

## **The Big Five Related to Risky Sexual Behaviour Across 10 World Regions: Differential Personality Associations of Sexual Promiscuity and Relationship Infidelity**

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### *Abstract*

*As part of the International Sexuality Description Project, 16 362 participants from 52 nations responded to measures of the Big Five and 'risky' sexuality. It was expected that low levels of agreeableness and conscientiousness would be universally associated with relationship infidelity. Sexual promiscuity, in contrast, was expected to positively relate to extraversion and neuroticism. Analyses across 10 world regions revealed relationship infidelity was universally associated with low agreeableness and low conscientiousness. Sexual promiscuity was somewhat related to these traits as well, but was more highly related to extraversion across many, but not all, world regions. Both forms of risky sexual behaviour were generally unrelated to neuroticism and openness across cultures. Discussion focuses on possible explanations of regional differences in personality–sexuality linkages. Copyright © 2004 John Wiley & Sons, Ltd.*

### **INTRODUCTION**

Psychologists have long been interested in how personality traits relate to problematic sexual attitudes and behaviours (Eysenck, 1976). In the 1980s, increasing concerns over HIV/AIDS led to an interest in identifying the personality traits associated with marital infidelity and having promiscuous sex with multiple partners, both of which represent significant risk factors for contracting HIV (Hoyle, Fejfar, & Miller, 2000; Mashegoane, Moalusi, Ngoepe, & Peltzer, 2002; McCown, 1992). Among the Big Five dimensions of personality (John & Srivastava, 1999), four traits appear to be associated with risky forms of sexual behaviour—extraversion, agreeableness, conscientiousness, and neuroticism (Pinkerton & Abramson, 1996; Trobst, Herbst, Masters, & Costa, 2002). In this article, the links between all five dimensions of the Big Five and risky sexuality were examined across the 10 world regions of the International Sexuality Description Project (ISDP; Schmitt et al., 2003). A particular emphasis was placed on distinguishing between the personality correlates of relationship infidelity versus sexual promiscuity.

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### Differences between relationship infidelity and sexual promiscuity

Schmitt and Buss (2000) attempted to identify the major dimensions of human sexual description using a version of the lexical strategy (Allport & Odbert, 1936; Goldberg, 1990). By exploring the adjectives that English-speaking people use to describe their sexuality, Schmitt and Buss (2000) found that one of the largest groups of sexually connotative words concerned how faithful people are to their romantic relationship partners, a factor they termed *Relationship Exclusivity*. Sexual adjectives such as 'adulterous' and 'promiscuous' reside within this category, one of seven broad factors or categories found among English sexuality adjectives (see also Cyranowski & Andersen, 1998; Garcia & Carrigan, 1998; Shafer, 2001).

Schmitt and Buss (2000) documented that many of the seven sexuality factors, which they termed the 'Sexy Seven' dimensions of human sexual description, were related to the Big Five model of general personality traits (Digman, 1990; John & Srivastava, 1999; Wiggins & Trapnell, 1997). In particular, high levels of extraversion were associated with lower levels of Relationship Exclusivity (especially in men), whereas high levels of agreeableness and conscientiousness were linked to higher Relationship Exclusivity (especially in women). Neuroticism and openness were largely unrelated to Relationship Exclusivity in either gender (see also Schmitt, 1996).

One unexpected finding of Schmitt and Buss (2000) was that some Relationship Exclusivity adjectives tended to form a separate cluster from the rest. Most exclusivity words such as 'adulterous' and 'unfaithful' had to do sexual infidelity, with romantic betrayal and cheating on a primary long-term partner. Words such as 'promiscuous' and 'loose' were different. Such words did not necessarily imply a lack of fidelity, per se. One can be described as promiscuous even though one does not have a steady long-term partner. Promiscuous sexual behaviour while not involved with someone special may not be indicative of a psychology of romantic betrayal.

Conversely, one can also be sexually unfaithful, but only briefly with one extra-relationship partner. In this way, infidelity would not necessarily imply having 'promiscuous' sex with numerous partners. Extra-dyadic mating may occur as a one-night stand, perhaps with a very close friend. A lone occurrence of infidelity involving a close emotional connection may not be indicative of the psychology of generalized promiscuity. Schmitt and Buss (2000) argued that Relationship Exclusivity probably has at least two related but psychologically distinct sub-components: *Relationship Infidelity* and *Sexual Promiscuity*.

In a sample of 44 dating couples, Schmitt (unpublished manuscript) found that different types of personality traits were linked to these two sub-components of Relationship Exclusivity. People who reported that they were generally unfaithful in romantic relationships tended to be disagreeable (i.e. they lacked trust and empathy; Costa & McCrae, 1992; Graziano & Eisenberg, 1997) and low on the trait of conscientiousness (i.e. they tended to be disorganized and unreliable; Costa & McCrae, 1992; Hogan & Ones, 1997). People who reported that they were sexually promiscuous, in contrast, were not particularly disagreeable or unconscientious. Instead, individuals who were promiscuous tended to describe themselves as more extraverted (i.e. they were active, talkative, and possessed positive emotions; Costa & McCrae, 1992; Lucas, Diener, Grob, Suh, & Shao, 2000; Watson & Clark, 1997) than people who were not promiscuous. It appeared that the two key components of risky sexuality—relationship infidelity and sexual promiscuity—were differentially related to the personality traits of extraversion, agreeableness, and

conscientiousness (see also Schmitt, 2002; Schmitt & Buss, 2001). Previous research by other investigators provides further reason to expect these differential personality–sexuality linkages.

