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## The role of emotional promiscuity in unprotected sex

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Sexual promiscuity is a known risk factor for unprotected sex. A related variable, *emotional promiscuity*, has conceptual relevance but has yet to be studied with respect to unprotected sex. Data from four studies (total  $N = 908$ ) indicated that both sexual promiscuity and emotional promiscuity were associated with women's reports of unprotected sex. Independent of those contributions, the interaction between sexual promiscuity and emotional promiscuity was also significant for women: Scoring high on both variables was associated with the highest number of unprotected partners. This synergistic interaction emerged whether the question about number of unprotected partners referred to the past year or lifetime total. The interaction held up even after controlling for other relevant factors (lifetime partners, romantic beliefs, and attachment styles). In sum, among sexually active women, the susceptibility to falling in love puts them at risk for unprotected sex. Our discussion addresses possible mechanisms and why the key interaction only emerged in women.

**Keywords:** condoms; emotional promiscuity; health; promiscuity; sociosexuality

### The role of emotional promiscuity in unprotected sex

Who is most likely to disregard the risks associated with unprotected sex, that is, pregnancy and disease? Research to date indicates the importance of sexual promiscuity (as operationalised by such variables as openness to casual sexual encounters or rate of sexual contact) as a risk factor for having unprotected sex (Hoyle, Fejfar, & Miller, 2000; Sheeran, Abraham, & Orbell, 1999). The impact of sexual promiscuity is twofold: Such individuals expose themselves to more sexual partners, and are also less likely to use condoms on any given occasion (e.g. Farmer & Meston, 2006).

As a result, it is not surprising that educational programs focus on casual sex (Fisher, Misovich, & Fisher, 1996; Kirby, 2002; Shelton et al., 2004). By contrast, issues regarding unsafe sex within romantic attachments tend to be overlooked (e.g. Corbin & Fromme, 2002) – presumably under the assumption that such behaviour has less serious consequences (e.g. Hoyle et al., 2000). However, there is

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evidence to suggest that many current HIV infections occur in the context of romantic relationships (e.g. Davidovich et al., 2001). In fact, those who feel confident in their partner's character and relationship history are *less* likely to engage in safe sexual practices (Fisher et al., 1996). This paradox may help explain why increased knowledge of risky sexual behaviour fails to translate into increased condom use (Fisher & Misovich, 1990).

Whereas the disposition towards sexual promiscuity is a known factor contributing to risk-taking in casual sex, a second dispositional variable – emotional promiscuity – has yet to be studied with regard to unsafe sex. *Emotional promiscuity*<sup>1</sup> is defined as the tendency to fall in love easily and often (Jones, 2011). When operationalised with the emotional promiscuity (EP) scale, this variable overlaps with, but is distinct from, sexual promiscuity and anxious attachment. Jones and Paulhus (2009) have also shown, using both correlational and longitudinal methods that emotional promiscuity has been shown to uniquely predict emotional infidelity and more romantic interests over time.

### Love and health

At first blush, being in love would seem to be a preventative factor with respect to risky sexual behaviour: After all, people in love are motivated to remain with one partner. Romantic relationships, however, pose their own risks for unsafe sex (e.g. Davidovich et al., 2001; Fisher et al., 1996). For example, there is evidence to suggest that those who are in love feel less at risk for contracting sexually transmitted diseases from their partner (Flood, 2003; Manuel, 2005). It is not surprising then that actual condom use is less likely for those in love (Rosenthal, Gifford, & Moore, 1998).

Although Murray and Holmes (1997) construed partner idealisation as a positive contributor to relationship health, other research highlights the potential health risks. In particular, idealisation can contribute to unprotected sex. When describing ideal (vs. other types) of sexual encounters, people are less likely to mention condoms (Hynie, Lydon, Cote, & Weiner, 1998). Indeed, condoms are associated with casual sex, not sex with an idealised or trusted partner. Therefore, individuals seeking an ideal mate or ideal encounter may be less likely to consider condom use than those not in an idealistic frame of mind. Consequently, romantic idealisation (e.g. Sprecher & Metts, 1989) may interfere with condom use as well (see also, Manning, Flanigan, Giordano, & Longmore, 2009).

