SPECIFIC EMOTIONS AND ALTRUISTIC DECISION MAKING – A STUDY

IN RELATIONAL PERSPECTIVE

by

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To Dundun and Dandan, my beloved grandparents and first teachers, for the love, friendship and blessings.

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Abstract

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The role of emotions in decision making processes has long been of interest to

researchers due to its relevance in our daily consumption decisions. Recent experimental studies

have suggested that specific emotions prime different implicit goals. However, despite their

importance in applied settings, there has been a lack of clear understanding of how specific

emotions might influence prosocial activities, such as donating money to charitable

organizations, or engaging in volunteering behavior.

To explore the effect of specific emotions on altruism, a between-subjects study was

conducted to examine four emotion conditions (e.g., anxiety, sadness, pride, hope) along with a

control neutral condition. These four emotions are generally acknowledged to be prosocial;

however, this research attempted to compare probable distinctions in helping behavior among

them. The emotions were induced in participants through an autobiographical emotional memory

task (AEMT), and subsequently they made a decision in an anonymous allocation in a dictator

game task. The results showed no significant differences in altruistic donations among the

emotions. However, on average, anxious individuals were the most giving followed by those experiencing neutral, hope and sad emotions. Proud participants were the least altruistic among all the conditions. Limitations and implications for future research are discussed.

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<h1>Introduction</h1>

Background and Motivation

Blake Mycoskie, an entrepreneur, was travelling in Argentina in 2006, and witnessed a basic need among destitute children – a need for shoes. The sores, blisters and infections as well as the inability to go about their daily activities resulted in Mycoskie's revolutionary solution – an entrepreneurial for-profit business, TOMS Shoes, with a One-for-One concept. Under this concept, the company helps a person in need with every product that is purchased. Mycoskie recognized that consumers might want to feel good about their purchases, and thus would be encouraged to buy the products. Since 2006, TOMS Shoes has provided over 60 million pairs of shoes to children which provides evidence that consumers have embraced the cause. A concomitant explanation is the clear intent that buyers are willing to experience the satisfaction gained from helping a relative stranger in another part of the world by a simple action like making a purchase.

Helping or engaging in prosocial behavior describes voluntary actions like helping, sharing and cooperation to benefit another individual (Eisenberg, Fabes, & Spinrad, 2006, pp. 646). Further, even though prosocial behavior and altruism are often mentioned synonymously, in reality, they are distinctly different. *Altruistic* behavior, which is prosocial behavior that is not motivated by external factors, is of particular interest to most researchers. Altruistic behavior is described as the motivation to help others out of pure regard for their need and without consideration for personal benefit as opposed to prosocial behavior, which refers to a pattern of

activity which can result due to many reasons, including altruistic motivations (Knickerbocker, 2003). However, individuals are often affected by emotions in their own lives which color future decisions and in this case, might further instigate the need to make a socially conscious purchase or engage in activities for the benefit of others.

In today's world, humanitarian issues are not only important but have even gained prominence in the corporate sector, as companies which are perceived as high on ethics are perceived positively by consumers (Marketing Week, 2005). Further, choosing a nationally produced good over a foreign made product has been attributed to an underlying motivation of the effect that the purchase might have on members of one's own community or society (Powers & Hopkins, 2006). Altruism has thus, formed a basis for understanding the motivations of consumers and impacts purchase behavior. Therefore, understanding the kind of influences, especially emotional influences, which might play a role in promoting altruistic behaviors might help marketers in engineering novel ways to cultivate pertinent experiences for consumers.

In the present research, I build from theories within the emotion literature to probe how specific emotions may differentially affect and influence subsequent altruistic behavior. Why do individuals engage in sharing behavior with relative strangers when there is no clear personal benefit? Do emotions influence the intrinsic motivation to help others, even at a cost to oneself? If so, how might specific emotions differently influence altruistic behavior? These are the questions which drive this thesis. Broadly speaking, this thesis was an exploratory study centered on the phenomenon of emotions affecting helping behavior. Specifically, I investigated how specific types of negative emotions (e.g., anxiety and sadness) and specific types of positive

emotions (e.g., hope and pride) might color future decisions and specifically, might make people more or less helpful.

In the next section, I provide an overview of how decision-making theory has evolved over time to lead up to the present theories which acknowledge the importance of emotions in our judgment and decision making processes and then expand on the important emotion theories that are generally used to predict how, till date, broad classes of emotions differ.

A Brief History of Theories in the Field of Decision Making

The traditional view of decision-making referred to the idea of making rational choices to estimate a course of action that would lead to maximization of decision outcomes. This perspective was based on the assumption that all available options have the same value, that is, when there is a choice to be made between different options, the profit which corresponds to the mean utility of the item would be equal to the value of risk for that item (Bernoulli, 1738/ 1954). The underlying hypothesis for this proposal by Daniel Bernoulli is based on the value of the item being dependent on the utility yielded by the item, and it was further specified by his brother, Nicholas Bernoulli in the 18th century, who came up with the first consumer decision making theory (Richarme, 2005). Under this explanation, consumers make buying decisions with the intention of gaining maximum satisfaction, which is the expected result of any purchase. This account was further extended by von Neumann and Morgenstern's (1964) classic subjective expected utility (SEU) theory, which assumes that consumers behave rationally at all times and are able to accurately estimate the probabilistic outcomes while making uncertain decisions. However, in mundane decisions (like where to go or what to eat for lunch), making decisions in

