

Sexual Selection and Risk Taking: The Influence of Exposure to Potential Mates on Risky Decision Making.

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Introduction

While there is a great deal of psychological literature on the subject of risk taking, only recently have researchers began to examine it from an evolutionary perspective, looking to find the evolved psychological mechanisms that may predispose human beings to take greater risks. Parental Investment Theory (Trivers, 1972) suggests that human males will be more competitive and less selective in mating contexts because they have a much lower obligatory investment in offspring than women. In what researchers have coined as the "young male syndrome" (Wilson & Daly, 1985), men in their reproductive years will be the most inclined to take risks in order to engage in intrasexual competition and enhance their mate value.

Previous research on this subject has demonstrated that a greater mating motivation is linked to higher levels of risk taking in men, but not in women (Baker & Maner, 2008). To expand on this research, this study examines the effects of participants viewing photographs of either highly attractive or averagely attractive individuals on responses to both a Blackjack Risk Task (Galinsky, A., Gruenfeld, D. & Magee, 2003) and a Sensation Seeking Inventory (Zuckerman, 1996), which were meant to function as a behavioral and explicit measure of risk taking behavior, respectively.

To replicate previous findings, it was expected that men's scores of Sensation Seeking would be higher than those of women. Furthermore, it was hypothesized that among men who viewed pictures of highly attractive females, scores on the Blackjack Risk Task would be higher than those who viewed averagely attractive females, while scores on the sensation seeking inventory would remain stable across conditions.

Methods

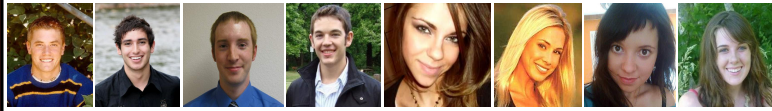
Overview: 102 women and 120 men were recruited through social networking websites to participate in an online study. After providing demographic information, participants viewed pictures and completed a rank order task. Then they completed both a modified version of the Sensation Seeking Scale-V (Zuckerman, 1996), and a Blackjack Risk Task (Galinsky et al. 2003).

Stimulus Materials: Participants viewed eight photos of either highly attractive or averagely attractive members of the opposite sex (or the same sex if they indicated that they were homosexual). Photos were obtained from www.hotornot.com, and piloted to determine attractiveness. Using a drag and drop task, participants rated the photos based on both attractiveness and desirability to ensure that the photos were being processed.

Sensation Seeking Inventory: Thirty statements were presented and participants rated their agreement with each of them on a seven-point Likert scale. Example statements included "I like to explore a new city by myself, even if it means I sometimes get lost," and "There are some movies I enjoy seeing multiple times," (statements resembling the latter were reverse coded).

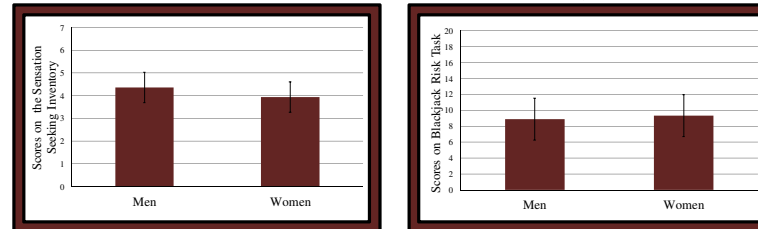
Blackjack Risk Task: As a behavioral measure of risk taking, a new version of the Blackjack Risk Task was created. Forty hypothetical Blackjack hands were piloted to students at the University of Wisconsin-Eau Claire. Based on their data, twenty hands were chosen for the final task. Three hands were chosen as "safe hits," where the vast majority of participants in the pilot chose to hit, while three hands were chosen as "safe stays," where most of those in the pilot stayed. Two natural 21's and two hands valued below 12 were included as controls. The remaining ten hands were selected as the most disagreed upon by those in the pilot, which ranged in hand value from fourteen to eighteen. Participants were shown the two cards in their hand, plus one of the cards in the dealer's hand, and asked whether they would hit or stay for that particular hand.