In addition to romantic idealism, another aspect of love that can lead to health issues is unjustified trust. In one study, trust in one's romantic partner was specifically cited as a reason for disregarding the need for condoms (Manuel, 2005). Others have shown that individuals, particularly women, relax their safety behaviours in sexual relationships when they feel that they know a partner or a partner's history (e.g. Fisher et al., 1996). Finally, the trust inherent in monogamy may lead to the strongest sense of immunity (Flood, 2003). In sum, trust induces a sense of immunity, which, in turn, leads to reduced condom use.

### Dangers of attachment

Previous research has confirmed the impact of other individual difference variables on condom use. Anxious attachment, for example, is related to negative attitudes

towards condoms (Bogaert & Sadava, 2002). Anxiously attached individuals, especially women, may be hesitant to suggest condom use for fear of partner rejection and a desire to merge completely with a romantic partner (Mikulincer & Shaver, 2007, p. 360). Interestingly, avoidant attachment is associated with positive attitudes towards condoms and increases safe sexual practices: One possible explanation is their detachment of sex and love (Allen & Baucom, 2004). Nonetheless, the desire for risky casual encounters still lingers in avoidant individuals (Mikulincer & Shaver, 2007).

That literature motivated us to include standard measures of attachment styles as control variables. Given the overlap between anxious attachment and emotional promiscuity (Jones, 2011), it remains unclear whether the two will make independent contributions.

### Summary

There is reason to believe that love can be an impediment to safe sex. It follows that those with a predisposition to fall in love easily and often, that is, the emotionally promiscuous, are at increased risk. To fairly test this hypothesis, our research investigated whether emotional promiscuity contributes to unprotected sex above and beyond previously identified risk factors such as sexual promiscuity (Farmer & Meston, 2006), lifetime number of sex partners (e.g. Sheeran et al., 1999), anxious attachment (e.g. Mikulincer & Shaver, 2007) and romantic idealism (Sprecher & Metts, 1989).

In the following, we report the results of four large surveys investigating these variables in community samples. The above literature supported the prediction that all of these variables would be associated with unprotected sex. We also anticipated a synergistic interaction between sexual promiscuity and emotional promiscuity. Our rationale was as follows. Individuals who are not sexually promiscuous, regardless of EP scores, do not pursue casual sex. As a result, the number of sexual partners such individuals expose themselves to (protected or unprotected) would be low. Another group unlikely to be at high risk are those who are sexually promiscuous, but low in EP. Such individuals would have more sexual partners but also have realistic perceptions and concerns about sexual risks.

Emotionally promiscuous individuals who are also sexually promiscuous would be especially vulnerable. Such vulnerability stems from simultaneous exposure to many sexual partners with whom they feel in love. As a result, their biased judgment of safety repeats itself across many sexual partners.

### Study 1

#### *Participants*

This study included 382 paid participants (mean age = 30.33). They were recruited through an online community called 'Mechanical Turk' (MTurk) and advertised under the title 'sexual behaviours'. Evidence is rapidly accumulating that MTurk yields data that exceeds college samples in overall quality, especially when studying real-world adult variables (Buhrmester, Kwang, & Gosling, 2011; Paolacci, Chandler, & Ipeirotis, 2010). For example, Buhrmester and colleagues found that data resulting from MTurk workers was equally (if not more) reliable.

The fact that this source includes adult of all ages constitutes a major advantage in studying sexual behaviour. Most undergraduate samples have mean ages under 21, thereby limiting their range of sexual experiences.

Descriptive statistics for all test variables can be found in Table 1. Respondents with no lifetime sexual partners were excluded, leaving a total of 173 men, and 163 women. The age range was substantial (18 to 64; Mean = 30.87; SD = 10.02). This sample included the following ethnicities: 52% European Heritage, 26% East Asian, 12% South Asian, 4% African Heritage, 3% Latin American, 2% Native North American, and 1% other. Unlike student samples, the participants also differed widely with respect to occupations and socioeconomic status, with income ranging from less than \$12,500 to over \$100,000 per year.

## Measures

### *Emotional promiscuity*

This concept was assessed with the recently published Emotional Promiscuity (EP) scale (Jones, 2011). The 10-item scale measures individual differences in how easily and often people fall in love. Sample items include, 'I fall in love easily' and 'I tend to jump into relationships'. Item responses range from 1 (*strongly disagree*) to 5 (*strongly agree*). The EP scale items with corrected item-total correlations are provided in Table 2 and inter-item correlations are provided in Table 3.

Across the four studies, EP demonstrated acceptable alpha reliabilities for both women (range from 0.79 to 0.84) and men (range from 0.77 to 0.82). Men scored higher than women in all four studies,  $t(908) = 5.95$ ,  $p < 0.001$ , with an overall effect size of  $d = 0.43$ .

