

JoVE: Science Education
Inducing Emotions
--Manuscript Draft--

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Overview

Psychologists have long known that people behave differently in good moods versus bad moods, and this general principle extends to consumer behavior. Economists, as well, have come to appreciate that an individual's financial decisions are not solely the result of extensive cost-benefit calculations; other factors like emotion are at play. Further, incidental emotions affect the behavior of buyers and sellers even though they are unrelated to the transaction at hand. While earlier research focused on the impact of global feelings (positive-negative), more recent research examines more specific emotions (*e.g.*, anger and fear). In consumer settings, research shows that anger triggers greater risk-seeking behavior among buyers and sellers and that fear triggers the opposite, *i.e.*, conservative behavior.

The following experiment tests how two specific negative emotions—disgust and sadness—influence people's financial valuation of objects.¹ The experiment examines the relationships between induced emotional states (disgust and sadness) and the endowment effect.

Inherent in this experiment is a common technique for inducing specific emotions in a laboratory setting. Once the emotions are created, they can then be implemented in a number of experimental conditions.

Principles

The **endowment effect** is the tendency for people to overvalue objects they own. As a seller, people demand higher prices for objects they own than they would be willing to pay themselves, as buyers.

Incidental emotions are feelings that a consumer or seller carries with them to a potential financial transaction but are not caused by the potential transaction. For example, a consumer may be contemplating the purchase of a new TV while feeling sadness over an earlier argument with their spouse.

Procedure

1. Conduct a power analysis and recruit a sufficient number of participants with a diversity of age and gender.
2. Randomly assign participants in the experimental and control conditions.
3. Seat participants in individual cubicles, each equipped with a computer and headphones.
4. Tell participants that they were going to complete two separate studies and give participants two packets of material, one for each study.

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~~3.1.4.1.~~ In truth, the first portion of the study (*i.e.*, the materials in the first packet) is used to induce the desired emotion without letting the participant know that the two supposedly separate studies are related.

~~4.5.~~ Manipulate the first independent variable at this time. Participants are randomly assigned to one of two conditions:

~~4.1.5.1.~~ In the selling condition, participants are given a highlighter set and instructed that they will use it in the subsequent study.

~~4.2.5.2.~~ In the choice condition, participants do not receive a highlighter set.

~~5.6.~~ Induce specific emotions.

~~5.1.6.1.~~ Each participant is instructed to complete a self-report questionnaire called the Positive and Negative Affect Schedule, which assesses their baseline emotions.

~~5.1.1.6.1.1.~~ This baseline measure is used to ensure that pre-existing emotions are not attributed to the emotion manipulation.

~~5.2.6.2.~~ The second independent variable is then manipulated using a video clip meant to induce emotions. Participants are randomly assigned to watch one of three 4-min clips.

~~5.2.1.6.2.1.~~ In the sadness condition, participants watch a 4-min scene from a sad movie (involving the death of a boy's mentor).

~~5.2.1.1.6.2.1.1.~~ Ask the participants to imagine what it would feel like if they were personally in the situation shown in the clip and to write down their feelings.

~~5.2.2.6.2.2.~~ In the disgust condition, participants watch a disgusting 4-min scene from a film (involving a man using an unsanitary toilet).

~~5.2.2.1.6.2.2.1.~~ Ask the participants to imagine what it would feel like if they were personally in the situation shown in the clip and to write down their feelings.

~~5.2.3.6.2.3.~~ In the neutral condition, participants watch a 4-min scene from a documentary about nature (involving fish in the Great Barrier Reef).

~~5.2.3.1.6.2.3.1.~~ Ask the participants to simply write about their daily activities.

6.7. Tell participants that they now have to complete the second study next and to open the second packet of instructions.

6.1.7.1. Participants who were previously assigned to the selling condition are presented with a list of 28 prices, ranging from \$0.50 to \$14, and are asked to indicate, for each price, whether they would prefer to sell the highlighter set or keep it.

6.2.7.2. Participants in the choice condition are shown the highlighter set at this time and then given the same list of 28 prices as participants in the selling condition. They are asked if they would rather have the amount of money listed or the highlighter set.

7.8. Emotion induction manipulation check: This is designed to show that emotions were manipulated as intended.

7.1.8.1. Present participants with a list of 27 affective states and ask them to indicate whether they feel each affective state listed on a scale, ranging from 0 (do not experience emotion at all) to 8 (experience the emotion more strongly than ever before).

