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## ABSTRACT

Certain unpleasant emotional states do alter cognitive information processing strategies. High arousal negative moods and very high arousal positive moods seem to make people more attracted to higher risk. This actually leads to a higher rate of misfortunes or negative outcomes. Low arousal negative moods, on the other hand, seem to make people more risk averse. The influence of friends when sought out to improve mood, led to more risk-taking behaviors than when influenced by friends in good moods. It still seems to be a high arousal negative mood that causes the risk taking--fear or anxiety associated with rejection by friends. A series of three lab studies supported the possible link of risk taking to social anxiety. The studies supported the use of moods, when aware of them, in the decision-making process. Also, the other studies replicated our results for other low arousal negative moods. Strangers were the most influential in terms of risk taking, even with the risk averse mood of sadness. (Contains 10 references.)  
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Running head: RISKY DECISIONS

Friends and Strangers: Links to Risk Taking

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Certain unpleasant emotional states do alter cognitive information processing strategies. High arousal negative moods and very high arousal positive moods seem to make people more attracted to higher risk. This actually leads to a higher rate of misfortunes or negative outcomes. Low arousal negative moods, on the other hand, seem to make people risk averse.

The influence of friends when sought out to improve mood, led to more risk-taking behaviors than when influenced by friends in good moods. It still seems to be a high arousal negative that causes the risk taking – fear or anxiety associated with rejection by friends. A series of three lab studies supported the possible link of risk taking to social anxiety. The studies supported the use of moods, when aware of them, in the decision-making process. Also, the other studies replicated our results for other low arousal negative moods. Strangers were the most influential in terms of risk taking, even with the risk averse mood of sadness.

### Risky Decisions and Friends: The Power of Social Anxiety

Conventional wisdom suggests that people do irrational things as a result of emotional states. But conventional wisdom is not a systematic method of clarifying the role of emotions in self-defeating behaviors. Baumeister and Scher (1988) found that negative affect was repeatedly implicated as a cause of self-defeat. The link was unclear, but there was not the desire to suffer or fail. The choices made, although ending in bad consequences, were made for strategic advantage. This was supported by autobiographical stories of decision-making (Leith & Baumeister, 1994) and experimental laboratory studies, but only for aversive moods with a high arousal component (Leith & Baumesiter, 1995).

Certain unpleasant emotional states do alter cognitive information processing strategies, specifically making people more attracted to higher risk (Leith & Baumeister, 1996). This actually leads to a higher rate of misfortunes or negative outcomes. Certain other unpleasant emotional states alter cognitive information processing in the opposite direction, specifically making people risk averse (Leith & Baumeister, 1996). In other words, high arousal negative moods seem to open people to risk taking while low arousal negative moods seem to make people play it safe.

Also, when we are in a bad mood, we are most likely to call on our friends (Thayer, 1996). In surveys, calling friends or significant others and going out with them is the most favored method of dealing with a bad mood (Thayer, 1996; Leith, 1998). In previous research (Leith, 1999), the influence of friends when sought out to improve mood, led to more risk-taking behaviors than when influenced by friends in good moods. Boredom seemed to violate all that was found. Boredom seemed to be linked to risky behaviors.

Our autobiographical study (Leith, Foley, and Van Bergen, 2000) and a lab study (Leith, Foley, and Textoris, 2001) suggested that once friends were sought out, participants did go along with whatever was suggested. Use of a confederate in the lab study produced an even higher rate of risk taking. The original reason for seeking out the friends was to treat the boredom. When unable to seek out the friends, participants did resort to computers, eating, sleeping, or music rather than risky behaviors to correct the mood. It still seems to be a high arousal negative that causes the risk taking – fear or anxiety associated with rejection by friends.

In order to clarify the role of social anxiety in the risk taking process, a series of three lab studies were conducted. In the first, we took the original moods and risky decision making procedure and added one sentence before the risk decision. If the mood contributed to the results, being aware of the mood would allow participants the choice of whether or not to use the mood in the process. Applying that process to the original boredom experiment with friends and confederates, we would have a start in separating the boredom from the social anxiety of the situation. In the third experiment, we sought the same social anxiety results with moods that usually lead to safe decisions.

### **Study 1**

This first study was designed to provide support for the hypothesis that if aware of a mood change, people would choose to use the mood as information in the decision-making process. Past research (Leith & Baumeister, 1994, 1995, 1996) supported a link between high arousal negative moods and risk-taking. This link was averted when participants were asked to make a thoughtful decision and mixed when asked to make a quick decision (Leith & Baumeister, 1996). Therefore, in this experiment, participants were simply made aware of their mood with a simple sentence before making a lottery choice. Our hypothesis was that we would

see no change in the decision making pattern, but differences between conditions in terms of why they chose the particular lottery.

