



## FlashReport

## Uncommitted men match their risk taking to female preferences, while committed men do the opposite

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## ABSTRACT

Previous research shows that men are more risk prone than women; single men take more risks than men involved in a romantic relationship; and men increase their level of risk taking in the presence of observers. We extend the existing literature with two studies. Our first study demonstrates that romantically involved men take less risk in the presence of women to the extent that they are more committed to their current partner. No such effect occurs in the presence of males. Our second study is an experiment revealing that men's beliefs about women's attitudes about risk taking *causally* influence men's level of risk taking. We developed a new measure of risk-taking—the *Marble Risk Task*, reminiscent of the computerized Balloon Analogue Risk Task (Lejuez et al., 2002), but designed to measure risk-taking outside of the laboratory and with real financial stakes—to show that single men adjust their level of risk taking to match what they believe women find attractive. Men involved in a relationship did the opposite: they adjust their behavior to *not* match what they believe women consider attractive—possibly with the goal of relationship maintenance.

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## Introduction

Men are more risk taking than women, although the pattern varies across ages and contexts (Byrnes, Miller, & Schafer, 1999; see also Eckel & Grossman, 2002; Harris, Jenkins, & Glaser, 2006). In particular, young men are more risk-prone than any other demographic (Wilson & Daly, 1985). This *young male syndrome* has been documented across a variety of behavioral domains and cultures (for a review, see Fessler, 2010; see also Wilson, Daly, & Pound, 2002; Wang, Kruger, & Wilke, 2009).

Male-biased risk taking can be explained using the theory of parental investment (Trivers, 1972). In sexual reproduction, the sex with the greatest minimal obligate investment per offspring is the limiting factor in reproduction, and hence the object of relatively intense competition by the other sex. In mammals, including humans, women have higher minimal obligate investment in each offspring (mainly due to gestation and lactation), and so males compete for reproductive access to females. Men should compete particularly hard in early adolescence, because during this time they have yet to attain social status and wealth—assets that increase their mate value and abilities to provision for future offspring (Frankenhuis & Del Giudice, *in press*; Kruger, 2010; Kruger & Nesse, 2006; Wilson & Daly, 1985).

From this perspective, single men are expected to take more risks than men involved in a relationship, since they have less to lose from

competition for mates and status. Single men have less to lose because, unlike involved men, dying or suffering injuries from risk taking does not jeopardize their investments in current offspring or future offspring with the current partner. This prediction is well supported (for a comprehensive review, see Fessler, 2010). Married men are involved in fewer violent confrontations than single men of the same age (e.g., Daly & Wilson, 1988). Single men are nearly twice as likely to commit a criminal offense as married men (Farrington & West, 1995). Single men are more often involved in car accidents (e.g., Harano, Peck, & McBride, 1975), yet they are *less* likely to wear a seat belt (e.g., West, Moskal, Dziuban, & Rumbough, 1996). Divorced men are also more likely involved in accidents than married men (e.g., Selzer & Vinokur, 1975), or to be hospitalized for injuries (e.g., Paek, Chun, & Cho, 2007). Moreover, men who *were* previously married increase their level of risk-taking upon becoming widowed (Farrington & West, 1995).

While naturalistic studies demonstrate that male risk taking depends on marital status, less attention has been given to psychological determinants of male risk taking. In particular, little is known about psychological factors determining levels of risk taking *among* men involved in a romantic relationship. One dimension of particular interest is men's commitment to their current partner. To the extent that male risk taking reflects reproductive effort, men who are *less* committed to their current partner should also be expected to engage *more* in risky behavior. We test this prediction in Study 1.