### **Extraversion and risky sexuality**

Eysenck (1976) was among the first to investigate the relationship between personality traits and indicators of risky sexuality. He found that extraverts tended to endorse more favourable attitudes than did introverts toward having multiple sex partners and trying out different sexual positions. Extraverts also engaged in sexual intercourse at younger ages than introverts, as well as having sex more frequently and with more partners than introverts did (Eysenck & Eysenck, 1975). Similar associations between extraversion and more promiscuous sexual desires have been found by others (Barnes, Malamuth, & Cheek, 1984; Costa, Fagan, Piedmont, Ponticas, & Wise, 1992; Snyder, Simpson, & Gangestad, 1986). Extraversion also has been linked to promiscuous sexual behaviour (Pinkerton & Abramson, 1995; Schenk & Pfrang, 1986; Schmitt & Buss, 2000; Wright, 1999) and to unsafe sexual practices (McCown, 1992). Extraverts appear only somewhat more likely than introverts to be unfaithful with their marital or dating partners, however (Buss & Shackelford, 1997; Schmitt, unpublished manuscript; Schmitt & Buss, 2001).

The reasons why extraverts engage in more risky sex may include that they have a higher libido than introverts, or extraverts may need to raise their habitually low levels of cortical arousal to a more comfortable level by engaging in risky sex (Eysenck, 1976). Regardless, the links between extraversion and promiscuous sexuality appear to be robust, at least among Western cultures. In this article, it is expected that high levels of extraversion will be associated with high levels of sexual promiscuity and relationship infidelity. However, based on previous research (Buss & Shackelford, 1997; Schmitt, unpublished manuscript), it is expected that the association between extraversion and sexual promiscuity will be stronger across cultures than the association between extraversion and relationship infidelity.

### **Neuroticism and risky sexuality**

The personality trait of neuroticism is rooted in negative emotionality, including anxiety, depression, and anger (Costa & Widiger, 1994). Neuroticism has been associated with several features of problematic sexuality, including sexual dissatisfaction and marital distress (Bradbury & Fincham, 1988; Gottman, 1994). Some studies have found that people who score high in neuroticism tend to have more permissive sexual attitudes (Lameiras Fernandez & Rodriguez Castro, 2003) and engage in more sexual risk-taking (Eysenck, 1971; Naff Johnson, 1997), including the practice of unsafe sexual practices (McCown, 1992). Among a sample of pregnant and post-partum cocaine misusers, neuroticism was found to be the strongest personality predictor of risky sexual activity (Ball & Schottenfeld, 1997).

Precisely how neuroticism leads to risky sexual behaviour is unclear. It may be that those with more emotional distress seek out promiscuous sexuality as a means of coping (Cooper, Agocha, & Sheldon, 2000). It also is possible that neurotics are less able to resist their urges and cravings than are emotionally stable individuals (Trobst et al., 2002). Based on previous research (Schmitt, unpublished manuscript), it is expected that the association between neuroticism and sexual promiscuity will be relatively weak across cultures and will about the same as the association between neuroticism and relationship infidelity.

### Agreeableness, conscientiousness, and risky sexuality

Perhaps the strongest personality correlate of risky sexual behaviour is impulsive sensation-seeking (Hoyle et al., 2000; Zuckerman, 1994; Zuckerman & Kuhlman, 2000). Among the Big Five personality dimensions, impulsive sensation-seeking is most closely associated with low agreeableness and low conscientiousness (Zuckerman, 1993; Zuckerman, Kuhlman, Joireman, Teta, & Kraft, 1994). Numerous studies have linked sensation-seeking to risky sexual behaviour (Hoyle et al., 2000; Mashegoane et al., 2002; Ripa, Hansen, Mortensen, Sanders, & Reinisch, 2001). Linton and Wiener (2001) found that high sensation-seekers tend to have more 'mating success' (i.e. more partners and children) than those low in sensation-seeking. Men who are high on sensation-seeking scales are also less likely to use condoms (Franzini & Sideman, 1994) and to be more likely to visit prostitutes (Wilson, Manual, & Lavelle, 1992).

Three other traits rooted in low agreeableness and low conscientiousness have shown repeated associations with risky sexual behaviour. The first is Machiavellianism (Paulhus & Williams, 2002). Those with Machiavellian personalities (especially men) tend to possess permissive sexual attitudes and engage in promiscuous sex practices (McHoskey, 2001). Linton and Wiener (2001) found that those who are Machiavellian tend to have more mating success. The second trait rooted in low agreeableness and low conscientiousness is psychoticism (Eysenck, 1976). Psychoticism has been linked to permissive sexual attitudes and behaviours (Eysenck & Eysenck, 1971; Pinkerton & Abramson, 1996) and to unsafe sexual practices (McCown, 1992). Finally, anti-sociality or psychopathy (also comprised of low agreeableness and low conscientiousness; Paulhus & Williams, 2002) is often implicated in sexual risk-taking (Aromaeki, Lindman, & Eriksson, 2002; Malamuth, 1998; McMahan, Malow, & Penedo, 1998).

Several investigators have found direct links among agreeableness, conscientiousness, and risky sexual behaviour (Hoyle et al., 2000; Lameiras Fernandez & Rodriguez Castro, 2003; Markey, Markey, & Tinsley, 2003; Trobst, Wiggins, Costa, Herbst, McCrae, & Masters, 2000; Wright & Reise, 1997). Buss and Shackelford (1997), for example, found that those low on agreeableness and low on conscientiousness were more likely to have affairs in the first four years of marriage. In this article, it is expected that low levels of agreeableness and conscientiousness will be associated with high levels of both sexual promiscuity and relationship infidelity. However, based on previous research (Buss & Shackelford, 1997; Schmitt, unpublished manuscript), it is expected that the associations of agreeableness and conscientiousness with relationship infidelity will be stronger across cultures than the associations of agreeableness and conscientiousness with sexual promiscuity.