such a manner is not realistic. For example, by the expected utility model, before making a purchase of a certain brand of breakfast cereal or any item at all, the consumer would need to know the mathematical probability of how much he would be satisfied with the brand. For that information, however, he would first need to have examined the potential probabilistic outcomes of all other brands. Thus, as a normative theory, expected utility theory explains how people assess the returns on product costs but does not explain how decisions are made by viewing individuals as rational actors at all times who can estimate probabilities among alternatives prior to making decisions. However, on preferences and choices in the presence of uncertainty, expected utility theory does posit that we generally seek to maximize gains or pleasure and minimize losses or pain and consequently, individuals might be aversive to risk-taking behavior such as participating in a lottery or gambling if the expected value of return is low (Levin, 2006; von Neumann & Morgenstern, 1964). For instance, the expected utility fails to hold in situations like in an Ultimatum Game (UG), which is an economic experiment in which a participant is given an endowment and told that they are in the role of a 'Proposer'. The Proposer then makes an offer to an anonymous Responder who has the right to accept or reject the offer; if the offer is rejected, however, either of them get nothing (Camerer, 2003). Ideally, keeping in mind self-interests, proposers should offer little and responders should be accepting of any amount as it is better than nothing. On the contrary, proposers are usually seen to offer 30-50% with lower offers having a 50% chance of being rejected (Camerer, 2003). This additionally indicates that in the real world our decisions are not always rational or predictable, and in fact, as explained later,

decision-making theory has evolved since then, and the inclusion of feelings and emotions suggests that there may be various other influences of the reasons behind our decisions.

An alternative explanation, known as the theory of bounded rationality or more commonly, the satisficing theory, was proposed by Herbert Simon to explain the drawbacks of the utility model. This theory posits that we, as consumers, do not always seek to maximize benefits and might choose to be satisfied with accessible and acceptable resources. Thus, the theory put forward the view of the "administrative man", who satisfices and looks for a course of action that is satisfactory which contradicts with the view of the "rational man" who would opt for the best alternative after weighing different options (Simon, 1955). Since individuals are choosing to be satisfied easily and their minds are restricted and unable to open up to other different possibilities, this theory captures real world behavior when the mind is bound by cognitive limitations. A further development to understand decision-making occurred when Kahneman & Tversky (1979; Tversky & Kahneman, 1981) expanded upon both the expected utility model and the satisficing theory by developing the prospect theory to explain how people manage risk and uncertainty and how information is not always processed in a rational manner. The prospect theory was conceptualized by how losses and gains are valued differently, and more specifically, how decisions are based on perceived losses and not on perceived gains. In one of their studies, Tversky & Kahneman (1981) asked participants questions which had them deciding between two monetary decisions and found people to prefer options which were expressed in possible gains rather than possible losses. For instance, when participants were asked to choose between an option of a guaranteed 100% probability of gaining $500 and

another option of a 50% chance of gaining $1000 and a 50% chance of gaining $0 or nothing at all, the majority of people chose the former option of the guaranteed amount. Consequently, according to the prospect theory, when two choices of economically equivalent expected return value were given but one was expressed in terms of possible losses and the other was in possible gains, people would opt for the latter option. Thus, the prospect theory empirically proved how losses have a stronger psychological and probable emotional effect than the same amount of gains, as in a single instance of gaining $100 would be viewed as better than an instance of gaining $200 and then losing $100, even though the resultant outcome is the same.

In summary, these are some of the popular models of decision-making which had been initially used to explain how people make decisions with the most prominent being that of the prospect theory. However, the general limitation of these theories lies in their limited application in real world everyday decisions. The satisficing theory suggests that rational decisions can be made by gathering enough information, but rarely do we have all relevant knowledge while making a purchase or making a choice with multiple available alternatives. The prospect theory explains behavioral decision-making but generalizes that decisions are made solely based on framing and monetary value. To address these limitations and to further tease apart the thought processes behind our decisions, research on decision making shifted to focus on how affect influences such processes. The next section will review the relevant literature and provide evidence of research which has affirmed the role of emotions in affecting decisions and subsequent behaviors.

Emotions and Decision Making

The role of emotions in judgment and behavioral decision-making has been of immense interest in contemporary decision research (Gardner, 1985; Mellers & McGraw, 2001; Pham, 2007). Before understanding the role of emotions in making decisions, it is necessary to define the often interchangeably used terms of emotions, moods and affect. It is difficult to distinguish between moods and emotions but it is thought that moods are more general responses than emotions, while emotions are more contextual and directed at objects or individuals (Frijda, 1986). Further, emotions are more intense and action-oriented feelings but last for a shorter duration while moods are less intense and passive but persist for a longer duration. Affect, on the other hand, is a general term which encompasses both mood states and emotions.