Men might take risks to impress other men (which may result in social status used to attract women), to directly impress women, or both. Previous research shows that male risk taking is enhanced, and

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sensitive to modulation, in the presence of female observers (Baker & Maner, 2008, 2009; Frankenhuis, Dotsch, Karremans, & Wigboldus, 2010; Pawlowski, Atwal, & Dunbar, 2008; Ronay & von Hippel, 2010). In competitive contexts, such observer effects also occur in the presence of male observers (Ermer, Cosmides, & Tooby, 2008; Griskevicius et al., 2009). Our Study 1 does not use a competitive paradigm, and therefore we expect a negative correlation between commitment and level of risk taking specifically in the presence of a female experimenter—since uncommitted men should be more interested in impressing potential alternative mates.

Although observer effects suggest impression management, proving that a desire to impress *causally* affects levels of risk taking requires additional evidence. Therefore, in Study 2, we manipulated men's beliefs about the extent to which women consider male risk taking attractive, and measured its effect on subsequent risk taking. We predicted that single men will adjust their levels of risk taking to match what women consider attractive. In contrast, no such effect may occur with men involved in a relationship. In fact, these men might reduce their levels of risk taking in the presence of female observers in order to protect their current relationship. This result would be consistent with findings showing that involved individuals may derogate attractive alternative mates (e.g., Ritter, Karremans, & Van Schie, 2010; Simpson, Gangestad, & Lerma, 1990), are relatively inattentive to attractive alternatives (e.g., Maner, Rouby, & Gonzaga, 2008; Miller, 1997), and display less behavioral mimicry in interactions with alternative mates (Karremans & Verwijmeren, 2008).

## Study 1

### Participants and design

One-hundred-five men (53 romantically involved; 52 uninvolved; mean age 22) participated in this study. The study consisted of a relationship status (single versus involved) × experimenter sex (male versus female) between-participants design.

### Procedure

A 23-year-old male and a 22-year-old female each recruited about half of the male participants at the university campus.

We first asked the participant whether he was currently involved in a romantic relationship. If he answered “no”, we proceeded to the risk-taking questions (described below). If he answered “yes”, we provided the *Inclusion of Other in the Self-scale* (IOS; Aron, Aron, & Smollan, 1992). The IOS consists of seven pairs of circles, ranging from non-overlapping to almost completely overlapping. For each pair, one circle represents oneself, and the other circle represents the partner. Participants indicate which of the seven circle pairs best describes their level of closeness to their current partner.

Next, the experimenter asked the participant six questions assessing willingness to take risks. The first five concerned specific behaviors (i.e., “Would you...” “...go bungee jumping,” “go rafting,” “go sky-diving,” “go skiing from a black slope,” “explore a city known to be dangerous just by yourself”); the sixth item asked about the extent to which the participant was prepared to take risks in general. The experimenter read each question aloud, and participants responded with a number, ranging from 1 (very unlikely) to 5 (very likely). Participants answered the final question by reporting a number, ranging from 1 (very unlikely to take risks) to 5 (very likely to take risks). We averaged these six answers into a single score, representing *willingness to take risks* ( $\alpha = .60$ ).

### Results

We performed an analysis of variance with the level of willingness to take risks as dependent variable, and experimenter sex (male or

female) and relationship status (single versus involved) as independent variables. The analysis indicated no main effect of relationship status or experimenter sex,  $F_s(1, 101) < 2$ ,  $p_s > .20$ . We did find the expected interaction effect between relationship status and experimenter sex, albeit at marginal significance,  $F(1, 101) = 3.52$ ,  $p = .06$ ,  $\eta^2 = .04$ .

Simple main effects revealed that, when the experimenter was female, single participants,  $M = 4.71$ ,  $SE = 0.17$ , expressed higher levels of willingness to take risks than involved participants,  $M = 4.21$ ,  $SE = 0.19$ ,  $F(1, 101) = 4.26$ ,  $p < .05$ ,  $\eta^2 = .07$ . By contrast, when the experimenter was male, single,  $M = 4.17$ ,  $SE = 0.16$ , and involved participants,  $M = 4.31$ ,  $SE = 0.14$ , did not differ,  $F(1, 101) < 1$ ,  $ns$ ,  $\eta^2 = .01$ .