## METHOD

### Samples

As seen in Table 1, the ISDP samples spanned 52 nations from 10 world regions. Three nations were sampled from the world region of North America (i.e. Canada, Mexico, and the United States of America). Four nations in the ISDP were from South America, eight nations from Western Europe, 11 nations from Eastern Europe, six nations from Southern Europe, three nations from the Middle East, six nations from Africa, three nations from Oceania, four nations from South or Southeast Asia, and four nations from East Asia. Overall, this collection of cultural regions represents a diverse array of ethnic, geographic,

Table 1. Sample sizes and languages across the 52 nations of the international sexuality description project

|                        | Men  | Women | Total | Language        |
|------------------------|------|-------|-------|-----------------|
| <i>North America</i>   | 1450 | 2526  | 3976  |                 |
| Canada                 | 357  | 640   | 997   | English/French  |
| Mexico                 | 104  | 109   | 213   | Spanish         |
| United States          | 989  | 1777  | 2766  | English         |
| <i>South America</i>   | 346  | 378   | 724   |                 |
| Argentina              | 110  | 136   | 246   | Spanish         |
| Bolivia                | 88   | 88    | 176   | Spanish         |
| Brazil                 | 42   | 53    | 95    | Portuguese      |
| Peru                   | 106  | 100   | 206   | Spanish         |
| <i>Western Europe</i>  | 1068 | 1840  | 2908  |                 |
| Austria                | 205  | 260   | 465   | German          |
| Belgium                | 164  | 353   | 517   | Dutch (Flemish) |
| Finland                | 32   | 88    | 120   | Finnish         |
| France                 | 54   | 69    | 123   | French          |
| Germany                | 287  | 486   | 773   | German          |
| Netherlands            | 109  | 122   | 231   | Dutch           |
| Switzerland            | 85   | 128   | 213   | German          |
| United Kingdom         | 132  | 334   | 466   | English         |
| <i>Eastern Europe</i>  | 1198 | 1534  | 2732  |                 |
| Croatia                | 113  | 109   | 222   | Croatian        |
| Czech Rep.             | 104  | 124   | 228   | Czech           |
| Estonia                | 73   | 105   | 178   | Estonian        |
| Latvia                 | 89   | 101   | 190   | Latvian         |
| Lithuania              | 47   | 47    | 94    | Lithuanian      |
| Poland                 | 296  | 525   | 821   | Polish          |
| Romania                | 122  | 124   | 246   | Romanian        |
| Serbia                 | 100  | 100   | 200   | Serbian         |
| Slovakia               | 81   | 94    | 175   | Slovak          |
| Slovenia               | 73   | 105   | 178   | Slovenian       |
| Ukraine                | 100  | 100   | 200   | Ukrainian       |
| <i>Southern Europe</i> | 486  | 796   | 1282  |                 |
| Cyprus                 | 21   | 34    | 55    | Greek           |
| Greece                 | 47   | 182   | 229   | Greek           |
| Italy                  | 92   | 108   | 200   | Italian         |
| Malta                  | 122  | 153   | 275   | English         |
| Portugal               | 110  | 142   | 252   | Portuguese      |
| Spain                  | 94   | 177   | 271   | Spanish         |
| <i>Middle East</i>     | 483  | 521   | 1004  |                 |
| Israel                 | 164  | 190   | 354   | Hebrew          |
| Lebanon                | 116  | 128   | 244   | English         |
| Turkey                 | 203  | 203   | 406   | Turkish         |
| <i>Africa</i>          | 589  | 450   | 1039  |                 |
| Botswana               | 97   | 116   | 213   | English         |
| Congo, Dem. Rep. of    | 116  | 63    | 179   | French          |
| Ethiopia               | 130  | 75    | 205   | English         |
| Morocco                | 79   | 79    | 158   | English         |
| Tanzania               | 73   | 22    | 95    | English         |
| Zimbabwe               | 94   | 95    | 189   | English         |
| <i>Oceania</i>         | 393  | 523   | 916   |                 |
| Australia              | 200  | 288   | 488   | English         |
| Fiji                   | 78   | 77    | 155   | English         |
| New Zealand            | 115  | 158   | 273   | English         |

*Continues*

Table 1. Continued

|                             | Men  | Women | Total  | Language     |
|-----------------------------|------|-------|--------|--------------|
| <i>South/Southeast Asia</i> | 293  | 342   | 635    |              |
| Bangladesh                  | 83   | 62    | 145    | Bangla       |
| Indonesia                   | 44   | 40    | 84     | Indonesian   |
| Malaysia                    | 46   | 84    | 130    | Malay        |
| Philippines                 | 120  | 156   | 276    | English      |
| <i>East Asia</i>            | 560  | 587   | 1147   |              |
| Hong Kong                   | 99   | 99    | 198    | English      |
| Japan                       | 150  | 100   | 250    | Japanese     |
| South Korea                 | 195  | 295   | 490    | Korean       |
| Taiwan                      | 116  | 93    | 209    | Mandarin     |
| <i>Total ISDP Sample</i>    | 6866 | 9497  | 16 363 | 28 languages |

and linguistic categories. In total, the 10 world regions of the ISDP include 6 continents, 13 islands, 28 languages, and 52 nations.

### Procedure

All ISDP collaborators were asked to administer an anonymous nine-page survey to at least 100 men and 100 women. As seen in Table 1, not all collaborators reached this approximate sample size of men and women. The sample sizes for men and women across the 10 world regions of the ISDP (ranging from a low of 293 men in South/Southeast Asia to a high of 2526 women in North America) provide the necessary statistical power for evaluating differences in the personality–sexuality linkages described earlier. Consequently, the 10 world regions of the ISDP will constitute the level of analysis in the present investigation.

Most collaborators administered the ISDP survey to college students in college classrooms; a few also surveyed general community members. All collaborators had participants return the survey in an anonymous manner, often with the use of sealed envelopes or drop-boxes. Some of the college samples were provided extra credit or received small monetary rewards for their participation; most were volunteers (for further details, see Schmitt et al., 2003; Schmitt et al., in press).

