



Research/Experiment Proposal

Drowning in My Own Choices: Satisfaction in Choice as a Function of Emotional State and Number of Alternatives

Elise Creighton
May 1st, 2016
4060PaperCreighton

Abstract

This research proposal focuses on two related topics in economic choice theory: emotional-state dependent preferences and the number of alternatives in the choice set. This proposal will outline an experiment and attempt to provide information on the effect that emotional states (more specifically, “incidental emotions”) have on preferences, as well as the phenomenon of “choice overload”, how these two interact, and implications for economic theory, specifically economic choice theory (CT). My research will be sourced from existing economic and psychological papers that consist of both empirical research and conceptual research. Edward Morey’s book, *Behavior, Choice and Ethics: Is Homo Economicus Happy?*, discusses each topic I plan to examine briefly. In chapter five, emotional-state dependent preferences are explained, however while there is a discussion on how emotions affect choice, there is nothing on the effect that incidental emotions specifically have on choice. Additionally, axiom 6 in chapter one briefly considers the number of alternatives in choice. Yet, the possible relationship between these two topics is not discussed, which is why I think this proposal can bring some new and insightful information on each respective topic, as well as on the possible interaction they could have, and the implication of it on economic choice theory.

I. Introduction

This proposal will test whether incidental sadness and the number of alternatives in choice interact, and how their interaction influences satisfaction with a choice. There are a lot of studies that show what you choose depends on your emotional state. There is also a lot of research that show how satisfaction with a choice decreases as the number of alternatives in the choice set increases. However, there is relatively minimal research on the connection of these two topics.

Chapter five of Edward Morey’s book “Do you have a stable ranking of bundles (stable preferences)?” discusses the effect of emotional states on preferences and the ranking of bundles. This chapter considers research that examines the effect of emotional state on choice. I will focus on the incidental emotions that are present when an unrelated decision is made. Incidental emotions are emotions experienced at the time of a decision but not related to the decision itself. For example, getting in a fight with your significant other earlier in the day and feeling sad about it, then going to purchase new jeans. You are feeling sad because of the fight, not because of the choice you have to make when purchasing new jeans. But does feeling sad about the fight you had earlier have an effect on how you decide what jeans to buy? Standard economic theory says no – since your current emotional state is irrelevant to the decision at hand, it should have no influence on what choice you make. Recent research has shown that incidental emotions play a large role in economic decision-making. Blanchette & Richards (2010) illustrated how incidental emotions influence high level cognitive processing, such as interpretation, judgment, decision-making, and reasoning (Boyce et al. 2015). For the purpose of my study, I plan to look at the effect of incidental sadness on choice and economic decision-making.

Chapter one of Edward Morey’s book “Homo economicus: the axioms of economic choice theory and their implications” outlines the axioms of economic choice theory. Axiom 6, in particular, adds the prediction that expanding the set of viable bundles cannot make you worse off. This is a common assumption in standard economic theory: more choices (more alternatives in the choice set) is always better. However, there is a lot of research that shows how satisfaction with a choice decreases as the number of alternatives in choice increases; this relates to the phenomenon of “choice



overload”. A study by Iyengar and Lepper (2000) illustrates the phenomenon of choice overload, where they found that when an individual is faced with a greater number of alternatives, they are less likely to make a decision, and if they do, they end up feeling less satisfied with their selection.

I am interested in seeing whether incidental emotions and the number of alternatives in choice interact, and if so, whether that interaction influences post-choice satisfaction. I will be looking at sadness as my incidental emotion, due to the pervasive and long-lasting nature of this emotion as compared to other emotions (such as fear or disgust). Additionally, I am interested in examining the effect of choice overload on decision-making and choice, particularly the negative consequences associated with this phenomenon. I am hypothesizing that incidental sadness and a larger choice set will interact positively, thus increasing overall satisfaction with a choice. The goal of this proposal is to see if incidental sadness offsets the negative consequences associated with experiencing choice overload, thus increasing overall satisfaction with a choice.

