	89.84	111.38	−2.65	.008	.37
2 Attractive face (10)	90.17	111.04	−2.56	.010	.37
3 Kind and understanding (9)	92.34	108.82	−2.03	.043	.28
4 Virgin (8)	92.93	108.23	−1.97	.049	.25
5 Sense of humor (7)	94.02	107.11	−1.61	.108	.24
6 Willingness to commit (6)	99.03	101.99	−0.36	.716	.04
7 Job prospects (5)	106.27	94.62	−1.43	.152	.21
8 Sexually skilled (4)	106.53	94.35	−1.51	.131	.20
9 Status and prestige (3)	106.84	94.04	−1.58	.115	.22
10 Physically strong (2)	112.89	87.86	−3.08	.002	.45
11 Financial prospects (1)	116.45	84.23	−3.96	<.001	.57

Note. Rival characteristics are presented from most (1) to least (11) upsetting, as reported by women (and conforming to the structure used in Buss et al., 2000). The number in parentheses following each characteristic is the corresponding upset ranking for that characteristic, as reported by men.

survey are better considered as ordinal data and hence analyzed using nonparametric methods).

For the English sample, men – as predicted – were significantly more distressed than women when the rival had better financial prospects, was physically stronger, and had greater status and prestige, with large-to-medium effect sizes ($d_s = .97, .57, \text{ and } .38$, respectively; d is an effect size measure based on the standardized difference between two groups; see note under Table 1). A moderate effect was also found for men being more distressed by a rival being more sexually skilled ($d = .37$). Also as predicted, women were significantly more distressed than men by a rival with a more attractive body and a more attractive face, with large-to-medium effect sizes ($d_s = 1.00 \text{ and } .56$, respectively). Women were also moderately more upset than men by rivals who were more kind and understanding than themselves and had a better sense of humor ($d_s = .51 \text{ and } .40$, respectively).

The results for the Romanian sample are based on 101 females and 99 males (2 males failed to complete this portion of the survey). Men, as predicted, were significantly more distressed than women when a rival had better financial prospects and was physically stronger, with medium effect sizes ($d_s = .45 \text{ and } .57$, respectively). Also as predicted, women were significantly more distressed than men when their rival had a more attractive face and a more attractive body, with small-to-medium effect sizes (both $d_s = .37$). Women were also significantly more upset than men regarding a rival being more kind and understanding ($d = .28$) and being a virgin ($d = .25$).

Is concern with specific rival types related to specific infidelity concerns?

In order to compare the individual items from the MRQ with relative levels of sexual and emotional jealousy, an aggregated jealousy score was calculated for each person by collapsing the six IDQ items. For each item, 1 point was assigned for choosing sexual infidelity as more upsetting, yielding a score between 0 and 6 for each participant (see Dijkstra et al., 2001, for a similar approach). Thus, a higher summed score (over 3) indicates greater sexual jealousy, whereas a lower summed score (less than 3) indicates greater emotional jealousy. The mean scores in the English sample were 3.13 ($SD = 2.09$) for males and 1.42 ($SD = 1.66$) for females, and 2.18 ($SD = 2.03$) for males and 1.80 ($SD = 2.16$) for females in the Romanian sample. Although this questionnaire was not originally designed for this type of collapsing, the results showed fairly good internal reliability (Cronbach's alpha = .85 for the Romanian sample and .69 for the UK sample).

For female participants in the English sample, this overall jealousy score was significantly correlated with concern over a rival who is more kind and understanding (i.e., more sexual infidelity distress [i.e., less reported distress to emotional infidelity] was related to less concern over more kind and understanding rivals; $r = .39, p = .002$, one-tailed). For males in the English sample, greater reported sexual jealousy was significantly correlated with concern over a rival who is more sexually skilled (i.e., greater sexual infidelity distress was related to greater concern over more sexually skilled rivals; $r = -.27, p = .02$, one-tailed).

For females in the Romanian sample, overall sexual jealousy scores were significantly correlated with concern over a rival who is physically stronger ($r = -.21, p = .02$, one-tailed), has a better sense of humor ($r = .21, p = .04$,

two-tailed), and a more attractive face ($r = -.38, p = .01$, one-tailed). Specifically, greater reported distress over sexual infidelity (i.e., less emotional jealousy) was associated with more concern over rivals who were physically stronger and more facially attractive, but less concern over rivals with a better sense of humor. Sexual jealousy scores in males in the Romanian sample were significantly correlated with concern over a rival who has a more attractive face (i.e., greater sexual infidelity distress was related to greater concern over more facially attractive rivals; $r = -.26, p = .005$, one-tailed).