Participants were provided with a brief description of the study, including the following written instructions: ‘This questionnaire is entirely voluntary. All your responses will be kept confidential and your personal identity will remain anonymous. No identifying information is requested on this survey, nor will any such information be added later to this survey. If any of the questions make you uncomfortable, feel free not to answer them. You are free to withdraw from this study at any time for any reason. This series of questionnaires should take about 20 minutes to complete. Thank you for your participation’. The full cover story provided by each collaborator varied, however, and was adapted to fit the specific culture and type of sample. Details on incentives and cover stories used across samples are available from the author.

### Measures

#### *Demographic measure*

Each sample was first presented with a demographic measure entitled ‘Confidential personal information’. This measure included questions about gender, age, date of birth, weight, height, sexual orientation, current relationship status, socioeconomic status as a

child, socioeconomic status now, area in which one was raised (rural, urban, suburban), total number of years of education, current religious affiliation, degree of religiosity, ethnic background, and political attitude (conservative versus liberal). Not all participants were presented with all demographic questions.

#### *Personality measure*

All samples were administered the Big Five Inventory (BFI; Benet-Martínez & John, 1998). The 44-item English BFI was constructed to allow quick and efficient assessment of five personality dimensions—extraversion, agreeableness, conscientiousness, neuroticism, and openness (Benet-Martínez & John, 1998). Example items from the BFI include ‘I see myself as someone who is outgoing, sociable’ (i.e. extraversion), ‘I see myself as someone who is helpful and unselfish with others’ (i.e. agreeableness), ‘I see myself as someone who is a reliable worker’ (i.e. conscientiousness), ‘I see myself as someone who worries a lot’ (i.e. neuroticism), and ‘I see myself as someone who is curious about many different things’ (i.e. openness). Self-report ratings for each item were made on a scale from 1 (disagree strongly) to 5 (agree strongly). This self-report measure of the Big Five was used because of its ease of administration and its brevity, and because it has proven useful for cross-language and cross-cultural research (Benet-Martínez & John, 1998).

#### *Sexuality measure*

All but four samples (i.e. Chile, Jordan, South Africa, and India) from the original ISDP collection of 56 nations were administered the ‘Sexy Seven’ measure of sexuality adjectives (Schmitt & Buss, 2000). The collaborators from the cultures of Chile, Jordan, and India chose not to administer the sexuality adjective measure because of the extremely sensitive nature of these questions in their cultures. The South African collaborators chose not to include the sexuality adjective measure due to time limitations. The Sexy Seven measure asks participants to rate themselves compared with others they know (using a nine-point scale from 1 = extremely inaccurate to 9 = extremely accurate) on a list of 67 sexually connotative adjectives. The Sexy Seven scales scored from these self-ratings include Sexual Attractiveness (including facets of beauty and seduction), Relationship Exclusivity (whether one is promiscuous and adulterous), Gender Orientation (masculinity and femininity), Sexual Restraint (abstinence and prudishness), Erotophilic Disposition (obscenity, indecency, and lust), Emotional Investment (love and romance), and Sexual Orientation (homosexuality and heterosexuality). The two subscales of Relationship Exclusivity are the Relationship Infidelity subscale and the Sexual Promiscuity subscale. The Relationship Infidelity subscale is comprised of the items ‘adulterous’, ‘devoted [reverse scored]’, ‘faithful [reverse scored]’, ‘monogamous [reverse scored]’, ‘polygamous’, and ‘unfaithful’. The Sexual Promiscuity subscale is comprised of the items ‘loose’ and ‘promiscuous’.

## RESULTS

The primary objective of this research was to examine whether relationship infidelity and sexual promiscuity are related to Big Five personality traits in different ways, and whether these differences pervade all world regions of the ISDP. All internal reliabilities and intercorrelations among measures of the Big Five and among measures of the Sexy Seven are presented in Table 2.

Table 2. Internal reliabilities and intercorrelations among the Big Five personality trait measures and risky sexuality measures

|                         | Extraversion | Agreeableness | Conscientiousness | Neuroticism | Openness | Relationship infidelity | Sexual promiscuity |
|-------------------------|--------------|---------------|-------------------|-------------|----------|-------------------------|--------------------|
| Extraversion            | (0.77)       |               |                   |             |          |                         |                    |
| Agreeableness           | 0.13***      | (0.70)        |                   |             |          |                         |                    |
| Conscientiousness       | 0.18***      | 0.27***       | (0.78)            |             |          |                         |                    |
| Neuroticism             | -0.29***     | -0.33***      | -0.28***          | (0.79)      |          |                         |                    |
| Openness                | 0.24***      | 0.11***       | 0.12***           | -0.09***    | (0.76)   |                         |                    |
| Relationship infidelity | 0.07***      | -0.21***      | -0.17***          | 0.03*       | -0.05*** | (0.77)                  |                    |
| Sexual promiscuity      | 0.13***      | -0.14***      | -0.14***          | 0.00        | 0.05***  | 0.38***                 | (0.40)             |

Cronbach alphas are located along the diagonal. Correlations above the diagonal are among female participants, correlations below the diagonal are among male participants. \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ .



### Personality and risky sexuality in North America

Relationship infidelity was significantly related, as predicted, to low levels of agreeableness in North America (after controlling for the effect of nation). This was true for both men,  $r(1438) = -0.20$ ,  $p < 0.001$ , and women,  $r(2516) = -0.22$ ,  $p < 0.001$  (see Table 3). Sexual promiscuity also correlated with agreeableness, but to a lesser degree. For example, among North American men, the correlation between agreeableness and relationship infidelity was larger than the correlation between agreeableness and sexuality promiscuity,  $r(1413) = -0.11$ ,  $p < 0.001$ . According to Fisher's  $r'$  to  $z$  transformation, the difference between these two correlations was statistically significant,  $z(1413) = 3.50$ ,  $p < 0.001$ . Among women, the correlation between agreeableness and relationship infidelity was also larger than the correlation between agreeableness and sexuality promiscuity,  $r(2462) = -0.11$ ,  $p < 0.001$ . Again, using Fisher's  $r'$  to  $z$  transformation, the difference between these two correlations was statistically significant,  $z(2462) = 5.65$ ,  $p < 0.001$ . Thus, as expected the trait of low agreeableness was a stronger predictor of people's relationship infidelity than the more general attribute of sexual promiscuity.