II. Incidental Emotions

Traditional economic models ignore the role of emotions with respect to choice and decision-making, and instead base models off the purely rational man: Homo Economicus. In choice theory specifically, it is assumed that individuals have a stable preference or ranking of all bundles. However, as discussed in chapter five of Morey's (2016) book, research has shown that we have different preferences for different emotional states. Morey states how we experience preference-altering emotions and moods daily, such as anxiety, boredom, sadness, happiness, and depression. These emotions and moods influence how we behave and what decisions we make, even if we aren't consciously aware of them. In Morey's book, two articles in particular are discussed that relate to incidental sadness: *The Financial Cost of Sadness* by Lerner, Li and Weber (2012)¹ and *Sadness and Consumption* by Garg and Lerner (2013). The former explores the relationship between sadness and impatience with respect to obtaining financial rewards. The authors found that "sadness increases impatience and creates a myopic focus on obtaining money immediately instead of later." (Lerner, Li and Weber, 2012). I plan to discuss the latter article below in further detail.

When we make decisions, there are two types of emotions we might feel: integral and incidental. Integral emotions are emotions that are caused by the decision itself; they are experienced as a result of, for example, thinking about the implications or parameters of a decision. For the purpose of this research proposal, I plan to only focus on incidental emotions. Incidental emotions are experienced at the time of an economic decision, but are not related to the decision itself, and some argue that they should be irrelevant to present judgments and choice (Lerner and Keltner 2000). In order to examine the effect of incidental emotions on choice, I am specifying that the decision at hand not be related to the specific incidental emotion. For example, inducing a state of sexual arousal and then having individuals choose over something related to sex would not meet the criterion to be able to view how incidental emotions effect choice. However, inducing a

¹ In this study, the authors hypothesized a phenomenon that they call "Myopic Misery." In three experiments, they assigned participants to a sad or a neutral state condition and offered them inter-temporal choices. Their experiments "revealed that the sadder person is not necessarily the wiser person when it comes to financial choices. Instead, compared with neutral emotion, sadness—but not disgust—made people more myopic, and therefore willing to forgo greater future gains in return for instant gratification."

state of sexual arousal and then having individuals choose over something not related to sex, such as different retirement plans, for example, would meet this criterion.

Research has shown that emotional-states can and do have an effect on how you rank certain bundles. A study by Tiedens and Linton (2001) demonstrated the effects of anger and sadness on decision-making. Summarized, Tiedens and Linton (2001) showed how sadness leads to more systematic information processing, whereas anger leads to more heuristic processing in decision-making.

Compared to other negative emotions, sadness has been found to last for longer periods of time and be much more pervasive, and as a result, have a greater potential to impact subsequent unrelated decisions (Pereira 2014). While many different incidental emotions have been found to effect economic behavior, I have chosen to focus on incidental sadness for the above reasons. Sadness is an interesting emotional-state to examine with respect to its effect on an individual's ranking of bundles. Morey discusses how sadness, a negative emotion, should be expected to have a similar effect to that of other negative emotions, such as disgust, where individuals have been found to value things less. However, this is not the case for sadness. Sadness actually causes individuals to value new things more (Lerner, Small and Loewenstein 2004).

Sadness causes individuals to use more careful and systematic processing, thus decreasing their reliance on heuristic processing. Heuristic processing is defined as the process of making a decision based on intelligent guesswork, or rule-of-thumb, rather than by following some predetermined formula. Using more careful and systematic processing in decisions should cause these individuals then to make fewer mistakes, and result in less randomness in decisions, which should then cause less frustration and dissatisfaction with choice (Boyce et al. 2015). Morey discusses Garg and Lerner's (2013)² article in his book. In this study, the authors discuss how incidental sadness is accompanied with "core themes of loss and helplessness." They found that increasing a sense of individual control through choice helps reduce the effect of helplessness associated with sadness. The authors discuss how previous research on control and choice suggests that individuals prefer choice versus no choice because of its tie to self-

² In this study, called *Sadness and Consumption*, the authors conducted an experiment with real food consumption in order to view the effect of sadness on consumption, and if this effect "could be attenuated if the choice context counteracted appraisals of helplessness and enhanced a sense of individual control."

determination and sense of control, even when choices are trivial and when having more choices degrades decision quality. Pereira (2014) found that sadness increases indecisiveness in individuals and is associated with a perceived lack of personal control and a sense that situational forces control the outcomes in one's life. Additionally, "incidental sadness may evoke implicit goals of changing one's circumstances and acquiring rewarding outcomes to compensate for the corresponding sense of loss and helplessness" (Lerner, Small and Loewenstein 2004).