Affect and cognition were originally seen as distinct concepts, but contemporary researchers have argued emotions to be a major component in the decision making process. For instance in terms of risk assessment, Johnson & Tversky (1983) found that under the influence of a negative mood, people were less optimistic regarding the risks of various causes of tragic death while a positive incidental affect caused a decrease in risk estimates and led to the belief that negative events were less likely to occur. Isen, Nygren & Ashby (1988) also found that positive mood states made participants view losses more negatively even though there was no significant effect on the valuation of gains. Moreover, evidence from studies of decision making in neurological patients support the importance of emotions in making decisions. In a study with normal human participants as well as individuals with lesions of the ventromedial prefrontal cortex (VMPC), Bechara, Damasio, Damasio & Anderson (1994) used a novel task – the Iowa

Gambling Task (IGT) – to demonstrate the influence of emotions in real-life uncertain decision situations. The IGT is so set up such that there are four fixed decks with two 'good' decks predetermined to have less frequent low losses and more frequent low wins, and two 'bad' decks having frequent high wins and less frequent high losses. The less advantageous decks result in overall less gains due to high occasional penalties while the more advantageous decks have less card value but result in overall higher gains due to lesser sanctions (Pham, 2007). With the IGT, the main feature is to forgo short-term benefits and adjust decision making to opt for long-term benefits. As compared to normal subjects, patients with frontal lesions showed a tendency to select from the disadvantageous decks and preferred short-term gains despite larger net losses. Thus, the evidence from brain-damaged patients demonstrated that it is impossible to make decisions in the absence of emotions, with impaired judgment leading to choices made to one's own disadvantage. Further, this led to the proposition of the somatic marker hypothesis which aimed to provide a neural explanation of how emotions are involved in decision making process (Bechara, et al., 1994). According to Damasio's somatic marker hypothesis (as cited in Pham, 2007), encounters that elicit negative emotional responses serve as somatic markers of the associated events. In apprehension of recurring negative responses, encounters with these events should be avoided. Thus, losses in the high win decks should have made them unwanted choices and thus participants were expected to be drawn towards the low win decks to avoid the increased probability of losses, as is seen in normal participants. Among emotionally deficient VMPC patients this learning did not take place and they persisted with the more attractive but less beneficial decks. Thus, this study established the importance of emotions in guiding decision

making. Theoretically, at around the same time, the affect infusion model (AIM) was developed by Forgas (1995), to provide a more nuanced explanation of the influence of emotion on our cognitive mechanisms. The AIM proposed four common strategies that we use when processing social information, which are broadly categorized into 'high infusion' and 'low infusion' strategies. The low infusion strategies of 'direct access', referring to accessing a preexisting judgment of the target object or situation, and 'motivated processing', referring to processing a target object or situation in accordance to the   are so called due to the influence of preformed notions which restrict the incorporation of emotion in the judgmental process. On the contrary, the high infusion strategies of 'heuristic processing' pertaining to finding solutions to problems consistent with their current mood state like a positive evaluation when experiencing a positive emotion and 'substantive processing' to describe the recollection of memories pertinent to the mood state, are dependent on the motivations induced under a particular emotion and interweave with cognitive processes in influencing decisions. Thus, to test the ability of the AIM to accurately predict processing strategies, subsequent research came to be conducted later, emphasizing the appraisals of emotions which make us more (or less) able to process situational information and influences our cognitive decision-making abilities at that precise time point.

Emotions which can influence decisions have been categorized into two types: integral emotions and incidental emotions (Bodenhausen, 1993). Integral emotions are usually directly or indirectly related to the decision making context, while incidental emotions are those that are unrelated to a situation but can color future judgments and decisions (Lerner & Keltner, 2000).

The current research study will focus on the effects of certain specific incidental emotions in the domain of altruistic decisions.

In the context of prosocial decision-making, experimental evidence from multiple studies support the notion that emotions influence charitable behavior. Over six studies, Barasch, Levine, Berman & Small (2014) looked in-depth at how emotions might serve as a positive signal and in turn, motivate prosocial behavior. Focusing on just two emotions of distress (perceived as a selfish emotion) and empathy (perceived as a selfless emotion), in 4 of 6 studies, Barasch and colleagues either provided participants with different descriptions of a fictitious target's emotion (sympathy or distress) or subjected them to orthogonal manipulations of emotional benefits and distress. Participants then had to judge moral character and altruistic motivations of the target donor. Evaluating emotions of other affected judgments of (moral) character in the participants and these character inferences about emotion was indicative of how altruistic or moral they perceived the donors to be. For example, highly distressed fictitious individuals were perceived to be of a higher moral character than sympathetic or less distressed individuals. Conversely, those who were seen to be driven by distress were recognized as most moral while those who were driven by other (monetary) incentives were seen as less moral. Further, even in a no-information condition (absence of emotion-relevant information), participants expected that the donors experienced emotion (empathy) and came to the same conclusion of the target's altruistic prosocial motivations. These results indicate that emotion is thought to be a concurrent aspect of prosocial actions and consequently, it is important to

investigate how specific emotions might further affect individuals in subsequent decision making situations.

Based on valence, general positive emotions are thought to elicit more prosocial acts than negative emotions (Fredrickson, 2004). In a study by Isen & Levin (1972), people who were in a good mood, as induced by coming across a dime in the coin return slot of a pay phone, offered to help a research confederate with picking up a dropped sheaf of papers significantly more than those who did not find a dime in the change compartment. In several other studies, positive affect has been seen to increase helping behavior. Aderman (1972) induced elation or depression in participants and those in a positive mood were found to be more likely to help by doing the researcher a favor and even volunteered to participate in a second experiment.