### *Sociosexuality*

The sociosexual orientation inventory (SOI; Simpson & Gangestad, 1991) was selected as the measure of sexual promiscuity. The SOI is a 7-item measure that taps attitudes and behaviours reflecting desire and comfort with casual sex.<sup>2</sup>

In the four present studies, alpha reliabilities were respectable for women ( $\alpha = 0.73$  to 0.82) and men ( $\alpha = 0.76$  to 0.81). In line with previous research, men recorded higher scores on the SOI than did women in all four studies,  $t(908) = 7.23$ ,  $p < 0.001$ . The mean effect size was 0.46. Sexual promiscuity and emotional promiscuity were significantly correlated ( $ps < 0.01$ ) in all four studies: For men, the values ranged from 0.28 to 0.47. For women, they ranged from 0.31 to 0.53.

### *Romantic idealism*

The romantic beliefs scale (RBS) (Sprecher & Metts, 1989) was used to measure idealistic beliefs about romance. The RBS was designed to measure how much individuals identify with western notions of romantic love. Facets of the scale are: love at first sight, love conquers all, idealism of partners, and belief in one true love. RBS was included as a covariate because of its conceptual overlap with emotional promiscuity. Alpha reliabilities were acceptable for both women (0.86) and men (0.78). Men ( $M = 3.32$ ,  $SD = 0.52$ ) scored higher than did women ( $M = 3.19$ ,  $SD = 0.61$ ),  $t(331) = 2.18$ ,  $p < 0.05$ ,  $d = 0.23$ .

Table 1. Descriptive statistics of all variables in all studies.

	Study 1			Study 2			Study 3			Study 4					
	Men	Women	<i>t</i>	Men	Women	<i>d</i>	Men	Women	<i>t</i>	Men	Women	<i>d</i>	Men	Women	<i>t</i>
Emotional prom.	3.11 (0.65)	2.80 (0.66)	2.22*	2.99 (0.62)	2.86 (0.69)	0.20	3.06 (0.69)	2.91 (0.62)	1.17	3.06 (0.69)	2.91 (0.62)	0.23	2.94 (0.60)	2.75 (0.65)	1.89
Sociosexuality	0.26 (0.73)	-0.24 (0.53)	6.68*	0.24 (0.69)	-0.19 (0.58)	0.66	0.14 (0.68)	-0.15 (0.64)	4.28*	0.14 (0.68)	-0.15 (0.64)	0.41	0.31 (0.69)	-0.16 (0.61)	3.67*
Lifetime partners	6.62 (3.99)	5.91 (3.7)	1.59	6.35 (3.91)	6.38 (3.99)	0.01	5.68 (3.75)	6.08 (3.90)	-0.04	5.68 (3.75)	6.08 (3.90)	0.10	3.46 (2.56)	2.78 (1.97)	-0.86
# Unprotected	0.08 (1.03)	-0.06 (0.94)	1.30	0.03 (1.05)	-0.02 (0.94)	0.05	0.06 (1.00)	-0.06 (0.95)	0.35	0.06 (1.00)	-0.06 (0.95)	0.12	0.09 (0.83)	-0.04 (0.96)	0.98
Anxious attach.	-	-	-	2.89 (0.76)	2.93 (0.75)	0.05	2.94 (0.73)	3.02 (0.73)	-0.34	2.94 (0.73)	3.02 (0.73)	0.11	2.80 (0.75)	2.82 (0.75)	-0.91
Avoidant attach	-	-	-	-	-	-	2.36 (0.65)	2.16 (0.67)	-	2.36 (0.65)	2.16 (0.67)	0.29	2.30 (0.72)	1.94 (0.69)	2.51*
Romantic beliefs	3.31 (0.51)	3.18 (0.62)	2.00*	-	-	-	-	-	-	-	-	-	0.00	0.00	-0.19
													0.51	0.51	3.07*

Notes: \* =  $p < 0.05$ , two-tailed. Tabled values are means with standard deviations in parentheses.

Table 2. EP scale items with their part-whole correlations in each study.