Sample Stimulus Materials



Results

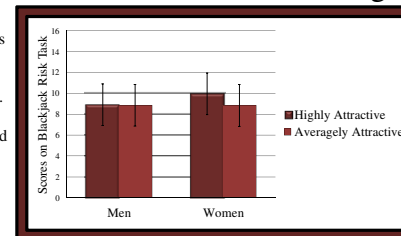
Sex Differences in Risk Taking



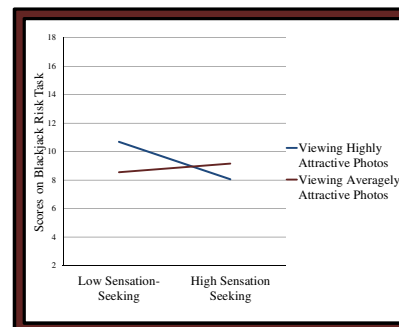
Consistent with the findings of Ronay and Kim (2006) and Zuckerman, Eysenck and Eysenck (1978), an analysis of variance showed that while there was a significant sex difference in scores of sensation seeking, $F(1,220)=21.402$, $p<.001$, with men's scores ($M=4.35$, $SD=.65$, on a 1 to 7 point scale) being higher than women's scores ($M=3.93$, $SD=.68$). However, also consistent with previous research, there was no significant sex difference in performance on the Blackjack Risk Task, $F(1,220)=2.030$, $p=.156$.

Effects of Viewing Attractive Pictures on Risk Taking

To test the hypothesis that viewing attractive pictures would increase Blackjack Risk Task scores among men, T-tests were used to compare those that viewed highly attractive pictures to those that viewed averagely attractive pictures for both sexes. However, contrary to both my hypothesis and the findings of Baker and Maner (2008), women scored significantly higher when they viewed highly attractive pictures, $t(100)=2.768$, $p=.007$, while men did not differ significantly, $t(118)=.138$, $p=.890$.



Moderating Effects of Sensation Seeking



To explore the data further, a multiple regression analysis was conducted to assess the degree to which sensation seeking moderated these effects. The results indicated a marginally significant three way interaction between participant sex, attractiveness of the stimulus pictures, and individual level sensation seeking, $F(7,214)=1.855$, $p=.078$, adjusted R^2 square=.026 (using the enter method). Under this model, there was a significant two-way interaction between sensation seeking and attractiveness viewed, $Beta=-.290$, $p=.039$. A simple slope analysis showed that at one standard deviation below the mean of sensation seeking, Blackjack Risk Task scores were over two points higher for those that viewed highly attractive pictures.

Discussion

While this study confirms previous research on the sex differences in explicit and behavioral measures of risk taking behavior (Ronay & Kim, 2006; Zuckerman et al., 1978), it also contradicted the Baker and Maner (2008) findings regarding the effect of the attractiveness manipulation on behavioral measures of risk taking, and for that reason the results should be interpreted with caution. It should be noted that while Baker and Maner suggested that a limitation on their study was the focus on college aged participants in their sample, the current study involved participants of ages ranging from 16 to 69 ($M=31.03$, $SD=11.51$). While this enhances external validity, it also may explain why a more robust finding was not found for men, since an evolutionary standpoint would suggest that reproductive aged individuals should be more willing to take risks. While these results are not enough to cast doubt on the findings of Baker and Maner (2008), future researchers should consider the possibility of such adaptations in women.

Another potential weakness of the present study was the construct validity of the Blackjack Risk Task. It is possible that a forced choice dilemma between hitting and staying may not completely measure risk taking since some seasoned blackjack often players follow a strict strategy in determining whether to hit or miss. Future researchers intending to employ a blackjack task in this manner would potentially benefit from adding a wagering component (Blascovich, Veach and Ginsburg, 1973).

To the best of my knowledge, this study is the first to consider sensation seeking as a potential moderator of risk taking behavior in a mating context, but only in post hoc analysis. For this reason, I hesitate to draw firm conclusions. However, evolutionary logic would support the idea that if risk taking is a situation specific strategy as Baker and Maner suggested (2008), then those who are low sensation seekers would be more likely modify their behavior in a specific mating context than high sensation seekers. Future research in this field should consider the importance of sensation seeking as a moderator, and not simply as a dependant variable.

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