Broadly, negative emotions are believed to induce helping behavior as well but existing literature reports somewhat discrepant findings on how negative emotions influence prosocial behavior. Cialdini, Darby & Vincent (1973) proposed the negative state relief model which posited that negative states accompany charitable behaviors as people aim to relieve the negative states. Further, experimental evidence of the negative-state relief (NSR) model supports that altruism is significantly reinforced in us by adulthood, and sad mood states specifically lead to enhanced helping behavior (Cialdini, Baumann & Kenrick, 1981). Even though the NSR model has been challenged (Carlson & Miller, 1987), as not recognizing specific negative emotions which might (e.g. guilt) or might not (e.g., anger) increase helping behavior, certain constructs have been seen to mediate prosocial tendencies. For instance, Carlson & Miller (1987) found significant partial correlations between the focus of attention due to a negative emotion, whether

the target of the negative event was perceived to be oneself or someone else, and helping

behavior. In agreement with this finding, attribution of causality, that is, responsibility of the

negative event was seen to be significantly correlated with predicting helping behavior, while the

two constructs of personal responsibility and self-awareness, that is, developing a self-focus

under the influence of an emotion, together significantly induced helping.

Experimentally, in terms of giving behavior, individuals who had been induced to a

negative mood state by making them feel responsible for breaking an expensive machine were

found to be more likely to volunteer for an experiment involving shocks than individuals who

did not believe that they were responsible for breaking the equipment (Wallace & Sadalla, 1966).

However, other studies have found inhibiting effects of negative affect on altruism (Moore,

Underwood & Rosenhan, 1973). Moore, et al., 1973 assigned seven or eight year olds to happy,

sad or control conditions and thereafter, gave them an option to donate money to other students if

they wished. Happy children donated more than those in the control condition, while sad children

ended up donating less than those in the control condition.

Although some studies, as mentioned above, have demonstrated the effect of emotions on

giving behaviors, the importance of identifying the effect of specific emotions on prosocial

behaviors has come into focus only recently. This study will attempt to contribute to the

literature by looking at the effect of discrete positive (e.g., hope and pride) and negative (e.g.,

anxiety and sadness) emotions on prosocial decision making.

To better apprehend the psychological attributes of the relationship between emotion and

decision making, I will first elaborate on the theoretical models which have been proposed to

characterize the structure of emotion. In the next section, I will outline some of the prominent theories which have attempted to explain how emotions drive cognitive processes.

Affect as Information

A primary role of emotions is to provide information (Lazarus, 1991; Schwarz, 1990; Peters, 2006), and assist us in understanding the environment and making decisions. This function of emotion has been best explained by the 'affect-as-information' hypothesis (Schwarz & Clore, 1983; Clore, Gasper, & Garvin, 2001). By this approach, while evaluating objects or making decisions, people introspect and often ask themselves, "How do I feel about this object (or situation)?". This reflects the need for an individual to rely on the affective response relevant in that situation. This response, in turn, guides the evaluation of the object (or situation), with negative feelings being associated with dislike or aversion and positive feelings corresponding to satisfaction or endorsement (Schwarz & Clore, 1983). However, the information communicated by affect seems to go beyond feelings of sheer approval or dislike. A study conducted by Mano (1992) naturally induced the emotion of distress in the experiment, by assigning half of the class to participate in in-class presentations. When these distressed presenting individuals (the experimental group) were asked to evaluate other presenters, they formed more polarized judgments such that average and inferior presenters were evaluated worse while the better presenters were evaluated higher than the evaluations made by the control group, that is, the students who were not assigned to make a presentation. In a conceptually similar study, Bodenhausen, Gabriel, & Lineberger (2000) observed that when sad participants were asked to make real-world judgments relative to an anchor value (e.g., "Is the Mississippi River longer or

shorter than 5000 miles?"), they gave lower estimates on items which had a lower anchor while they estimated higher on high-anchor items, as relative to those in the neutral mood condition, thereby adjusting less from the given anchor value in each condition. These studies show judgmental biases due to different negative affective states which might convey different information.

Evidence of positive affect influencing information processing has appeared, as well. In a study conducted by Isen, Daubman & Nowicki (1987), participants were induced with positive or neutral affect and asked to solve the Duncker's candle problem, in which a box of thumbtacks, book of matches, and a candle are provided and the individuals were asked to affix the candle to a corkboard "in such a way that it will burn without dripping wax onto the table or the floor beneath". The problem is usually solved by emptying the tackbox, tacking it to the wall and then using the matchbox as a platform for the candle. Happy individuals were more creative and produced significantly more solutions than those in the control neutral-affect condition. Further, even though under positive moods, people are more optimistic, positive affect also makes people less risk-taking or apprehensive of losses (Isen, Nygren & Ashby, 1988). In a between-subjects experiment by Isen and colleagues (1988), participants under positive mood states, as induced by a bag of candy, and neutral mood states, made choices in two-outcome gambles. These two-option choices were set up and participants were informed that each option was associated with a gain or loss of a certain number of points, and the choices they made would eventually weigh on their participation credit. By their findings, when people felt happy, they were more cautious and less risk-taking than those in the neutral mood. Thus, anticipation of losses was relatively higher

in positive affect subjects than in the control group. This effect has been explained by the "mood maintenance hypothesis", which posits that in a positive emotional state, people are reluctant to take risks in order to be self-protective and risk diminishing their good mood (Isen & Simmonds, 1978; Isen, et al., 1988). In fact, this behavioral aspect can also be thought to be in line with the subjective expected utility theory that under positive or happy states people expect that losses would have a greater disutility associated with them. This means that while feeling good a situation where a meaningful loss is likely, is regarded as more unpleasant than by individuals in a neutral state, as the gamble is not only at stake but also the positive emotional state (Isen, Daubman & Nowicki, 1987).