## Method

### *Participants*

One hundred eighteen participants from a large Midwestern university took part as a course requirement. These included 45 males and 73 females with a mean age of 18.75 (SD = 1.42). The sample was 79.7% White, 5.9% African-American, 1.7% Hispanic, and 12.7% Asian.

### *Procedure*

Four conditions included mood manipulations happiness, neutral, sadness, and anger followed by lottery choice (risky: 4% chance of winning; safe: 70% chance of winning). Four conditions matched the first four but with a sentence added before the lottery choice making people aware that their mood might have changed and affect their decision. Mood manipulations were done with film clips except for the anger/frustration condition. In the anger/frustration condition, an interactive manipulation described in Leith & Baumeister (1994,1995,1996) was used. Participants were subjected to an inability to record a time when they were angry because of equipment problems.

## Results

	Safe Lottery	Risky Lottery		Safe Lottery	Risky Lottery
Sad	12	2	Sad, told	12	4
Happy	9	6	Happy, told	10	5
Neutral	10	4	Neutral, told	10	5
Angry	5	10	Angry, told	5	9

$X^2_{n=118} = 14.64, p \leq .05$

The second four conditions duplicate the first four conditions. These results are consistent with earlier published results (Leith & Baumeister, 1996). The differences are in the responses to the question, “Why did you make the choice of lottery you did?”

Since happiness and anger are high arousal moods, the participants were aware of mood when making their decision. In both the told and not told conditions, **happy participants** made a decision based on how happy they were: happy but not wanting to ruin a good mood or so happy that nothing could affect their mood. Angry participants in both anger conditions stated that they were already feeling bad, so why not take a real chance since they couldn’t feel much worse.

**Sadness and the neutral condition** were low arousal moods. Therefore, until the mood is brought to the attention of the participants, they do not name how they are feeling. Therefore, in the first condition when no attention is brought to the mood, sad participants avoided risk and could only state that it was an avoidance of risk. **Neutral participants** wanted to make sure that they won something. When told of their possible mood manipulation, participants were more aware of their mood. **Sad participants** then added to their reasoning, stating that they did not want to feel worse, therefore choosing to avoid risk. Neutral participants wanted to continue feeling mellow, therefore choosing the safe path. Note that sad participants avoided risk while neutral participants choose a fairly safe bet.

### Discussion

Participants, when aware of their mood either because of the arousal component or because of being told, chose to use their mood as information in the decision-making process. Choice seemed to be made based on how they would feel as a result of winning or losing.

### Study 2

Boredom is a low arousal mood. In past experiments, it has replicated the same results of other low arousal moods such as sadness and the neutral condition with their preference for the safe lottery (Leith, Foley & Textoris, 2000, 2001). Also, in general mood surveys, participants have shown a preference for seeking out friends when in bad moods (Thayer, 1996; Leith, 1998). In this study, we hypothesized that results would still replicate our earlier findings even when participants were told of a mood manipulation.

## Method

### *Participants*

Participants were 60 students from a small Midwestern university (39.5% males and 60.5% females) who chose this experiment to satisfy part of their Psychology course requirement. Ethnicities of participants were Caucasian (85.3%), African-American (11.8%), and Hispanic (2.9%). The mean age of the participants was 20 (SD = 5.31).

### *Materials*

Two *Lite Brite* boards and accompanying pegs were used. Each board was set up before the experiment to have a peg in every other slot. A cassette tape deck was used to play a tape of randomly spaced intervals of a bell ringing. The materials for the lottery were two glass jars filled with beads. The lottery A jar ("safe" lottery) contained 30 clear beads and 70 brown beads. The lottery B jar ("risky" lottery) contained 96 clear beads and 4 pink beads.

A five-page questionnaire was given to the participants. The first page asked questions about the participant's mood before and after the experiment and also their risk-taking behavior. The next three pages were composed of self-rating scale questions. The final page was composed of true and false questions concerning the participant's personal attitudes and traits.

### *Procedure*



Participants were randomly assigned to one of three conditions:

**Condition 1 (Alone)**: the control. Students, participating individually, listened to a tape and removed the fifth peg of a peg board at the sound of a bell. After 5 minutes of such activity, they were given a lottery choice (risky: 4% chance of winning; safe: 70% chance of winning). Just before they made the choice, they were told that what they had been doing might have altered their mood and it might affect their decision. After the choice, a mood manipulation check was administered and a short questionnaire filled out. Debriefing included a small gift of candy or a pen.

**Condition 2 (Friend)**: Participants were asked to bring a friend. Each did the same task. The procedure for lottery choice was the same as above. Participants were told that they could talk over the lottery choice. After the choice, the same procedure as condition 1 followed.