We also examined whether, among involved participants, relationship closeness predicted willingness to take risks, specifically in the context of the female experimenter. In line with predictions, closeness was negatively associated with willingness to take risks when the experimenter was female,  $r(25) = -.50$ ,  $p < .01$  (there was one missing value on the closeness measure). This association was not found when the experimenter was male,  $r(27) = -.06$ ,  $ns$ . These findings demonstrate that involved men take less risk in the presence of women to the extent that they are more strongly committed to their current partner. That relationship closeness negatively predicts risk taking in the presence of a female, but not male, observer is consistent with the notion that risk-taking may serve to impress women.

## Study 2

Study 2 extends Study 1 in several aspects. First, instead of self-reports, we obtained behavioral measurements. Second, since Study 1 used self-reports, it allowed for ‘cheap talk’. Study 2 involved real stakes. Third, while we may *assume* that single men, or men who are less close to their partner, use self-reported risk taking propensities to impress the female experimenter, we do not know this for sure. In Study 2, we manipulated men's beliefs about women's attitudes about male risk taking. Thus we could directly test the *causal* hypothesis that men take more risks in the presence of female observers in order to impress them.

### Participants and design

Ninety-eight men participated (49 single; mean age 21). We tested a 2 (relationship status: single versus involved) × 2 (women's attitudes about male risk taking: attractive versus non-attractive) between-participants design.

### Procedure

Two female confederates recruited male participants at the university campus, who were not in the presence of others, and as in Study 1, asked them if they had a few minutes to respond to some questions. The experiment consisted of two phases. In the first phase, we manipulated participants' beliefs about women's attitudes about male risk taking. In the second phase, we measured risk-taking behavior.

To manipulate the male participants' beliefs about whether women regard male risk taking as attractive or not, we asked participants to read a newspaper article. The confederate told the participant that she was a journalism student, and that, as an assignment, she was testing the readability of newspaper articles. If the male agreed to participate, she showed him one of two articles. Participants in the *Risk Taking Non-attractive* condition ( $N = 48$ ) read an article about a recent study reporting that women are attracted to men who are cautious and careful. Participants in the *Risk Taking Attractive* condition ( $N = 50$ ) read an article reporting a recent study reporting that women are attracted to men who are risk takers. We presented the article in a newspaper format, embedded between other articles.

After participants answered these questions, we measured their level of risk taking. The confederate explained that, as a reward for participation, the participant would partake in a lottery in which he could win 50 Euros. The number of lottery tickets the participant would receive depended on his performance in the *Marble Risk Task*, a cheap and simple task that we developed to examine risk-taking outside of the laboratory. The *Marble Risk Task* does not present participants with abstract reasoning problems involving probabilities or frequencies, but with a concrete decision problem involving real, tangible objects. Participants picked, one at a time, as many marbles as he wished from a cloth bag containing 10 marbles. For each red marble the participant picked, he received one ticket. The participant was told that the bag also contained one black marble. If he picked this black marble, he would lose all his red marbles (i.e., all lottery tickets) earned so far, and the game would end.

In reality, the bag did not contain a black marble. We chose this form of deception for two reasons. First, the risk of drawing a black marble increases with each draw, so its inclusion would have resulted in non-random fall out of participants (i.e., those drawing many marbles would be underrepresented in the final sample), preventing us from developing an accurate representation of actual risk-propensities. Second, this design maximized the number of subjects in our study. Of course, no participant continued drawing after having picked nine red marbles, as they believed only the black marble remained. Our measure of risk taking was the number of red marbles participants took.

## Results

We conducted an analysis of variance with risk taking (i.e., the number of red marbles taken) as dependent variable, and relationship status (single versus involved) and beliefs about women's attitudes about male risk taking (attractive versus non-attractive) as independent variables. This analysis revealed only the predicted interaction effect between relationship status and beliefs,  $F(1, 94) = 7.86$ ,  $p < .01$ ,  $\eta^2 = .08$  (see Fig. 1).