Item	Corrected item-total correlation			
	Study 1	Study 2	Study 3	Study 4
1. I fall in love easily.	0.623	0.707	0.635	0.638
2. For me, romantic feelings take a long time to develop. (R)	0.522	0.558	0.467	0.528
3. I feel romantic connections right away.	0.502	0.640	0.537	0.663
4. I love the feeling of falling in love.	0.150	0.290	0.273	0.240
5. I am not the type of person who falls in love. (R)	0.119	0.356	0.161	0.215
6. I often feel romantic connections to more than one person at a time.	0.531	0.537	0.493	0.413
7. I have been in love with more than one person at the same time.	0.592	0.532	0.548	0.573
8. I fall in love frequently	0.646	0.627	0.578	0.626
9. I tend to jump into relationships.	0.553	0.551	0.631	0.512
10. How many people have you fallen in love with?	0.467	0.458	0.457	0.429

Note: Extraction method was Maximum Likelihood with Promax Rotation.

Table 3. Inter-correlations among EP scale items across the four studies ( $n=908$ ).

	1	2	3	4	5	6	7	8	9	10
1. EP1	–									
2. EP2	0.46**	–								
3. EP3	0.55**	0.55**	–							
4. EP4	0.20**	0.16**	0.26**	–						
5. EP5	0.14**	0.26**	0.15**	0.38**	–					
6. EP6	0.37**	0.18**	0.28**	0.00	–0.08*	–				
7. EP7	0.38**	0.25**	0.27**	0.07*	0.01	0.65**	–			
8. EP8	0.56**	0.31**	0.42**	0.08*	–0.03	0.51**	0.47**	–		
9. EP9	0.52**	0.36**	0.44**	0.09*	0.03	0.37**	0.38**	0.55**	–	
10. EP10	0.28**	0.22**	0.20**	0.11**	0.17**	0.33*	0.45**	0.31**	0.26**	–

Note: \* =  $p < 0.05$ , \*\* =  $p < 0.01$ .

#### Number of lifetime sex partners

In Studies 1–3, the total number of different lifetime sexual partners (referred to as *lifetime partners*) was requested in 12 options (ranging from 0 to 11+). Means for men and women were not significantly different in any of the three studies (all  $t$  values  $< 1$ ). In all four studies, number of lifetime partners was strongly correlated with sexual promiscuity ( $r$ 's 0.50 to 0.68,  $p$ 's  $< 0.001$ ) and emotional promiscuity ( $r$ 's 0.19 to 0.35,  $p$ 's  $< 0.01$ ).

#### Number of unprotected partners

In studies 1–3, total number of lifetime unprotected partners was assessed with the following two questions: 'How many different partners have you had unprotected

sex with? (even once)', and 'How many different partners have you had unprotected sex with more than once?' The first question was designed to capture frequent occasions with a few partners whereas the second was designed to capture fewer occasions with multiple partners. In other words, we wished to cover two scenarios in which someone may have unprotected sex.

Similar to the question assessing lifetime partners, possible responses to the questions about number of unprotected partners ranged from 0 to 11+. The two items were standardised and combined to create a single index of unprotected partners (alphas ranged from 0.78 to 0.96 for men and 0.92 to 0.98 for women). Men did not significantly differ from women in number of unprotected partners in any of the four studies (all  $r$ 's < 1.1).

### ***Statistical approach***

Men and women were treated separately for all analyses. This choice stemmed from the extensive findings of sex differences in use of condoms (Carter, McNair, Corbin, & Williams, 1999) – not to mention many other aspects of sexual behaviour (e.g. Buss, 1989, 1994). In fact, women are psychologically different from men with respect to condom motivation (Worth, 1989). Stronger effects for women have been found in the literature on idealisation of a partner or sexual encounter (e.g. Hynie et al., 1998) as well as partner trust (e.g. Fisher et al., 1996). In addition to all these above considerations, men and women also have differential levels of sexual promiscuity (Simpson & Gangestad, 1991) and emotional promiscuity<sup>3</sup> (e.g. Jones, 2011). Given these considerations, we chose to report separate results for men and women.

In all four studies, the regression analyses for unprotected sex entailed three steps. In Step 1, unprotected sex was regressed on number of lifetime sexual partners (or number of partners in the past year for Study 4); Step 2 added the main variables of interest for the specific study; Step 3 added the product of sexual promiscuity and emotional promiscuity. Unless otherwise indicated, statistical tests were two-tailed. All variables were standardised prior to computing interaction terms in regression analyses.