III. Choice Overload

“The fact that *some* choice is good doesn’t necessarily mean that *more* choice is better.”
 – Barry Schwartz from *The Paradox of Choice*

An assumption that has been prominently held in standard economic theory says that having more choice cannot make you worse off. Axiom 6 of CT is defined by Morey as, “Experiencing a higher-ranked bundle is better for the individual, from their perspective, than experiencing a lower ranked bundle.” This axiom brings the added prediction that expanding your set of feasible bundles (or choices) can’t make you worse off. For Homo Economicus, having more alternatives in choice is always better because, according to Morey, “(1) more choice allows you more opportunities to better yourself, and (2) Homo Economicus always takes complete advantage of every opportunity to better himself.” But we are not Homo Economicus, and while more choices may always be better for him, recent studies have found that increasing the number of alternatives in choice may not actually be better for us.

The phenomenon of choice overload refers to what happens when individuals are faced with too many options. When the number of alternatives increases, more time and effort is needed to try to determine the best option, which results in increased decision difficulty, regret, and ultimately, dissatisfaction. According to Chernev, Böckenholt and Goodman (2014), benefits associated with having many alternatives include: a higher likelihood that the consumers can find a close match to their purchase goal, allow consumers to maintain flexibility in light of uncertainty about future tastes, and accommodate consumers future variety-seeking behavior. It creates the perception of “freedom of choice”, which enhances an individuals sense of control. It also reduces uncertainty of whether the choice set at hand adequately represents all potentially available options.

Research by Iyengar and Lepper (2000) studied the effect of number of alternatives in choice on decision-making. In one experiment, they set up a table at a local grocery store on two separate days. On the first day, shoppers saw a display of 24 jams, and on the second day, they saw a display of 6 jams. They found that while the large display attracted more attention than the smaller one, people who saw the smaller display were much more likely to actually make a purchase. Summarized, their main

findings are: having too many options may increase choice deferral, a smaller choice set size increases post-choice satisfaction, and while having many options may seem appealing initially, too many choices can make decisions more difficult and may increase decision regret (Iyengar & Lepper 2000). When experiencing choice overload, the resulting choice difficulty causes individuals to tend to rely on heuristics (or rule-of-thumb) to make decisions. Research on the effect of choice overload demonstrates how individuals faced with a larger number of options are expected to experience more difficulty and frustration, be less satisfied with their decisions, and more regretful about their decisions than individuals with a smaller number of options. Chernev, Böckenholt and Goodman (2014)³, found that people experiencing choice overload are: less likely to be satisfied with their decisions, less confident they have chosen the best option, susceptible to more decision-regret, less likely to make a choice, more likely to reverse their initial choice, less likely to display a preference for larger assortments, and more likely to choose an option that can be easily justified.

Haynes' (2009) study examined the effect of number of alternatives in choice and time pressure on decision difficulty and satisfaction, focusing on implications of experiencing choice overload. I plan to reference this study in my proposed experiment (which will be explained in a later section). In his study, participants were told they were going to be entered in a drawing to win a prize, and they were shown descriptions of either 3 or 10 prizes and asked to choose one. To test for time pressure, some participants were assigned to a limited-decision time, and others to an extended decision-time. Haynes found that "participants given a limited amount of time to choose with a larger set of alternatives found their decisions to be more difficult and frustrating than did participants in the other conditions." Additionally, he found that the larger choice set led to less satisfaction, but not less regret, with individual's decisions.

³ In this study, called *Choice overload: A conceptual review and meta-analysis*, the authors did a meta-analysis of prior research (53 studies published in 21 articles) and identified four key factors (choice set complexity, decision task difficulty, preference uncertainty, and decision goal) that moderate the impact of assortment size on choice overload.

IV. Hypothesis Development

Given that incidental sadness causes individuals to use more systematic and careful processing when making a decision, I am hypothesizing that the dissatisfaction associated with a larger choice set will be lessened when one is sad. The more systematic and careful processing could offset the typical reliance on heuristics used when faced with a larger choice set, thus decreasing decision regret associated with the experience of choice overload. Additionally, having a larger number in alternatives may present more opportunities to individuals in the incidental sadness condition to better themselves, since they are seeking to change their current circumstances and attempting to alleviate the associated feelings of loss and helplessness by acquiring new, rewarding outcomes. The increase in indecisiveness associated with sadness could also make a larger assortment size more preferable than a smaller one since they are more options to choose from, and the uncertainty as to whether the choice set adequately represents all available options is decreased. Considering individuals induced to feel sad tend to value new things more, a larger number of alternatives in choice could then make them feel more in control, which would help remedy the lack of personal control associated with incidental sadness since the ability to choose tends to enhance one's sense of personal control, thus making individuals feel more confident in their decisions.