Based on heuristics and information processing, positive and negative emotions are known to differ in other ways. Fredrickson (2004) proposed the "broaden-and-build theory of positive emotions", which argues that positive emotions augment attentional focus and cognitive ability, as compared to neutral or negative emotions. According to the broaden and build theory, positive emotions broaden one's thought-action repertoire while also providing intrinsic motivation to explore, take up challenges and essentially increase personal resources (Fredrickson 1998, 2004). Thought-action tendencies like playing or jumping (as in joy) or exploring (as in interest) are ways in which positive emotions extend our thought processes. Moreover, in times of distress or crisis, these 'thoughts' during playful actions eventuate into 'actions' which help us to escape and survive thus, resulting in a momentary 'thought-action repertoire' act or action tendency (Fredrickson, 2004). Moreover, depth of information processing of positive emotions is believed to differ with negative emotions increasing vigilance,

and thus, resulting in more systematic processing while positive states lead to more heuristic processing (Schwarz, 1990; Tiedens & Linton, 2001). A simplified, heuristic processing strategy also facilitates faster decision making under positive states (Isen et al., 1987). The affect-as-information model posits that positive affective states signal less need to be vigilant by conveying that there is no threat and the situation is safe while negative emotions make individuals more alert, thus necessitating the need to process information systematically and in a more extensive and detail-oriented manner (Schwarz, 1990; Clore, Gasper & Garvin, 2001). Recent research has however, progressed beyond general positive affect and general negative affect providing information and has looked into the effect of discrete positive and negative emotions. For instance, anxiety and sadness have been seen to provide different information (Raghunathan & Pham, 1999), as well as anger and sadness leading to differential judgments (Tiedens & Linton, 2001). Even though most of empirical research has focused on negative emotions, recent research has provided evidence of specific positive emotions (love, hope and pride) influencing (prosocial) behavior differently (Cavanaugh, Bettman & Luce, 2015). Cavanaugh et al., (2015) found that only love (vs. hope and pride) resulted in increased donations to distant others, as participants were asked to imagine hypothetical situations. However, more research is needed to look at differences of discrete emotions in different domains. In terms of altruistic judgments, the current study will examine and compare the effects of two negative incidental emotions (anxiety and sadness) and two positive incidental emotions (hope and pride).

The relevant emotions for the current study have been chosen due to their pervasive influence in our daily lives. Anxiety and sadness have been seen to be widespread and prevalent forms of emotional distress and thus, are important forms of negative affect to look into (Raghunathan & Pham, 1999). Similarly, perceived consumer effectiveness elicits the feeling of consumer pride and can make a difference in consumer choices (Antonetti & Maklan, 2013). Additionally, when opting for a new product or unfamiliar item, hope becomes an important criterion as consumers decide on a course of action, due to hope's appraisal of yearning and uncertainty related to the situation (Smith & Ellsworth, 1985). Following are brief descriptions of the pertinent emotions in this study, as they have been articulated in literature.

Anxiety. Anxiety is a negative emotion which is usually elicited due to potential harmful or threatening situations (Lazarus, 1991). The nature of the threat is what distinguishes anxiety from other emotions. In situations of uncertain apprehension like an urgent call by the doctor to reveal crucial medical news, anxiety is induced due to the high uncertainty associated with the outcome and almost no control over the situation (Raghunathan & Pham, 1999). With anxiety, the threat makes one feel powerless as there is no obvious agent of blame due to the vague and uncertain nature or agent of the threat. Thus, the implicit goal and information experienced by an anxious individual is that of avoidance, escape and uncertainty reduction (Lazarus, 1991; Raghunathan & Pham, 1999).

Sadness. Sadness has been associated with a core theme of "irrevocable loss" and the implied belief that there is no way to recover the loss, leads to helplessness (Lazarus, 1991). Similar to anxiety, no direct agent is held responsible to blame and thus, there is a low appraisal

of individual control (Lazarus, 1991). However, distinct from low-control emotions like anxiety and fear, sadness has been distinguished by a high degree of situational control, that is, the agent of blame is attributed to circumstances (Smith & Ellsworth, 1985; Lerner & Keltner, 2000). Sadness has been found to prime the goal of acquiring rewarding outcomes, even to the extent of opting for riskier options (Raghunathan & Pham, 1999).