Discussion

Consistent with our predictions, men in both England and Romania were more upset, on average, than their female counterparts by sexual infidelity scenarios, as compared with emotional infidelity scenarios. Also as predicted, male participants in general were more upset by a rival with better financial prospects (in both England and Romania), who was physically stronger (both England and Romania), and who had greater status and prestige (England), although a significant difference was not found for a rival with greater job prospects. Female participants were more upset by a rival with a more attractive body (in both England and Romania) and with a more attractive face (both England and Romania). It was also found, though not predicted, that males in England were more upset than women about a rival who was more sexually skilled, and females were more upset than males by a rival who was more kind and understanding (in both England and Romania) and who was a virgin (in Romania). This pattern of scattered effects that vary across cultures is similar in nature to the cross-cultural comparisons in Buss et al. (2000). For example, American and Dutch women in that study were also more upset than men by a rival that was more kind and understanding, but this effect did not occur for their Korean sample.

On the western edge of Europe, in the U.K., the size of the sex difference in reactions to types of infidelity (mean effect size ϕ of .27) was larger than found in previous studies using cultures within Europe and close to the effect size found in the U.S. studies (Brase & Kerridge, 2004). On the other side of Europe, in Romania, the size of the sex difference in reactions to types of infidelity (mean effect size ϕ of .085) was smaller than found in previous studies using European cultures (indeed, smaller than in all previous studies). There were also correlations between the level of distress over one type of infidelity over another and the level of concern over rival mates with particular traits. English females who were more upset by emotional infidelity were also more upset by rivals with greater kindness and understanding, whereas English males who were more upset by sexual infidelity were also more upset by rivals with superior sexual skills (both of which are consistent with predictions). Men in Romania who reported greater distress to sexual infidelity (compared with their same-sex peers) were also more concerned about rival mates with greater facial attractiveness (consistent with predictions), whereas Romanian women who

reported more distress to sexual infidelity were also more concerned about rivals with greater physical strength and a more attractive face, but less concerned about rivals with a better sense of humor (only the last of these was consistent with predictions).

Strengths and limitations

As with all survey instruments, there are various concerns about ways in which the measurements could be compromised. For instance, there could be a concern that the small effect sizes obtained in Romania with the Infidelity Dilemmas Questionnaire were due to some lack of sensitivity (e.g., a flaw in the translation procedures or in the questionnaire administration). If such a flaw does exist, however, Figures 1 and 2 suggest that it contributes only random noise rather than any specific patterns of responses. Specifically, the fourth item of the IDQ – on which the Romanian participants actually showed a non-significant reversal of the typical sex-difference – was the item for which the English participants showed by far the smallest sex-difference. It is also possible that some of the findings from the Mate Rivals Questionnaire may be due to the fact that this instrument was given after participants had taken the IDQ. So, for example, the overall findings (in both cultures) that men were more upset by a rival who was more sexually skilled than themselves and women were more upset by a rival who was more kind and understanding than themselves might be due to a general elevation in these concerns after having read about several possible infidelity situations. Because the effects were different for men and women, however (using exactly the same stimuli), this possible order effect would represent only a strengthening of an existing sex difference rather than the creation of an effect.

In terms of notable and unique strengths of this study, the Romanian data – representing a culture with a very small sex difference in these results – may provide some indications of which cultural and historical factors are relevant for understanding how these sex differences emerge. In contrast to the locations of previous research, Romanian culture has been in a tremendous transitional period for the last decade, as it has emerged from being a particularly isolated Soviet-bloc state and struggled for democratic reforms, economic development, and European acceptance. Furthermore, data from the World Values Survey (World Values Study Group, 1994) indicate that Romanian culture is demonstrably different from previously studied cultures. Romanian culture, as represented in the World Values Survey, appears to have a stronger view of parenthood as an essential activity (and motherhood specifically as an intrinsic and primary vocation for women), as compared with previously studied cultures. Specifically, Romanians place more importance on children as a factor in making a successful marriage, are more likely to believe that a woman has to have children in order to be fulfilled, more likely to agree that a job is all right but that what most women really want is a home and children, and more likely to advocate parental sacrifice of well-being in the interest of one's children. This ethos of parenthood should have effects on the nature and purposes that men and women attribute to intimate relationships (also

see Romanian/American personality differences documented by Eysenck, Baban, Derevenco, & Pitariu, 1989; Frost & Frost, 2000).