As such, I am hypothesizing that an individual induced to feel incidental sadness will prefer to choose from a larger choice set, rather than a smaller one, in order to compensate for feelings of loss and helplessness, as well as decrease decision regret and increase post-choice satisfaction due to the more careful and systematic processing of decisions, the greater sense of control, and the greater opportunities to change their current circumstances. Comparatively, since individuals in positive or neutral emotional-states have been found to have a stronger reliance on heuristics and be more biased toward the status quo, they can be expected to make relatively quick decisions (Boyce et al. 2015), and when faced with a larger number of alternatives in choice, these individuals can be expected to show much less post-choice satisfaction relative to individuals induced to feel sad.

My hypothesis is then:

H₁: Having a larger choice set, as compared to a smaller one, will increase post-choice satisfaction for the sadness condition, such that post-choice satisfaction will be higher for the sadness condition than for the baseline (neutral) condition

V. Experimental Design

General Methodology

Students from the University of Colorado Boulder will be given the opportunity to participate in the experiment for class extra-credit, or some other form of compensation. The experimental design will be as follows: emotional induction, emotion induction (manipulation) check, and choice experiment. In order to keep participants from guessing the hypothesis, I will use the technique used in Mangan's 2007 study: the experimenter will explain "that the study actually encompasses two different experiments put together into one study for ease and efficacy." Participants will be told that they would be participating in a "thought and imagination study" where they would first have to watch a short movie clip followed by a short writing task. Then, they would complete the second experiment (the choice experiment).

Prior to the choice experiment, participants will be randomly assigned to one of two conditions: a sadness condition or a neutral control. The emotional induction procedure, where participants will be randomly assigned and induced to the specified emotional-state condition, will take place following this, where the induction method will fully reference that used in Mangan's 2007 study. Directly after this, the choice experiment will begin, which will be very similar to Iyengar and Lepper's 2000 study. However, my version of their choice experiment will be designed to examine the effects of number of alternatives and emotional state (incidental sadness or neutral) on decision-related difficulty, frustration, satisfaction, and regret. Participants will choose over different flavors of chocolate, and the number of alternatives in choice will be shown to both conditions in two groups: limited-choice: 6 options vs. extensive-choice: 30 options. Participants will then answer a post-decision questionnaire about the decision-making task in order to assess how frustrating and difficult the task was, how much they enjoyed the task, how satisfied they were with their selection, and how much they regretted not having chosen a different chocolate. Iyengar and Lepper had one hundred thirty-four students in their sample, so in order to better reflect their study, I plan to recruit around this amount of participants as well. Additionally, their sample consisted of students from Columbia University, which is why I will recruit students from the University of Colorado Boulder for my sample. After the choice experiment, there will be an emotion

induction (manipulation) check to determine how the participants felt while watching the video clips (which are discussed in the Emotional Induction section below).

Emotional Induction

Prior to the choice experiment, participants will be randomly assigned to one of two conditions: an incidental sadness condition or a neutral control. I plan to use the mood induction technique used in Mangan's 2007 study. He induced emotions for two conditions: incidental sadness and a neutral control. The following emotional induction procedure will be outlined mostly in their words. I will use short movie clips of 2 to 3 minute duration. The incidental sadness condition will watch a clip from the movie [*The Champ*](#), where a child's mentor/hero dies. The neutral condition will watch a clip from a [National Geographic documentary](#) of the coral reef. Mangan states that "both clips have been extensively studied in prior emotion research" and thus are a well validated emotional induction technique. At the end of the video clips, participants will be asked to complete a writing task designed to more thoroughly engross the participants in their induced emotion condition. Those in the incidental sadness condition (who watched a clip from *The Champ*) will be asked to write about how they would feel if one of their personal mentors died. Those in the neutral condition, who watched a clip from a National Geographic documentary on the coral reef, will be asked to write about their daytime activities for an average day. Tables 1 and 2 outline the emotional induction procedure to be used.