Similar results occurred with the relationship of conscientiousness to risky sexual behaviours in North America. Conscientiousness was negatively correlated with relationship infidelity for both men,  $r(1438) = -0.16$ ,  $p < 0.001$ , and women,  $r(2516) = -0.24$ ,  $p < 0.001$ . Stronger correlations were observed between conscientiousness and relationship infidelity than between conscientiousness and sexual promiscuity for women,  $z(2462) = 3.12$ ,  $p < 0.001$ , though the results only approached marginal significance for men,  $z(1413) = 1.13$ ,  $p < 0.13$ .

Extraversion, as predicted, displayed the opposite pattern. Higher levels of extraversion were generally associated with increased risky behaviour. However, among North American men the correlation between extraversion and relationship infidelity,  $r(1438) = 0.10$ ,  $p < 0.001$ , was smaller in magnitude than the correlation between extraversion and sexual promiscuity,  $r(1413) = 0.16$ ,  $p < 0.001$ . Using Fisher's  $r'$  to  $z$  transformation, the difference between these two correlations was statistically significant,  $z(1413) = 2.29$ ,  $p < 0.01$ . Among women, the correlation between extraversion and relationship infidelity was non-significant,  $r(2516) = 0.01$ , and was smaller than the significant correlation between extraversion and sexuality promiscuity,  $r(2462) = 0.05$ ,  $p < 0.05$ . The difference between these two correlations was significant,  $z(2462) = 1.98$ ,  $p < 0.05$ . Thus, as expected the personality trait of high extraversion was a stronger predictor of people's sexual promiscuity than the more adulterous attribute of relationship infidelity.

Finally, the traits of neuroticism and openness were not consistently related to either relationship infidelity or sexuality promiscuity in North America. Women who were high in neuroticism were more likely to describe themselves as unfaithful, but contrary to expectations this was not true for men. Men who were low on openness were more likely to engage in risky sexual behaviour—both infidelity and promiscuity—but this was not true for women. Overall, the hypotheses that the Big Five personality traits of extraversion, agreeableness, and conscientiousness would differentially relate to relationship infidelity and sexual promiscuity were supported in the North American sample of the ISDP.

### Personality and risky sexuality across the world regions of the ISDP

Some of the correlational patterns found in North America were universal across the world regions of the ISDP. In general, low agreeableness was associated with higher levels of

Table 3. The relationship between Big Five personality traits and risky sexuality across the 10 world regions of the International Sexuality Description Project

| World region           | Relationship infidelity |          |          |        |         | Sexual promiscuity |          |          |          |         |
|------------------------|-------------------------|----------|----------|--------|---------|--------------------|----------|----------|----------|---------|
|                        | Ext                     | Agr      | Con      | Neu    | Ope     | Ext                | Agr      | Con      | Neu      | Ope     |
| <i>North America</i>   |                         |          |          |        |         |                    |          |          |          |         |
| Men                    | 0.10***                 | -0.20*** | -0.16*** | -0.01  | -0.07** | 0.16***            | -0.11*** | -0.13*** | -0.04    | -0.06*  |
| Women                  | 0.01                    | -0.22*** | -0.24*** | 0.06** | -0.03   | 0.05*              | -0.11*** | -0.18*** | 0.04     | -0.02   |
| <i>South America</i>   |                         |          |          |        |         |                    |          |          |          |         |
| Men                    | 0.19***                 | -0.12*   | -0.18*** | -0.10  | 0.08    | 0.21***            | -0.09    | -0.08    | 0.01     | 0.18*** |
| Women                  | -0.01                   | 0.07     | -0.13**  | -0.12* | 0.03    | 0.17**             | 0.05     | -0.04    | 0.02     | 0.10    |
| <i>Western Europe</i>  |                         |          |          |        |         |                    |          |          |          |         |
| Men                    | -0.01                   | -0.16*** | -0.16*** | 0.03   | -0.03   | 0.21***            | -0.08*   | -0.11*** | -0.07*   | 0.07*   |
| Women                  | 0.05*                   | -0.16*** | -0.17*** | 0.01   | 0.01    | 0.26***            | -0.06**  | -0.13*** | -0.09*** | 0.07**  |
| <i>Eastern Europe</i>  |                         |          |          |        |         |                    |          |          |          |         |
| Men                    | 0.09**                  | -0.24*** | -0.10*** | -0.01  | -0.09** | 0.15***            | -0.13*** | -0.11*** | 0.05     | 0.07**  |
| Women                  | 0.06*                   | -0.17*** | -0.12*** | 0.05   | 0.08*** | 0.12***            | -0.09*** | -0.06*   | 0.05     | 0.05*   |
| <i>Southern Europe</i> |                         |          |          |        |         |                    |          |          |          |         |
| Men                    | 0.10**                  | -0.25*** | -0.14**  | 0.02   | -0.01   | 0.06               | -0.14**  | -0.11*   | 0.04     | 0.08    |
| Women                  | 0.11**                  | -0.18*** | -0.23*** | 0.06   | 0.12*** | 0.14***            | -0.11**  | -0.14*** | 0.04     | 0.04    |
| <i>Middle East</i>     |                         |          |          |        |         |                    |          |          |          |         |
| Men                    | 0.14**                  | -0.24*** | -0.21*** | 0.02   | -0.01   | 0.20***            | -0.03    | -0.05    | -0.03    | 0.14**  |
| Women                  | 0.02                    | -0.26*** | -0.14*** | 0.05   | -0.03   | 0.14**             | 0.01     | 0.03     | -0.05    | 0.06    |
| <i>Africa</i>          |                         |          |          |        |         |                    |          |          |          |         |
| Men                    | 0.03                    | -0.16*** | -0.20*** | 0.09*  | -0.01   | -0.01              | -0.22*** | -0.13**  | 0.18***  | -0.01   |
| Women                  | 0.05                    | -0.13**  | -0.12**  | 0.01   | -0.09   | -0.04              | -0.08    | -0.10    | 0.04     | 0.06    |