**Condition 3 (Confederate)**: A confederate appeared as a second participant in the experiment. Both proceeded as in condition 2, with the confederate deliberately suggesting the risk taking.

In the second and third condition participants were told they would have to make the decision together with the other participant and then split the prize money if they won. The experimenter then left the room for two minutes to let the participants circle their lottery choice. The experimenter came back and asked if a decision had been made. The sheet was put aside and the participants were told they needed to fill out a questionnaire before they played the lottery.

After the participants completed the questionnaire they were informed that there was no lottery. The experimenter apologized for the deception and gave the participants a debriefing form that further elaborated on why the deception was necessary. A small gift of candy was given to the participants as part of the debriefing.

## Results

Hypothesis was supported. Participants alone played it safe. More risk taking occurred when friends were present (67% of time) and the most risk taking (100%) when the confederate was present even though participants were made aware of mood changes. The friend condition depended on closeness of friend with less relationship intensity leading to more risk taking.  $X^2 = 18.6, p \leq .001$ .

	Safe Lottery	Risky Lottery
Alone	11	4
With friend	4	11
Confederate	0	15

$$X^2_{n=45} = 18.6, p \leq .001$$

## Study 3

Boredom was like other low arousal moods in that when alone, participants chose to avoid risk. Studies support the link between social anxiety and risk taking in that bored participants, when asked to make the lottery decision with a friend or a stranger (confederate), chose the riskier lottery. Could this happen with other low arousal negative moods? We hypothesized that we could replicate our results using sadness which had shown to be very risk averse. Therefore, when alone, sad participants would be more likely to play it safe. When with a friend or in the confederate condition, they would be more likely to take a risk.

## Method

### *Participants*

Participants were 75 students from a small Midwestern university (40.7% males and 59.3% females) who chose this experiment to satisfy part of their Psychology course

requirement. Ethnicities of participants were Caucasian (96.1%), Asian (2.0%), and other (2.0%). The mean age of the participants was 20.14 (SD = 4.36).

### ***Materials***

The video clip was a five minute excerpt from the 1979 movie The Champ. The excerpt included the movie's final scenes in which the champion is leaving the boxing ring with the help of his trainer, then lying on the locker room table with blood flowing from his facial injuries. He is dying as he is speaking to his 8-year-old son. The boy is shown crying for his dad to wake up. Finally others try to pull the boy away and tell him his father is dead.

### ***Procedure***

Participants were randomly assigned to three conditions. Each condition had an equal number of participants. In the first condition they completed the experiment individually. In the second condition they completed the experiment with a stranger. The stranger was a confederate chosen by the experimenter. In the third condition they were instructed to bring a friend along to the experiment who would also participate.

The experiment took place in a small quiet room with no windows to lessen the amount of possible distractions. The experimenter gave an initial explanation of the procedure and participants signed an informed consent form. At this time participants also filled out a general demographics sheet.

The participants then watched the sad video clip. Immediately following the video, participants were told that as a reward for their participation they could play our lottery. Procedure and lottery choices were the same as in Study 1.

After the participants completed the questionnaire they were informed that there was no lottery. The experimenter apologized for the deception and gave the participants a debriefing

form that further elaborated on why the deception was necessary. A small gift of candy was given to the participants as part of the debriefing.

### Results

Our hypothesis was supported. When making a decision with a friend, sad and neutral participants were more likely to choose the risky lottery. Sad participants who made the decision alone were more likely to choose the safe lottery. In the confederate condition, sad participants were most likely to choose the risky lottery.

	Safe Lottery	Risky Lottery
Sad – alone	9	6
Neutral – friend	4	11
Sad – confederate	0	15
Sad – friend	5	10

$$X^2_{n=60} = 12.92, p \leq .01$$

### Discussion

The presence of friends seems to negate the experience of low arousal negative moods with their link to avoiding risk. Social anxiety seems to take over as the mood affecting decision-making. These findings suggest that when people seek out friends or companionship in order to manage a negative mood, they then are more likely to make a risky decision.

Such findings have implications not only for youth behavior but also for sales. Just imagine the auto showroom with the customer looking at a car out of his/her price range. A planted stranger saying go for it might just push that customer to take a financial risk.

Police blotters already show us the affect on bored youths at the end of the summer in their reporting increases in acts of vandalism and shoplifting. College students all have those

stories of things they would never do on their own but with the encouragement of a friend or acquaintance ...

### Conclusion

- Mood is used as information in decision-making.
- Choosing to be with others complicates the process, negating the effects of low arousal negative moods.
- What we see as the result of boredom has more to do with social anxiety when others are sought out to ease a bad mood.
- Strangers can produce a greater effect than friends.
- We are concerned with how we appear to others, sometimes causing poor choices of behaviors.

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