Choice Experiment

After the emotional induction, participants of each condition will perform the choice experiment. My choice experiment will resemble that used in Iyengar and Lepper's (2000) study. The third choice experiment used in Iyengar and Lepper's study was designed to measure satisfaction with a choice when choosing between a small number of options or a large number of options. Similar to their study, I will have participants choose over different flavors of chocolate.

Participants will be split into two groups and presented with two different displays of chocolates. Participants in the limited-choice display will encounter one row of 6

different flavors of chocolate; and participants in the extensive-choice display will encounter five rows of 30 different chocolates. Each chocolate will have a label with its official name next to it. From Iyengar and Lepper's (2000) study, an experimenter will give the participants the following cover story: "We're doing a marketing research study that examines how people select chocolates. What I would like you to do is take a look at the names of the chocolates and the chocolates themselves, and tell me which one you would buy for yourself." Once they select the chocolate, participants will be offered the opportunity to sample the chocolate they had chosen. After sampling the chocolate, participants will be asked to complete the sample satisfaction measures and demographic questionnaire, which is outlined in the "Instruments" section below, mostly in the words from Iyengar and Lepper's 2000 study.

Instruments

The three main dependent measures in this study will be: participants' initial satisfaction with the choosing process, their expectations concerning the choices they had made, and their subsequent satisfaction with their sampled chocolates. To measure initial satisfaction with the choosing process, participants' will be asked about the extent to which they felt the choice-making process had been: enjoyable ("How much did you enjoy making the choice?"), difficult ("Did you find it difficult to make your decision of which chocolate to pick?"), or frustrating ("How frustrated did you feel when making the choice?"). To determine whether participants in the neutral condition encountering extensive choices are more likely to satisfice (i.e., to accept any satisfactory option), where as participants in the incidental sadness condition encountering extensive choices are less likely to satisfice and more likely to optimize (i.e., to seek the very best option), two items will examine participants' expectations regarding their choices. To measure perceived satisficing, participants will be asked to provide ratings for, "How confident are you that this chocolate will satisfy you?" To examine perceived optimizing, participants will be asked "How confident are you that this chocolate will be among the best you've ever had?" Additionally, to evaluate whether incidental sadness causes a decrease in the reliance of heuristics and makes individuals less likely to choose an easily justifiable option in an extensive-choice context, relative to those in the neutral condition,

participants in both emotional-state conditions will be asked “Do you feel that you have made a well-informed decision on the chocolate you picked?” and, “Is this a chocolate that you would normally pick?”

The sample satisfaction measures will ask questions to assess participants’ actual satisfaction with the chocolate they consume, their regrets about the chocolate they taste, and their satisfaction with the number of choices they are given. Three items will examine participants’ satisfaction with their sampled chocolates: "How satisfied were you with the chocolate you tasted?", "How much did you enjoy the sample you tasted?", and, "How tasty was the chocolate you sampled?" All responses were given on Likert scales, ranging from 1 (not at all) to 7 (extremely). Two items will measure regret: "How much do you regret eating the chocolate you tasted?" and "Do you think that there were chocolates on the table that tasted much better?" Both items were answered on 7-point Likert scales, ranging from 1 (no, not at all) to 7 (yes, completely). One item will examine participants’ perceptions about the number of choices provided: "When initially given the task to pick a chocolate from the display, do you think the selection should have included more kinds of chocolates?" Responses will be given on a 7-point Likert scale, with 1 being, I felt that I had too few to choose from, 4 being, I had the right number of choices to choose from, and 7 being, No, I had too many to choose from.

The demographic measures will occur at the end of the experiment, where all participants will be asked to complete a brief demographics questionnaire about their age, ethnicity, gender, and affiliation with University of Colorado Boulder.