### ***Results and discussion***

For simplicity, the correlational and regression analyses for all four studies are reported in Table 4. In Study 1, number of unprotected partners was associated with sexual promiscuity in both men ( $r=0.56$ ,  $p < 0.001$ ) and women ( $r=0.49$ ,  $p < 0.001$ ). The prediction that emotional promiscuity would be positively correlated with unprotected partners was supported for women ( $r=0.31$ ,  $p < 0.01$ ) but not for men ( $r=0.10$ ,  $p > 0.05$ ). Romantic idealism showed a small negative correlation with unprotected partners in men ( $r=-0.17$ ,  $p < 0.05$ ) and women ( $r=-0.15$ ,  $p < 0.05$ ).

Regressions were conducted in order to control for the overlap between sexual promiscuity and emotional promiscuity. Also controlled were number of lifetime partners and romanticism. A summary of the regressions can be found in Table 4. As predicted, sexual promiscuity was an independent risk factor for unprotected partners for both men ( $\beta=0.16$ ,  $p < 0.05$ ) and women ( $\beta=0.13$ ,  $p < 0.05$ ).



Table 4. Correlations and regressions associated with number of unprotected partners.

	Men			Women		
	<i>r</i>	$\beta$	95% CI	<i>r</i>	$\beta$	95% CI
Study 1:						
# Lifetime partners	0.67**	0.53**	(0.35, 0.73)	0.75**	0.66**	(0.51, 0.82)
Emotional promiscuity	0.10	-0.08	(-0.17, 0.09)	0.31**	0.09	(-0.08, 0.19)
Sociosexuality	0.56**	0.16	(-0.12, 0.35)	0.49**	0.13*	(-0.01, 0.27)
Romantic beliefs	-0.17*	-0.07	(-0.18, 0.04)	-0.15*	-0.01	(-0.13, 0.13)
EP $\times$ SP	-	-0.07	(-0.19, 0.16)	-	0.23*	(-0.04, 0.20)
Study 2:						
# Lifetime partners	0.70**	0.65**	(0.36, 1.01)	0.77**	0.62**	(0.48, 0.86)
Emotional promiscuity	0.22	-0.08	(-0.28, 0.15)	0.47**	0.02	(-0.23, 0.25)
Sociosexuality	0.52**	0.08	(-0.20, 0.34)	0.61**	0.12*	(-0.11, 0.27)
Anxious attachment	0.09	0.05	(-0.14, 0.25)	0.29**	0.12*	(-0.06, 0.34)
EP $\times$ SP	-	0.01	(-0.17, 0.23)	-	0.37*	(0.03, 0.36)
Study 3:						
# Lifetime partners	0.73**	0.59**	(0.39, 0.84)	0.68**	0.63**	(0.43, 0.83)
Emotional promiscuity	0.14	-0.20*	(-0.25, 0.05)	0.22*	-0.08	(-0.31, 0.15)
Sociosexuality	0.58**	0.18*	(-0.02, 0.37)	0.51**	0.10*	(-0.11, 0.37)
Anxious attachment	-0.04	0.01	(-0.14, 0.14)	0.12	0.22*	(0.03, 0.44)
Avoidant attachment	0.17	0.05	(-0.08, 0.19)	0.06	0.05	(-0.07, 0.18)
EP $\times$ SP	-	-0.08	(-0.15, 0.08)	-	0.30*	(-0.08, 0.44)
Study 4:						
# partners past year	0.30*	0.13	(-0.12, 0.41)	0.53**	0.24**	(0.00, 0.99)
Emotional promiscuity	-0.01	-0.23	(-0.39, 0.05)	0.27**	-0.06	(-0.67, 0.23)
Sociosexuality	0.25*	-0.07	(-0.42, 0.17)	0.55**	0.38**	(0.13, 0.68)
Anxious attachment	0.10	0.26	(-0.01, 0.53)	0.25**	0.25*	(-0.11, 0.78)
Avoidant attachment	-0.04	-0.04	(-0.29, 0.18)	0.00	-0.10	(-0.33, 0.07)
EP $\times$ SP	-	0.16	(-0.20, 0.29)	-	0.28*	(-0.23, 0.82)

Notes: \* =  $p < 0.05$ , \*\* =  $p < 0.01$ . Statistical tests in Study 1 are two-tailed. For the replication studies, tests are one-tailed.

Contrary to prediction, however, there was no independent effect for emotional promiscuity on unprotected partners for men ( $\beta = -0.08, p > 0.05$ ) or women ( $\beta = 0.09, p > 0.05$ ).