Simple main effects revealed that among involved participants, men who believed that women are attracted to risk-takers,  $M = 4.39$ ,  $SE = 0.33$ , took fewer marbles (i.e., less risk) than men believing that women are attracted to risk-averse men,  $M = 5.65$ ,  $SE = 0.45$ ,  $F(1, 94) = 4.88$ ,  $p < .05$ ,  $\eta^2 = .09$ . Among single participants, men who believed that women are attracted to risk-takers,  $M = 5.28$ ,  $SE = 0.45$ , took more marbles (i.e., more risk) than men believing that women are attracted to risk-averse men,  $M = 4.21$ ,  $SE = 0.40$ , although this comparison was marginally significant,  $F(1, 94) = 3.13$ ,  $p = .08$ ,  $\eta^2 = .06$ .

## General discussion

Our first study showed that, in the presence of a woman, single men expressed more willingness to take risks than men involved in a relationship, while no such effect occurred in the presence of a man. Moreover, among romantically involved men, the level of closeness to the current partner negatively predicted willingness to take risks only in the presence of a woman. This finding is novel, and important, because it shows that being in a relationship itself only partially explains reduced levels of risk taking in romantically involved men; what matters, in addition, is how invested a man is in his current relationship, potentially because this influences his extra-pair mating effort.

Of course, that men increase their risk taking in the presence of a woman suggests, but does not demonstrate *causally*, that men are motivated to impress women. To show this, in Study 2, we manipulated men's beliefs about women's attitudes about male risk taking. We found that single and involved men regulated their levels of risk taking differently, depending on what women consider attractive. Moreover, these two groups adjusted their levels of risk taking in opposite directions: romantically involved men down-regulated their levels of

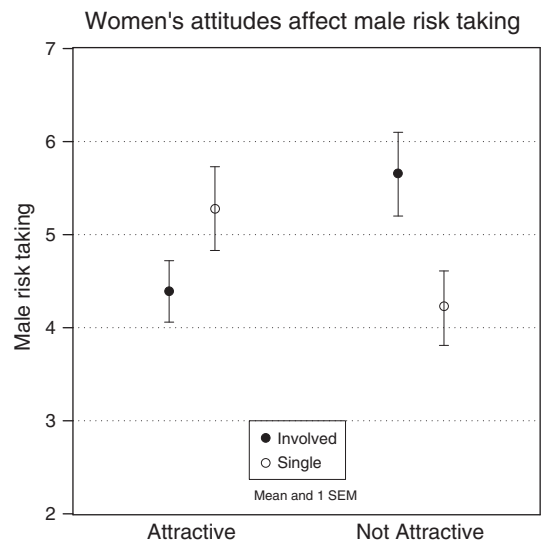


Fig. 1. Risk-taking behavior as a function of relationship status (single vs. involved) and beliefs about women's risk-taking preferences (attractive vs. unattractive).

risk taking if they believed that women are attracted to risk-takers, while this same belief up-regulated levels of risk taking in single men (though this comparison was marginally significant). Romantically involved men might have adjusted their levels of risk taking in the direction of what they believed women *do not* find attractive in order to protect their current relationship (see Gonzaga, Haselton, Smurda, Davies, & Poore, 2008; Maner, Gailliot, & Miller, 2009; Maner et al., 2008).

We acknowledge several limitations. First, we used one male and one female experimenter in Study 1. Our findings could reflect peculiarities of these individuals. Future work might include multiple experimenters of each sex, controlling for, or manipulating, such characteristics as attractiveness, compatibility, or age. Second, we noted that male risk taking is often driven by status competition (e.g., Archer, 2009; Campbell, 1999; Griskevicius et al., 2009; Hill & Buss, 2010; Wilson & Daly, 1985). It would be interesting to add a competitive element to our *Marble Risk Task* in order to observe whether this increases male risk taking specifically in the presence of other men.

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