Analysis and Type of Econometric Approach

The data will be analyzed using a confidence interval for the difference between two means for 2 (number of options: 6 vs. 30) x 2 (emotional state condition: sadness vs. neutral). In order to estimate the differences in means for each dependent variable (Difficulty/Frustration, Task Enjoyment, Satisfaction, and Regret) by individuals in the incidental sadness condition and the neutral condition when in each of the choice set size contexts (limited-choice and extensive-choice), a confidence interval for the difference between two means will be constructed. The confidence interval for the difference

between the two means contains all the values of $(\mu_1 - \mu_2)$ – the difference between the two population means – which would not be rejected in the two-sided hypothesis test of:

$$\mathbf{H}_0: \mu_1 = \mu_2 \text{ against } \mathbf{H}_a: \mu_1 \neq \mu_2$$

$$\mathbf{H}_0: \mu_1 - \mu_2 = 0 \text{ against } \mathbf{H}_a: \mu_1 - \mu_2 \neq 0.$$

If the confidence interval includes 0, then there is no significant difference between the means of the two populations, at a given level of confidence. I will also compute the test statistics and using the T-distribution, determine whether or not there is a significant difference in the means at the 0.05 level and the 0.01 level.

Budget

For the experiment, I am estimating that 500 chocolates of different flavors will be needed. The average price of an assorted box of chocolates is around \$30.00 for 25 pieces. So, I will need 20 assorted chocolate gift boxes, which will cost around \$600 total. Assuming there will be other costs associated with the experiment, such as set up and lab space, I am estimating the total budget to be around \$1,000.

VI. Discussion and Conclusion

Hypothesis Discussion

I am testing to see whether the outcome for the experimental group, those induced to feel incidental sadness and shown the different choice set sizes, is different from the outcome for the control group, those in the neutral condition and shown the different choice set sizes. A comparison between those induced to feel incidental sadness and those in the neutral baseline condition will allow me to test the hypothesis that incidental sadness and a greater number of alternatives in choice interacts positively, and that this interaction leads to greater post-choice satisfaction.

Implications for Economic Choice Theory and Edward Morey's Book

This proposal outlines an experiment in order to examine the relationship between incidental sadness and the number of alternatives in choice, and how that relationship influences satisfaction with a choice.

Although standard economic theory predicts that incidental emotions should not affect behavior (Boyce et al. 2015), recent research has suggested otherwise. If my hypothesis is true, there will be further evidence demonstrating the effects of emotions on preferences, even emotions that are subtle and often unrealized (incidental). Additionally, recent research on choice overload suggests that a larger number of choices may lead to greater difficulty, more regret, and lower satisfaction. How then can these issues of choice overload be overcome? Reducing the number of alternatives available is a suggestion, but perhaps not the most efficient. If my hypothesis is true, and incidental sadness interacts positively with an increasing number of alternatives in choice, it will provide evidence supporting a special case where having more alternatives is better, which could then help offset the negative consequences associated with choice overload.

Since there is relatively minimal research on the relationship between incidental emotions and the number of alternatives in choice, my experiment could help provide evidence suggesting a relationship between incidental emotions and number of alternatives in choice, which could then be further expanded to other emotions and more specific choices.

VII. References

1. Aner Sela, Jonah Berger and Wendy Liu (2009) Variety, Vice, and Virtue: How Assortment Size Influences Option Choice, *Journal of Consumer Research* 35(6): 941-951. At http://jonahberger.com/wp-content/uploads/2013/02/Variety_Vice_Virtue.pdf
2. Barbara Mellers, Alan Schwartz and Ilana Ritov (1999) Emotion-Based Choice, *Journal of Experimental Psychology: General* 128(3): 332-345. At <http://people.ict.usc.edu/~gratch/CSCI534/Readings/Mellers-et-al99.pdf>
3. Beatriz de Castro Sebastião Pereira (2014) The Ironic Interplay of Choice and Sadness. Dissertation, The University of Michigan. At https://deepblue.lib.umich.edu/bitstream/handle/2027.42/107236/bpereira_1.pdf?sequence=1
4. Christopher Boyce, Mikołaj Czajkowski, Nick Hanley, Charles Noussair, Michael Townsend and Steve Tucker (2015) The Effects of Emotions on Preferences and Choices for Public Goods. Discussion papers in Environmental Economics, University of St. Andrews. At <http://www.st-andrews.ac.uk/media/dept-of-geography-and-sustainable-development/pdfs/DO2015%2008%20Boyce%20et%20al.pdf>
5. Edward R. Morey (2016) *Behavior, Choice and Ethics: Is Homo Economicus Happy?*
6. Graeme A. Haynes (2009) Testing the boundaries of choice overload phenomenon: The effect of number of options and time pressure on decision difficulty and satisfaction, *Psychology & Marketing* 26(3): 204-212. At <http://onlinelibrary.wiley.com/doi/10.1002/mar.20269/abstract>
7. George Loewenstein (1996) Out of Control: Visceral Influences on Behavior, *Organizational Behavior and Human Decision Processes* 65(3): 272-292.
8. George Loewenstein (2000) Emotions in economic theory and economic behavior, *The American Economic Review* 90 (2): 426-432, Papers and Proceeding of the One Hundred Twelfth Annual Meeting of the American Economic Association.
9. Isabelle Blanchette and Anne Richards (2010) The influence of affect on higher level cognition: A review of research on interpretation, judgement, decision making and reasoning, *Cognition and Emotion* 24(2): 561-595. At <http://www.tandfonline.com/doi/abs/10.1080/02699930903132496#.Vu7zGxIrlch>
10. Jennifer Lerner, Deborah Small, and George Loewenstein (2004) Heart strings and purse strings: carryover effects of emotions on economic decision, *Psychological Science* 15(5): 337-341.
11. Jennifer Lerner, Ye Li and Elke Weber (2012) The Financial Costs of Sadness, *Psychological Science* 24(1): 72-79.
12. Jennifer S. Lerner, Ye Li, Piccarlo Valdesolo and Karim S. Kassam (2015) Emotion and Decision Making, *Annual Review of Psychology Annu. Rev. Psychol.* 66(1): 799-823. At <http://www.annualreviews.org/doi/pdf/10.1146/annurev-psych-010213-115043>