|                             |         |          |          |        |          |         |          |          |      |         |
|-----------------------------|---------|----------|----------|--------|----------|---------|----------|----------|------|---------|
| <i>Oceania</i>              |         |          |          |        |          |         |          |          |      |         |
| Men                         | 0.13**  | -0.28*** | -0.23*** | 0.03   | 0.07     | 0.16**  | -0.16**  | -0.24*** | 0.02 | 0.06    |
| Women                       | 0.05    | -0.20*** | -0.19*** | 0.03   | -0.11**  | 0.11**  | -0.12**  | -0.13**  | 0.01 | -0.09*  |
| <i>South/Southeast Asia</i> |         |          |          |        |          |         |          |          |      |         |
| Men                         | -0.02   | -0.28*** | -0.18**  | 0.13*  | -0.12*   | -0.03   | -0.13*   | -0.17**  | 0.06 | 0.03    |
| Women                       | 0.00    | -0.15**  | -0.18*** | 0.11*  | -0.20*** | 0.13*   | -0.12*   | -0.10    | 0.09 | -0.03   |
| <i>East Asia</i>            |         |          |          |        |          |         |          |          |      |         |
| Men                         | 0.05    | -0.23*** | -0.19*** | 0.07   | -0.04    | -0.03   | -0.13**  | -0.24*** | 0.08 | 0.04    |
| Women                       | 0.03    | -0.19*** | -0.26*** | -0.01  | -0.07    | -0.10*  | -0.12**  | -0.26*** | 0.04 | 0.03    |
| <i>Total ISDP Sample</i>    |         |          |          |        |          |         |          |          |      |         |
| Men                         | 0.08*** | -0.21*** | -0.16*** | 0.02   | -0.04*** | 0.13*** | -0.14*** | -0.14*** | 0.01 | 0.04*** |
| Women                       | 0.04*** | -0.18*** | -0.19*** | 0.03** | 0.00     | 0.10*** | -0.12*** | -0.14*** | 0.01 | 0.05*** |

Ext = Extraversion, Agr = Agreeableness, Con = Conscientiousness, Neu = Neuroticism, Ope = Openness to Experience. All correlations are partial correlations controlling for the effect of individual nation within each world region. \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ . ISDP = International Sexuality Description Project (see Schmitt et al., 2003).

relationship infidelity. The only exception to this universal trend was that women in South America who were low on agreeableness were not more likely to rate themselves as more unfaithful. As expected, the strengths of the disagreeableness–infidelity associations were stronger than the disagreeableness–promiscuity associations across almost all world regions. The only exceptions to this trend were among men in Africa and women in South America. Overall, the differential links between agreeableness, infidelity, and promiscuity conformed to expectations and can be considered a ‘near universal’ of human nature (Brown, 1991; Lonner, 1980).

Low conscientiousness was associated with higher levels of relationship infidelity across all cultures for both men and women (see Figure 1). This linkage was a true ‘cultural universal’ (Brown, 1991). In addition, the strengths of the unconscientiousness–infidelity associations were stronger than the unconscientiousness–promiscuity associations across almost all world regions. Exceptions to this trend occurred among men from Eastern Europe, Oceania, South/Southeast Asia, and East Asia and among women from Africa and East Asia. Overall, the differential links between conscientiousness, infidelity, and promiscuity conformed to expectations, though not to the same degree as the links between agreeableness and risky sexuality.

Similar to the findings in North America, extraversion showed a very different pattern of associations with risky sexuality. Sexual promiscuity was significantly associated with higher levels of extraversion across most, but not all, world regions of the ISDP (see

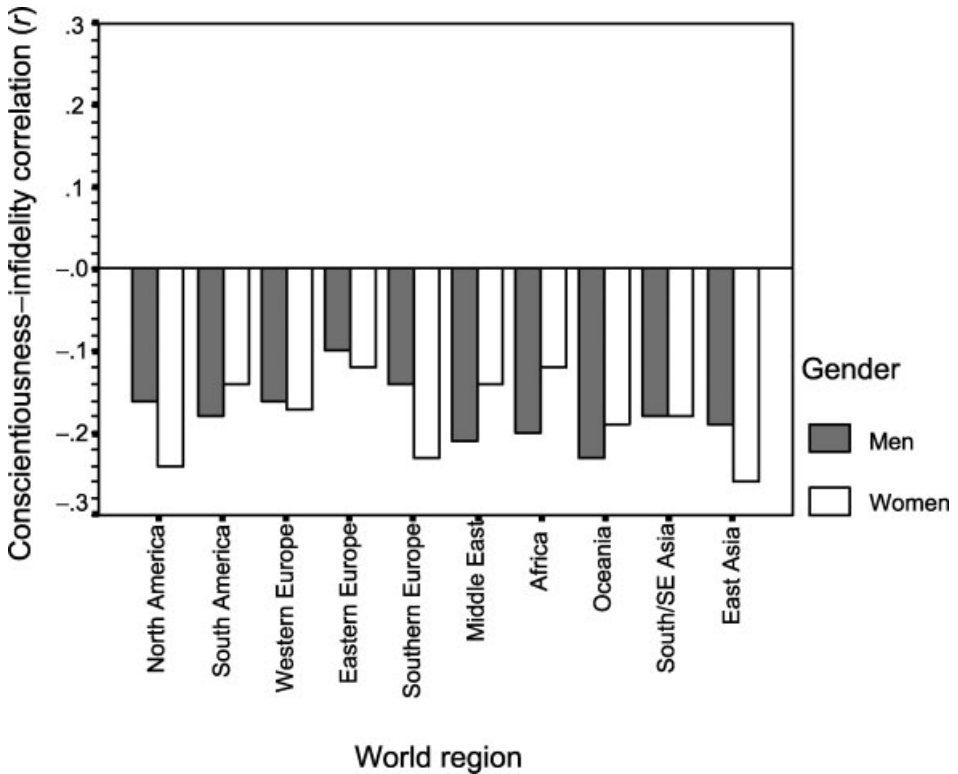


Figure 1. Correlations between conscientiousness and relationship infidelity for men and women across the 10 world regions of the International Sexuality Description Project.