There was also a significant emotional promiscuity  $\times$  sexual promiscuity interaction for women ( $\beta = 0.22, p < 0.05$ ), but not for men ( $\beta = -0.07, p = 0.19$ ). Figure 1 reveals the pattern of means and Table 5 provides simple slope analyses for all four studies. The highest risk for unprotected sex occurred in women scoring high on both emotional and sexual promiscuity.

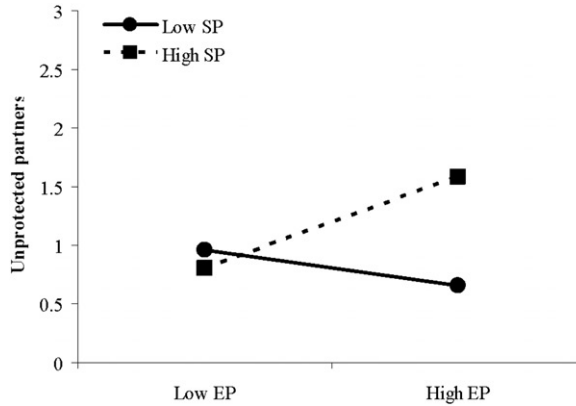


Figure 1. Unprotected sex as a function of emotional and sexual promiscuity in women.

Table 5. Simple slope analyses.

	Men			Women		
	<i>B</i>	SE	<i>p</i>	<i>B</i>	SE	<i>p</i>
<i>Study 1</i>						
EP at the mean of SOI	-0.07	0.13	0.626	0.24	0.12	0.055
EP at +1 SD of SOI	-0.12	0.18	0.500	0.54*	0.22	0.014
EP at -1 SD of SOI	-0.02	0.24	0.935	-0.11	0.22	0.620
<i>Study 2</i>						
EP at the mean of SOI	-0.01	0.19	0.970	0.29	0.15	0.065
EP at +1 SD of SOI	0.14	0.30	0.642	0.61*	0.23	0.010
EP at -1 SD of SOI	-0.14	0.27	0.613	-0.12*	0.26	0.661
<i>Study 3</i>						
EP at the mean of SOI	-0.26	0.12	0.038	0.06	0.13	0.657
EP at +1 SD of SOI	-0.39	0.21	0.066	0.27	0.19	0.162
EP at -1 SD of SOI	-0.17	0.23	0.464	-0.18	0.23	0.424
<i>Study 4</i>						
EP at the mean of SOI	-0.20	0.24	0.408	0.05	0.14	0.719
EP at +1 SD of SOI	-0.01	0.23	0.981	0.65**	0.20	0.002
EP at -1 SD of SOI	-0.44	0.42	0.291	-0.54*	0.23	0.020

Note: \* =  $p < 0.05$ , \*\* =  $p < 0.01$ .

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In sum, Study 1 replicated previous research indicating that sexual promiscuity is associated with unprotected sex for both men and women. Emotional promiscuity was also associated but did not prove to be an independent predictor in the regression analyses. The predicted interaction between sexual and emotional promiscuity did emerge in women: Those high in both sexual and emotional promiscuity were especially prone to engage in unprotected sex.

## Study 2

Study 1 was successful in showing the synergistic effect of sexual and emotional promiscuity on unprotected sex. However, the effect held only for women. Hence, we deemed it important to replicate this effect in a separate sample. Given that the romantic beliefs scale was unassociated with unprotected sex, it was removed from Study 2. Added to the study was, anxious attachment, a variable that has been linked to unprotected sex in the literature (Mikulincer & Shaver, 2007). We were concerned that its overlap with emotional promiscuity might have accounted for the effects of the latter in Study 1.

### Method

A total of 151 sexually experienced participants (67 men, and 84 women) completed a survey on sexual behaviour (Mean age = 31.51, SD = 9.58; 72% European heritage, 15% East Asian, 6% South Asian, 5% Latin American and 2% African heritage). All measures were the same with the exception of two changes: The romantic beliefs scale was dropped and the 18-item anxious attachment subscale of the experiences in close relationships (ECR) questionnaire (Brennan, Clark, & Shaver, 1998) was added.

### Results and discussion

Results for Study 2 were similar to those of Study 1 (see Table 4 for all statistics). The added variable, anxious attachment, had an acceptable reliability in this sample ( $\alpha = 0.73$ ). Anxious attachment was associated with more unprotected partners among women ( $r = 0.29$ ,  $p < 0.01$ ) but not among men ( $r = 0.09$ ,  $p > 0.05$ ).