Demographic data show that Romania combines notably low rates of urbanization, birth control use, and fertility with equally dramatic high rates of infant mortality, maternal mortality, and teenage births (Mackay, 2000; Save the Children, 2000; U.S. Bureau of the Census, 1999). Some of these demographic factors that set Romania apart may be due, in part, to the effects of Ceausescu's 'baby decrees' from 1966 to 1989. These laws were designed to force a population increase by punishing failures to sire children, banning contraception, and eliminating sex education. These demographic factors (e.g., birth control use, fertility rate, infant mortality) are likely to interact potently with the typical Romanian values outlined earlier regarding parenthood. Furthermore, this particular history also makes Romania an interesting contrast to the data from China (where reproduction has been discouraged by the government). In sum, Romanian people are likely to experience strong cultural pressures for having children and maintaining relationships, yet at the same time they experience extraordinary social, demographic, and economic forces that make children and relationships quite difficult to maintain. Relationships therefore become – for both women and men – more about social and economic interdependence and less about producing children (despite continued cultural exhortations). Thus, prospects of emotional infidelity loom as more upsetting for both women and men, with relatively little difference between them.

Future research

A quite notable aspect of the Romanian results is the overall prevalence, across both sexes, of rating emotional infidelity as more upsetting. Whereas the English results, like most U.S. samples, show that the slim majority of men object to sexual infidelity more than emotional infidelity and the clear majority of women object to emotional infidelity more than sexual infidelity, the majority of *both* Romanian men and women chose emotional infidelity as worse across all six items of the IDQ (Figure 2). DeSteno and Salovey (1996a) and Harris and Christenfeld (1996a) noted this same pattern across their (U.S.) results and those of Buunk et al. (1996; the majority of both men and women in Germany and the Netherlands chose the emotional infidelity scenario as most upsetting). Although they used this result to call into question the relative salience of sexual infidelity, even to men, we would like to suggest instead that this is a second component that should be looked at in conducting cross-cultural research (also see comments by Buss, Larsen, & Westen, 1996). That is, there are two manifestations of cultural variation in this and previous research; one is the difference in magnitude of the pervasive sex difference regarding reactions to sexual and emotional infidelity, and the other is the across-sex baseline significance attached in each culture to acts of sexual infidelity versus acts of emotional infidelity (these two types of cross-cultural differences are also distinguished by Voracek, Stieger, & Gindl, 2001). An illustration is that in both China and Japan the difference between men's and women's

reactions to infidelity scenarios is the same (i.e., 14%; Buss et al., 1999; Geary, Rumsey, Bow-Thomas, & Hoard, 1995). People (men and women combined) in Japan, however, are much more upset by sexual infidelity (41 and 27%, respectively) than people in China (21 and 7%).

Of course, various cultural variables have previously been suggested – with only limited success – as the mediating factors behind relationship jealousy. Some aspects of the sociocultural environment that have been suggested as particularly relevant include the amount of paternal investment in children (Buss, Larsen, Westen, & Semmelroth, 1992) and attitudes toward aspects of sexuality such as premarital sex, extramarital affairs, and sexual equality (Buunk et al., 1996; Geary et al., 1995). What is clear is that we must get a better idea of what the specific and relevant variables are that change across cultures before we can develop a more fundamental understanding of what these cross-cultural differences are really showing us.

Conclusions

It seems clear, based on this and previous research, that some cultural variables affect men's and women's responses to relationship infidelities. At the same time, it also appears that the evolved predispositions of men and women place brackets on these responses. The correlations found between the most worrying mate-rival traits and the type of infidelity that most upset individuals support the idea that these sex differences are related to the evolutionary concerns proposed as their ultimate cause (i.e., paternity uncertainty in males and resource diversion in females). However, even as men always tend to be more upset than women by the thought of sexual infidelity in comparison with emotional infidelity, some circumstances can reduce the differences in men's and women's reactions to a small margin, while other circumstances promote very large differences. A method for laying to rest the ongoing 'evolution versus learning' division in this area would be to discover and document the specific cultural variations that lead to variations in reactions to relationship infidelities. A broader selection of samples, including cultures such as Romania – where sex differences appear to be very slight – is key to this goal.

Eventually, of course, an understanding of how men and women respond to intimate relationship threats is expected to pay practical dividends. Understanding the nature and dynamics of such situations can be applied to better dealing with relationship and social concerns such as sexuality, fertility, and abuse.

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