Hope. Hope is a positive emotion which is associated to our mental well-being, due to its influence in coping (Lazarus, 1999). However, as Lazarus (1999, p. 653) states, "…there has been a great reluctance on the part of psychologists to address the concept of hope". Hope is said to be relevant to goal-fulfillment, such that a favorable outcome is expected to be attained or at the least, to avoid or solve a negative outcome (MacInnis & De Mello, 2005). However, outcomes which are assured do not induce hope. Along with the process of thinking about one's goals, hope also comprises of motivation (agency) to find ways to achieve the goal, and the perceived possibility of achieving a goal makes hope a future-oriented positive emotion with a core appraisal theme of "yearning for the better" but with certain associated fears (Lazarus, 1991).

Pride. Pride has been identified as a self-conscious emotion which is induced by a focus on stable self-representations (Tracy & Robins, 2004a). On experiencing pride, the 'self' is thought to be accountable and in control, and makes one feel more important than anyone else, in contrast with the previously mentioned emotions. However, rather than a single construct, pride has been considered to be two distinct emotions: hubristic pride and authentic pride (Tracy & Robins, 2004b). As defined by Tracy and Robins (2004b), hubristic pride is the self-

aggrandizing, self-conceited form of pride while *authentic* pride is genuine or "achievement-oriented". Thus, the degree of *authentic* pride depends directly on the individual's sense of personal achievement. *Authentic* or achievement-oriented pride, as will be induced in this study, is thought to promote individual status (Tracy & Robins, 2004b) and in order to maintain this attribute and to continue to feel good about himself or herself, authentic pride has been seen to be reinforce prosocial behaviors (Wubben, De Cremer & van Dijk, 2012). This study will further probe the informational effects of pride in the social domain though altruistic behavior.

As we already know from personal experience, 'feeling' each of these emotions imparts different mental states. The predominant explanation for the 'feeling' associated with specific emotions, like the ones mentioned above, is the appraisal tendency approach, which broadly refers to the appraisals or distinct informational evaluations communicated by discrete emotions and recognizes potential distinctions among general affect (positive or negative).

Appraisal Tendency Approaches

Appraisal theories were conceptualized to characterize the structure and working of emotion (Frijda, 1986; Lazarus, 1991; Smith & Ellsworth, 1985; Lerner & Keltner, 2000, 2001). Appraisal dimensions broadly refer to the perceived meanings or information interpreted by the perceiver as associated with an emotion-eliciting situation (Smith & Ellsworth, 1985). Lazarus (1991) postulated the relationship between appraisals and emotions by arguing that appraisals characterize emotions and without appraisals, emotions could not be felt. Further, Lazarus's model posited that cognitive appraisals induced by a situation would simultaneously lead to the induction of emotions. For example, Lazarus categorized negative emotions as those resulting

from losses and threats, such as anger, anxiety and sadness, while positive emotions were defined as those which are goal-relevant and based on benefits such as happiness, gratitude and love. Each emotion is additionally characterized by a distinctive profile depending on the appraisal pattern. For instance, disgust is associated to be high on certainty and situational control (Smith & Ellsworth, 1985).

Smith and Ellsworth (1985) have been particularly instrumental in identifying appraisal dimensions of emotions. In their study, Smith and Ellsworth distinguished nine negative (sadness, fear, anger, boredom, frustration, contempt, disgust, shame and guilt) and six positive (happiness, challenge, interest, hope, surprise and pride) emotions, based on six appraisal dimensions – pleasantness, anticipated effort, certainty, attentional focus, self-other responsibility/control or agency and situational control. Some appraisals were found to be more important or central to certain emotions and not too important for others. However, psychological literature has mainly focused on negative emotions as they are thought to differentiate in appraisals and action tendencies (e.g., Lerner & Keltner, 2000; Bodenhausen, Gabriel & Lineberger, 2000; Raghunathan & Pham, 1999). However, in the light of recent empirical evidence (Cavanaugh, et al., 2015), positive emotions have been seen to differ in behavioral action tendencies as well. In the current research, this will be further explored as I aim to probe the specific positive emotions of hope and pride (as well as two negative emotions of anxiety and sadness) within the domain of prosocial decision-making.

Many studies have supported how emotion can carry over to affect future judgments and decisions but mainly focused on a valence-based approach, that is, whether the individual was

feeling a positive or negative mood or emotion. However, a prominent theory which has been

generated to provide a nuanced approach in understanding how affective states influence

decision making is the Appraisal-Tendency Framework (ATF) (Lerner & Keltner, 2000, 2001).

Appraisals refer to the individual perceptions of encounters with situations (Lazarus, 1991).

Pertaining to specific emotions, ATF postulates that there are specific core appraisals of specific

emotions that ultimately lead to different forms of goal-directed effect. For instance, anger, a

more certain emotion than sadness, is thought to use more heuristic processing as compared to

sadness using systematic processing strategies (Tiedens & Linton, 2001). Also, Raghunathan and

Pham (1999) suggested that anxiety, in apprehension of threats, would prime a goal of

uncertainty reduction while sadness would prompt a goal of reward acquisition. Consistent with

these predictions, when faced with a choice that required a trade-off between a risk and a reward,

sad individuals made choices that were in line with the goal of reward acquisition and opted for

high reward options, even though it was associated with higher risk. Conversely, anxious

individuals opted for low risk options in their pursuit of the goal of reduction of uncertainty,

even though it was at a cost of low reward.