13. Katia M. Harle' and Alan G. Sanfey (2007) Incidental Sadness Biases Social Economic Decisions in the Ultimatum Game, *Emotion* 7(4): 876-881. At <http://0-search.proquest.com/libraries.colorado.edu/docview/614484323?accountid=14503>
14. Larissa Z. Tiedens and Susan Linton (2001) Judgment Under Emotional Certainty and Uncertainty: The Effects of Specific Emotions on Information Processing, *Journal of Personality and Social Psychology* 81(6): 973-988. At http://www.communicationcache.com/uploads/1/0/8/8/10887248/judgment_under_emotional_certainty_and_uncertainty-the_effects_of_specific_emotions_on_information_processing.pdf
15. Michel T. Pham (2007) Emotion and Rationality: A Critical Review and Interpretation of Empirical Evidence, *Review of General Psychology* 11(2): 155-178. At <http://www.columbia.edu/~tdp4/RGP2007.pdf>
16. Nitika Garg, J. Jeffrey Inman and Vikas Mittal (2005) Incidental and Task - Related Affect: A Re - Inquiry and Extension of the Influence of Affect on Choice, *Journal of Consumer Research* 32(1): 154-159. At <http://www.jstor.org/stable/10.1086/426624>
17. Scott Rick and George Loewenstein (2008) The Role of Emotion in Economic Behavior, In M. Lewis, J. M. Haviland-Jones, and L. Feldman Barret, eds., *Handbook of Emotions, Third Edition*, New York, New York, The Guilford Press.
18. Sheena S. Iyengar and Mark R. Lepper (2000) When Choice is Demotivating: Can One Desire Too Much of a Good Thing? *Journal of Personality and Social Psychology* 79(6): 995-1006. At [https://faculty.washington.edu/jdb/345/345Articles/Iyengar & Lepper \(2000\).pdf](https://faculty.washington.edu/jdb/345/345Articles/Iyengar%20&%20Lepper%20(2000).pdf)
19. Simona Botti and Sheena Iyengar (2008) Thinking Deeply: the Affective Costs of Elaborating on Too Much Choice, In Angela Y. Lee and Dilip Soman, eds., *Advances in Consumer Research* Vol 35: 201-204. At <http://acrwebsite.org/volumes/13230/volumes/v35/NA-35>
20. William V. Mangan III (2007) The Incidental Effects of Sadness on the Planning Fallacy, a Carnegie Mellon University Dietrich College Honors Thesis. At <http://repository.cmu.edu/hsshonors/91/>

Table 1: Film clip used in each of the conditions

Condition	Clip
Incidental Sadness	The Champ (Child experiences his hero's death – 2:42)
Neutral	National Geographic Documentary (on the Coral Reef – 3:00)

Table 2: Writing task used in each of the conditions

Condition	Writing Task
Incidental Sadness	“How would you feel if one of your personal mentors died?”
Neutral	“Write about your daytime activities for an average day.”