Again, sexual promiscuity was significantly associated with unprotected sex for women ( $\beta = 0.12$ ,  $p < 0.05$ ), but the effect for men ( $\beta = 0.08$ ,  $p = 0.08$ ) was only marginal. As in Study 1, there was a significant emotional x sexual promiscuity interaction for women. The pattern was similar to that of Figure 1.

In sum, Study 2 replicated the finding that high levels of both emotional and sexual promiscuity are synergistically related to unsafe sex in women. This association held true even when controlling for anxious attachment and lifetime partners.

## Study 3

Although Study 2 replicated the intriguing synergistic interaction between sexual promiscuity and emotional promiscuity, it did not include both anxious and avoidant attachment subscales. Therefore, Study 3 was conducted to add a second

replication as well as a more detailed investigation of the influence of attachment styles.

### **Method**

A total of 235 sexually experienced participants (116 men, and 119 women) constituted our third sample (Mean age = 30.60, SD = 8.75; 53% European Heritage, 21% East Asian, 14% South Asian, 5% African Heritage, 3% Latin American, 2% Native North American). Instead of the long form, the ECR Short-form (Wei, Russell, Mallinckrodt, & Vogel, 2007) was used to measure attachment styles (anxious attachment  $\alpha = 0.73$ ; avoidant attachment  $\alpha = 0.74$ ). All other measures were identical to Studies 1 and 2.

### **Results and discussion**

Once again, sexual promiscuity was associated with unprotected sex in men and women (see Table 4 for all statistics). As before, emotional promiscuity was significantly associated with unprotected partners for women ( $r = 0.22$ ,  $p < 0.05$ ) but only marginally for men ( $r = 0.14$ ,  $p = 0.08$ ). For women, avoidant attachment had no effect, but anxious attachment showed a marginal effect ( $r = 0.12$ ,  $p = 0.06$ ).

In a regression analysis, sexual promiscuity remained independently associated with unprotected partners for men ( $\beta = 0.18$ ,  $p < 0.05$ ) and women ( $\beta = 0.10$ ,  $p < 0.05$ ). For women, anxious attachment was also independently associated with unprotected partners but avoidant attachment was not. Again, there was a significant emotional  $\times$  sexual promiscuity interaction for women similar to that of Figure 1.

### **Study 4**

Studies 1–3 suggested that high levels of both sexual and emotional promiscuity promote unsafe sex in women. Note that, in all three studies, the time frame for reporting partners was the individual's entire lifetime. Although increasing the reliabilities of these reports, such a lengthy duration may favour a memory bias in the direction of the respondent's attitudes regarding sexual encounters. To balance these two effects in Study 4, we reduced the time frame from 'lifetime' to 'the previous year'.

### **Method**

A total of 186 participants (66 men and 120 women; Mean age = 30.75, SD = 9.96; 76% European Heritage, 10% East Asian, 4% Latin American, 3% South Asian, 4% African Heritage, 1% Native North American and 1% Other ethnicity) completed the same battery of questionnaires as in Studies 1–3. The age range and ethnic distributions were similar to the previous studies. All independent measures were identical to Study 3 with good alpha reliabilities (all  $\alpha$ 's  $> 0.73$ ). The two questions composing the dependent variable in Studies 1–3 were changed to 'within the past year' rather than lifetime. A similar change was made in the wording for total number of sexual partners.

### **Results and discussion**

Once again, sexual promiscuity was positively associated with number of unprotected partners in men and women (see Table 4 for all statistics). Emotional promiscuity and anxious attachment also showed significant positive associations.

In regression analyses, there were no significant effects for men. For women, however, anxious attachment was a significant risk factor for unprotected partners. Avoidant attachment proved to be a protective factor (i.e. negatively related to unprotected partners). Independent of those effects, the significant emotional  $\times$  sexual promiscuity interaction emerged for a fourth time ( $\beta=0.28$ ,  $p < 0.05$ ). This interaction pattern (once again) resembled that of Figure 1.

### **General discussion**

Our four studies confirmed the consistent finding that, for both men and women, sexual promiscuity is a risk factor for unprotected sex. More novel is our demonstration that emotional promiscuity also plays a significant role: It moderates the impact of sexual promiscuity such that women scoring high on both variables incur an additional level of risk. This robust interaction replicated in all four samples, even when controlling for potential confounds such as attachment styles, romantic idealism, and lifetime number of sex partners.