Appraisal Dimensions which might Facilitate Prosocial Behavior

The effects of emotions on prosocial behavior have been established (Isen & Levin, 1972;

Cialdini, Darby & Vincent, 1973; Cialdini, Baumann & Kenrick, 1981). As described earlier, by

the broaden-and-build theory, positive emotions are believed to elicit more prosocial behaviors

as compared to negative emotions. Specifically, there are two ways in which general emotions

can make people feel better and thereby induce prosocial behavior: to remove a negative

emotional state or to maintain a positive emotional state. For instance, guilt, a negative emotion, has been seen to increase charitable donations (Basil, Ridgway & Basil, 2008). In the study performed by Basil and colleagues (2008), cognitive reactions like empathy were invoked by a mock charity appeal for children, which mediated guilt and led to increased helping behavior.

In this study, within the specific realm of altruistic decisions, the differential effect of specific emotions will be studied. However, as mentioned previously, analogous to any decision making process, the differentiating role of specific affective states in decision-making is attributed to several underlying appraisal dimensions. The focus of the present study is to understand how emotional experience might drive altruistic behaviors. Further, if specific emotions do so, differentially, I posit that three focal appraisal dimensions might be particularly relevant in facilitating altruistic behavior: *certainty*, *other/situational responsibility or control*, and *risk propensity*.

Certainty. Certainty is a primary appraisal dimension when referring to specific emotions as appraisal theorists have proved it to be a distinguishing emotion-appraisal feature (Lazarus, 1991; Smith & Ellsworth, 1985). Certainty has been explained as "the degree to which future events seem predictable and comprehensible (high) vs. unpredictable and incomprehensible." Further, Tiedens and Linton (2001) reported that people who experienced emotions associated with certainty communicated feeling more certain in subsequent judgments than individuals in uncertain affective states. In this same research, emotions associated with certainty resulted in heuristic processing while those emotions associated with uncertainty resulted in systematic processing. Inbar and Gilovich (2011) found angry (vs. fearful) and

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disgusted (vs. sad) individuals to be able to adjust more from self-generated anchors due to differential appraisals of certainty. Higher certainty made individuals feel more in control over their decision and they confidently adjusted accordingly. The differential effect of certainty of emotions, as an important appraisal dimension in predicting future decisions, has been established in other studies as well. Myers and Tingley (2011) hypothesized that low-certainty, negatively-valenced emotions would decrease trust while low-certainty, positively-valenced emotions would increase trust. Conversely, they expected high-certainty emotions to have little or no effect on trust. Their results complied with these predictions as anxiety, a low-certainty emotion, decreased trust while high-certainty, negatively-valenced emotions of anger and guilt did not have a clear effect on trust. Increased trust involves personal vulnerability and associated potential costs and thus, the certainty appraisal dimension can also be hypothesized to influence prosocial or altruistic behavior that is, engaging in acts solely for the benefit of others.

Relevant to the emotions in the present study, anxiety (negative) and hope (positive) are low-certainty emotions and sadness (negative) and pride (positive) are the more certain emotions. Anxiety has been seen to have a negative effect on willingness to trust both within groups (Kenworthy & Jones, 2009), as well as in anonymous economic games like the Trust Game (Myers & Tingley, 2011), which is used as a measure of willingness to trust strangers. By the broaden-and-build theory, hope, a positively-valenced, low-certainty emotion, is expected to be more altruistic than anxiety, even though both are primarily uncertain emotions and elicit self-protective behavioral actions. On the other hand, both sadness (negative valence) and pride (positive valence) induce high levels of certainty. Thus, based on certainty, there would be no

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expected difference in altruism and both sadness and pride are expected to induce more altruistic behavior in general, as opposed to the uncertain emotions of hope and anxiety.

Other/ situational responsibility. Other or situational responsibility has been defined as the degree to which someone or something other than oneself (high) vs. oneself (low) seems to be responsible (Smith & Ellsworth, 1985). As such, Smith and Ellsworth (1985, 1987), described this dimension along a three-dimensional construct along which emotions differ: 1) external, 2) internal or 3) situational factors. Negative feelings like anger are associated with an external locus of control that is, attributing the occurrence of an event to *another person*. Feelings like guilt or shame induce an appraisal of the situation being brought by one's *self*, whereas emotions like fear/anxiety or sadness have been associated with the unpleasant situations resulting due to *circumstances*.

Even though pride and hope are both positive emotions in valence, they differ on the appraisal dimension of other/situational responsibility. Incidental pride usually scores low on other/situational responsibility probably due to proud individuals having an appraisal tendency to attribute positive and favorable events to themselves (Lerner, Li, Valdesolo, & Kassam, 2014). Thus, pride is a positively-valenced emotion which is high in personal control but low in other-oriented control (Lerner & Keltner, 2001; Smith & Ellsworth, 1985). Hope, on the other hand, scores high on the other/situational responsibility dimension probably due to the associated future-oriented outlook but has also been found to be positively correlated with measures of self-agency (Smith & Ellsworth, 1985). Among, the negative emotions of anxiety and sadness, sadness has been found to have a positive correlation with self-responsibility (low on

other/situational responsibility) (Siemer, Mauss & Gross, 2007), but the unpleasant experience is largely thought to be controlled by circumstance (Lazarus, 1991). The effect of anxiety has not been looked at in terms of situational responsibility even though Lazarus (1991) predicted that no obvious external agent would be accountable while experiencing anxiety. However, I assume that anxiety would be high in terms of situational control due to anxiety leading to self-appraisal and a perceived loss of control over the situation, which in turn would elicit a positive effect on external locus of control.