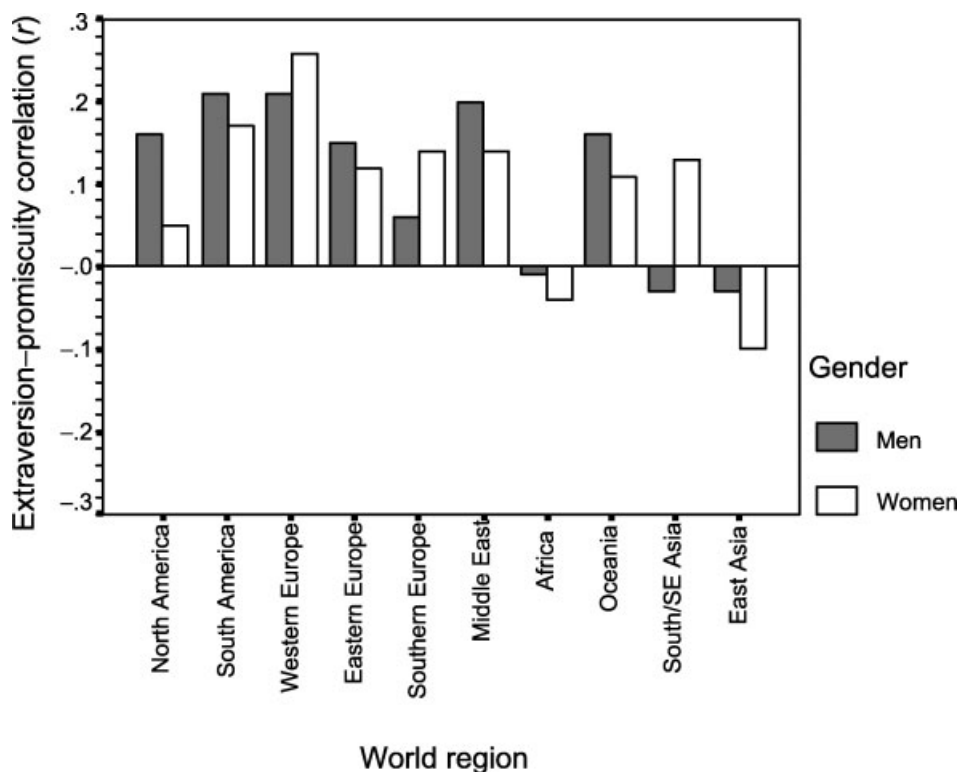


Figure 2. Correlations between extraversion and sexual promiscuity for men and women across the 10 world regions of the International Sexuality Description Project.

Figure 2). In contrast, the correlations between relationship infidelity and extraversion were either non-significant, or were much smaller than the correlations between sexuality promiscuity and extraversion across cultures. In three world regions extraversion was largely unassociated with sexual promiscuity—Africa, South/Southeast Asia, and East Asia. Interestingly, these three nations are the least ‘Western’ of the ISDP, a point to be addressed later.

Women and men who were high in neuroticism were sometimes more likely to describe themselves as unfaithful, but this relationship was significant only for men and women in South/Southeast Asia, men in Africa, and women in North America. Contrary to expectations, men’s and women’s neuroticism levels were largely unrelated to sexual promiscuity. Only men from Africa displayed the predicted relationship, with higher neuroticism associated with greater sexual promiscuity. Surprisingly, those men and women from Western Europe who were more neurotic tended to rate themselves as less promiscuous. These findings attest to the important moderating effects of culture on the links between personality and risky sexual behaviour.

Finally, the Big Five personality trait of openness was not consistently related to either relationship infidelity or sexuality promiscuity across the world regions of the ISDP. Men from North America, Eastern Europe, and South/Southeast Asia who were low on openness were more likely to engage in relationship infidelity. Among women, low openness was associated with relationship infidelity in Oceania and South/Southeast Asia. However, high openness in women was associated with increased infidelity in Eastern

Europe and Southern Europe. In general, high openness was associated with increased sexual promiscuity in men, but the opposite was true in North America. Among women, the links between openness and sexual promiscuity were also inconsistent.

## DISCUSSION

Based on the self-report responses of 16 363 people across 52 nations, data from the International Sexuality Description Project (ISDP; Schmitt et al., 2003) demonstrate that the Big Five personality traits differentially relate to features of risky sexuality across cultures. The personality trait of low agreeableness is associated with relationship infidelity across almost all world regions of the ISDP. Low levels of conscientiousness universally relate to higher levels of relationship infidelity across all regions (see Figure 1). In other words, people who describe themselves as more unfaithful tend to have personality traits linked to a lack of trust and empathy (i.e. low agreeableness; Graziano & Eisenberg, 1997), and they tend to be disorganized and unreliable (i.e. low conscientiousness; Hogan & Ones, 1997). These associations appear to be universal features of human nature, at least as expressed across the 10 world regions of the ISDP.

Sexual promiscuity, on the other hand, only weakly relates to agreeableness and conscientiousness, and these links are less consistent across cultures. These findings establish in a cross-cultural context that the personality psychology of adultery is not the same as the personality psychology of more generalized sexual promiscuity. Sexual promiscuity does relate to personality traits, but it more strongly relates to the Big Five personality trait of extraversion. This is true across many world regions of the ISDP. As displayed in Figure 2, sexual promiscuity is associated with extraversion most strongly in North America, South America, Western Europe, Eastern Europe, Southern Europe, the Middle East, and Oceania. In other world regions, such as Africa, South/Southeast Asia, and East Asia, sexual promiscuity is relatively unassociated with the trait of extraversion.