7.1.1.8.1.1. Among these affective states are ~~some~~ five key items that relate to sadness (e.g., blue, downhearted, and sad) and disgust (e.g., disgust and repulsed).

8.9. Analysis

Examine the average cost at which participants would sell their highlighter set (selling condition) or ~~purchase~~ choose the highlighter set (choice condition).

9.2. These means are then compared for those in each of the emotion conditions using data were analyzed using planned 2 X 2 contrasts in ANOVA in the original paper, but should ideally be analyzed using a 2 X 3 ANOVA.

10. Fully debrief participants.

Representative Results

The data (Figure 1) show support for the idea that compared to the neutral condition, sadness decreased the prices for those in the selling condition, but increased prices for those in the choice condition. However, compared to the neutral condition, disgust reduced prices for participants in both the selling and choice conditions.

Summary

Although they are both negative emotions, disgust and sadness trigger different economic behavior. Disgust triggers the psychological need to expel, thus reducing both buying and selling

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Commented [1]: If I understand this experiment correctly, saying purchase here is not entirely correct because the participants did not have to give up money, they would either choose to receive cash or the highlighters. In this case, the framing is different from the selling condition but the fact that they either receive or not receive cash is the same. Otherwise, emotions from gaining or losing money would confound those that were induced.

JVB: Yes, this is misstated. I changed the wording.

Commented [2]: How? It's always a good idea to provide students with statistical details. For instance, explicitly state that the design was 3x2 between-subjects and analyzed using ANOVAs.

JVB: I agree with you that people should use a 3X2 ANOVA, but the original authors used two 2X2 ANOVAs. I think they did this wrong, but I'm not sure which advice you would like me to give here.

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Commented [4]: Was permission obtained to use the data originally presented in Lerner et al., 2004?

JVB: Not to my knowledge. I assume this will cost a small amount of money for JOVE if you want to purchase permission from the journal. I think it's a very small sum but I'll defer to your judgment on this matter.

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prices. Conversely, sadness triggers the psychological need to change one's circumstances, thus increasing buying prices and decreasing selling prices. With disgust, the endowment effect is eliminated, whereas with sadness the effect is reversed.

Applications

Emotion and cognition influence one another. Our appraisals of situations can drive emotions, and our emotional states can influence the way we think. Moreover, decisions are rarely made in an emotional vacuum; often, people are experiencing strong emotions before, during, and after they make decisions. Even our calculations of economic value are influenced by our emotional states. ~~For As an extreme example, consider that the terrorist attacks of September 11 the sadness from going through a divorce could actually encourage alter our consumer-spending depending upon the emotions that are evoked in individuals.~~

This study has clear implications for advertising and marketing. These findings suggest that people are willing to spend more for an item when they are sad, which could be leveraged by producing sadness-inducing marketing and by pricing items higher in situations in which consumers are likely to be sad. People are less willing to spend money when disgusted, likely because they value objects less (perhaps due to a sense of contamination). Thus, marketers should avoid inducing disgust in consumers. This is an important insight, given that mild comic disgust is quite common in advertising. Conversely, someone seeking to buy something might want to make the seller feel disgust, as they may be willing to sell the item for a lower price.

Legend

Figure 1: Results showing average selling and choice prices for neutral participants, disgusted participants and sad participants. Price is on the y-axis and and experimental condition is on the x-axis.

References

1. Lerner, J. S., Small, D. A., & Lowenstein, G. (2004). Heart strings and purse strings: Carryover Effects of emotions on economic decisions. *Psychological Science*, 15, 337-341.

~~Lerner, J.S., Gonzalez, R.M., Small, D.A. & Fischhoff, B. (2003) Effects of fear and anger on perceived risks of terrorism: A national field experiment. *Psychological Science*, 14, 144-150.~~

~~Krugman, P. (2001, September 30). Fear itself. *New York Times*. Section 6, pp. 36-40.~~

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Commented [8]: Please label the y-axis ("Price"). Also, the figure legend should be rewritten to avoid interpretation. It should merely reflect what is shown, like "Average selling and choice prices across three emotion conditions"

SJVB: Sure.

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JVB: I deleted this reference.

Figure 1