### **Main effects**

The main effect for sexual promiscuity occurred above and beyond the impact of high numbers of lifetime sexual partners. Apparently, there is something unique about sexual promiscuity that is relevant to unsafe sex. We suspect that this extra vulnerability stems from concomitant features of sexual promiscuity such as impulsivity or sensation seeking (e.g. Eisenberg, Campbell, MacKillop, Lum, & Wilson, 2007). Not only do these individuals have many sexual partners but they are more likely to act in a sexually reckless fashion with their partners.

The expected impact of anxious attachment held for women but not for men. This finding is consistent with previous research and theory. The basic argument is that anxiously attached women do not insist on or even suggest condoms because of fear of their partner's reaction (Mikulincer & Shaver, 2007). Avoidant attachment was actually negatively related to unprotected sex (among women) in Study 4, also replicating previous research (Mikulincer & Shaver, 2007). In sum, attachment styles, sexual promiscuity and emotional promiscuity all contribute uniquely to engaging in unprotected sex.

### **Synergy**

The rate of unprotected sex was maximised in women predisposed to both emotional promiscuity and sexual promiscuity. This synergistic combination seems to precipitate behaviour that is best described as *recklessly passionate*, that is, someone who impulsively and indiscriminately pursues both emotional and sexual bonds. Some women may be vulnerable to the premature formation of relational bonds. Note that the approach motivation inherent in both sexual and emotional promiscuity is

qualitatively different from the fear of loss process induced by anxious attachment (Jones, 2011).

This interaction did not emerge for men. One explanation may have to do with gender dynamics in sexual relationships. Trust in their partner seems to be an important factor for women in acceding to unprotected sex. However, trust, love, and intimacy do not seem to affect men in the same way (e.g. Carter et al., 1999). In addition, the consequences of pregnancy surely weigh less heavily for men: Hence they may not require the same level of partner trust to act on their sexual impulses.

One limitation is that our data cannot differentiate lifetime partners that were casual from those that were committed. It is common for committed couples to reduce condom use after a period of time because they agree to be monogamous and use other means of pregnancy prevention (i.e. the pill). We see this tendency as part of the story with emotionally promiscuous individuals: They more readily perceive a partner to be 'steady' and, as a result, stop using condoms sooner. Although some individuals may enter into frequent steady relationships that are relatively safe, this propensity would still be more prevalent among the emotionally promiscuous.

### Conclusions and recommendations

Conclusions from our data are limited by its retrospective and self-report nature (Paulhus & Vazire, 2007). The trade-off is that our methodology provided large samples of adults of diverse ages, incomes, and ethnicities – at least when compared to typical student samples. As a result, we believe that our overall goal, which was to provide initial evidence that emotional promiscuity warrants attention in research on unprotected sex, was achieved.

There are clear implications for health education programs and interventions. Such programs should go beyond standard warnings about casual sex. For example, they should remind participants that disease transmission and pregnancy do not diminish because one's sexual activities are accompanied by love and commitment. Whatever label people may apply to their relationships, having unprotected sex with many partners remains a high-risk behaviour.

A second implication is that safe sex initiatives, for example, those aimed at drug and alcohol prevention, need to raise self-awareness about the phenomenon of emotional promiscuity and its consequences for judgment and decision making. Discussion of the issue might include warnings about being victimised by the otherwise glorious feelings associated with falling in love. Such victimisation may culminate in drug or alcohol abuse (Jones & Paulhus, 2009).

In sum, individuals who enjoy the delights of emotional promiscuity need to be reminded about the practicalities of sexual safeguards: Having strong emotional feelings for someone does not eliminate the risks associated with unprotected sex. When paired with the excitement of sexual promiscuity, the fog of love can have serious health consequences.

### Notes

1. It is important to note we do not refer to emotional promiscuity in a pejorative way; rather we choose this term because it reflects – quite directly – the notion of falling in love indiscriminately.

2. Webster and Bryan (2007) recommend analysing SOI attitude and behavior facets separately. In this research, the two facets demonstrated nearly identical patterns of correlations. For the sake of simplicity and brevity, we only report analyses for the total SOI score. Scoring details can be found in Webster and Bryan (2007).
3. We tested the three-way interaction of EP  $\times$  sociosexuality  $\times$  gender, in each study as well. The same consistent pattern emerged suggesting that women who were high in both EP and sexual promiscuity reported the highest number of unprotected sexual partners. Although none of these individual three way interactions passed the standard threshold of statistical significance, their consistency and cumulative significance ( $p < 0.001$ ) was striking.

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