The reason why cultures vary in the personality correlates of risky sexual behaviour is an important area for future research. The results reported here suggest that the link between extraversion and sexual promiscuity varies considerably across cultures. There are three world regions where extraversion is largely unassociated with sexual promiscuity—Africa, South/Southeast Asia, and East Asia. These three nations are the least 'Western' of the ISDP, suggesting that the links between extraversion and sexuality depend on mediating cultural factors as yet unidentified. Perhaps such psychological phenomena as individualism–collectivism (Hofstede, 2001) or field dependence (Nisbett, 2003) contribute to the varied connections of extraversion and risky sexuality across cultures. For example, it may be speculated that the trait of extraversion leads people to seek rewards and pleasures differently depending on the individualism–collectivism orientation of their culture. People from cultures with collectivistic orientations may seek sexual pleasure not from having sex with numerous partners, but instead from having more emotional interconnectedness within exclusive sexual relationships. Despite some universal features of extraversion (Lucas et al., 2000), the links between extraversion and sexuality appear to be culture specific according to the ISDP.

### Limitations and future research directions

The current study documents that personality traits are differentially linked to increased sexual risk-taking around the world. Future studies that explore how culture can attenuate

the link between personality and risk may have important implications for research on HIV/AIDS. Indeed, the more we know about why people engage in promiscuous and unfaithful sex practices, the greater will be our ability to increase healthier sexual behaviour and decrease behaviours that place individuals at risk for disease and romantic despair.

Based on the present findings, when future investigators attempt to explain and control relationship infidelity, it may be most efficient to explore and utilize the developmental, physiological, neurological, and genetic factors associated with agreeableness and conscientiousness (Graziano & Eisenberg, 1997; Hogan & Ones, 1997; Zuckerman, 1994). When investigators seek to explain and control sexual promiscuity, on the other hand, it may be most efficient to explore and utilize the developmental, physiological, neurological, and genetic factors associated with extraversion (Lucas et al., 2000; Watson & Clark, 1997). In each case, however, the moderating effects of local culture should be incorporated (Church, 2000). The particular confluence of low agreeableness and low conscientiousness has been implicated as a key source of anti-sociality and poor relationship quality across several studies of Western cultures (Asendorpf, 1998; Asendorpf & van Aken, 1999; Paulhus & Williams, 2002). As such, future research should further explore whether this personality cluster or 'type' predisposes individuals toward romantic jealousy (Buss, 2000), sexual aggression (Malamuth, 1998), and marital dissolution (Gottman, 1994) in the same way across all cultures.

Despite these intriguing results, it should be noted that in many ways the self-reported sexuality and personality responses in this study are of limited value. The reliance on self-report as the sole means of assessment is a serious limitation given the highly sensitive nature of sexual self-description (Schaeffer, 2000). It is true that anonymity tends to increase the validity of sex surveys, especially when compared to face-to-face interviews (Alexander & Fisher, 2003; Andersen & Broffitt, 1988; Catania, McDermott, & Pollack, 1986). Nevertheless, even with guarantees of anonymity the cross-cultural nature of the ISDP raises additional questions about survey response veridicality (Brislin, 1993; Church, 2001). The observed cultural differences, for example, may be due not only to a real cultural disparity in the links between personality and sexuality, but also to inappropriate translations, biased sampling, or the non-identical response styles prevalent across cultures (Church & Lonner, 1998; McCrae, 2001; van de Vijver & Leung, 2000).

Concerns over sampling issues raise the additional caveat of generalizability. The convenience sampling techniques utilized in the ISDP seriously limit the representativeness of the present samples. Because the ISDP samples were primarily college students, any generalizations beyond college-aged populations would be inappropriate. On the other hand, because all nations were represented by college-aged samples, any differences between samples will tend to elucidate the effects of culture, and not other age-related demographic confounds. Ultimately, future research taking factors such as sampling and response biases into account will be needed to fully verify the personality–sexuality linkages uncovered in the present study.

Finally, the questionnaires employed in the ISDP were designed to measure very broad individual differences within the normal range of human functioning. The BFI, for example, is not capable of distinguishing between the different facets within each of the Big Five (such as the various components of agreeableness; Graziano & Eisenberg, 1997) and is not designed to diagnose those with extreme and maladaptive levels of those facets. The relationship between agreeableness and risky sexuality, for instance, may be driven by those individuals with extremely low trust and a pathological inability to commit to

another person. The relationship between low conscientiousness and risky sexuality may be driven by those individuals with extremely low inhibition, whereas the remaining facets of conscientiousness could be unrelated to risky sexuality. The current broad-based measures may have just scratched the surface of these relationships, and at this point using these measures the specific associations between personality and sexuality remain unclear. Future research that looks at more specific facets of personality, including extreme levels associated with personality disorders, and relates these variables to various forms of risky sexuality and sexual deviance will be needed to understand the full spectrum of associations between personality and sexuality.

## CONCLUSION

According to present study, the broad-based personality traits known as the 'Big Five' differentially relate to features of risky sexuality across cultures. Low levels of agreeableness and low levels of conscientiousness are universally associated with relationship infidelity across cultures. Sexual promiscuity relates weakly to these traits as well, but is more highly related to extraversion across many, but not all, world regions. Both forms of risky sexual behaviour are generally unrelated to neuroticism and openness across cultures. The predicted personality–sexuality correlations are most strongly evident in Western cultures, and are less robust across nations from Africa, South/Southeast Asia, and East Asia. Ultimately, future research is needed to explain the moderating effects of culture on personality and its relationship to risky sexuality.

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