In this study, situational responsibility will be assessed via ratings on 3 statements (see Method section) to identify the type of control felt under the influence of a specific emotion. For instance, "Individual control – Other" positive emotions such as hope, might be expected to increase altruism as potential others would be viewed as causing the positive feeling. "Individual control –Other" negative emotions, on the contrary, would induce others to be blameworthy of a situation and thus, decrease altruism. However, in terms of situational control, the dimension of control is thought to work in coordination with the dimension of certainty (Myers & Tingley, 2011), such that "situational control" uncertain emotions decrease altruism, while there would not be much effect of the "situational control" dimension on altruism, if the emotion is certain. Even though these hypotheses will not be directly tested in this study due to the untested reliability of the statements in the measure, the proposed mechanism of the other/situational responsibility, as influenced by the emotion, mediating the relationship between the emotion and altruistic judgment is as follows:
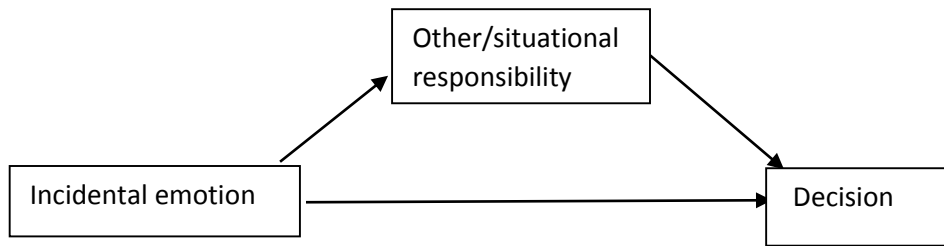
Figure 1. Conceptual model of the Role of Emotion on Other/Situational Responsibility and Altruistic Choice

   Risk propensity. Risk propensity has been defined as the degree to which an individual is prone to either take or avoid risks (Sitkin & Weingart, 1995). The degree of risk propensity may influence behaviors as in, individuals who are less risk averse (i.e., with a higher propensity to take risks) may be more prone to take risks while those who are more risk averse (i.e., with a lesser propensity to take risks) may be less prone to take risks. For instance, a set of studies involving gambling and job-selection decisions, have shown that anxious individuals are risk-averse and sad individuals are risk-prone (Raghunathan & Pham, 1999). Further, when perceiving financial risk, highly hopeful individuals have been seen to experience lower perceived risk even to the extent of a willingness to be indebted (Barros & Botelho, 2012). Thus, hopeful individuals can be assumed to be high in terms of risk propensity, as a result of the felt emotion. It is thus, important to see if these same results stand in the domain of altruism. The relation of achievement-oriented pride and the effect on risk-taking behavior has not been specifically investigated, but due to its appraisal dimension of certainty and personal control, it can be assumed that pride would induce low perceived risk, and thereby, a high degree of risk propensity. An increased propensity to take risks might not have a direct effect on altruism, however, a lack of inclination to engage in risky behavior might facilitate smaller donation

amounts and thus, decrease altruistic behaviors. In summary, the role of emotion on risk propensity and prosocial behavior is conceptualized below.
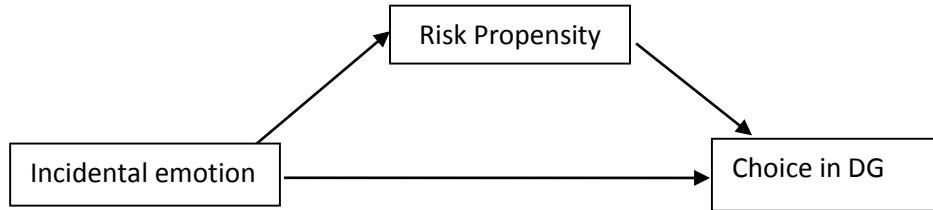

Figure 2. Conceptual model of incidental emotions on Risk Propensity and Altruism

However, in this current study, trait measures of risk propensity will be measured as a covariating factor to provide a nuanced view of relationship between incidental emotions and prosocial judgments.

Table 1 provides a summarized presentation of these appraisal dimensions associated with four emotions that will be examined in this study, how they are characterized along the dimensions likely to affect altruism, and the different predictions made about the effect on altruism according to their level of certainty, control and propensity to take risks.

Table 1

Characterizing Emotions by Valence, Certainty, Control and Risk Propensity

					Predicted Effect on Altruism		
Emotion	Valence	Certainty	Type of Control	Risk Propensity	From Certainty	From Control	From Risk propensity
Anxiety	Negative	Low	Situational Control	Low	↓	↓	↓
Sadness	Negative	High	Situational Control	High	↑	None	None
Hope	Positive	Low	Individual Control- Other	High	↓	↑	None
Pride	Positive	High	Individual Control- Self	High	↑	None	None

Effects of Specific Emotions in Economic Experiments

The current study will investigate the effect of four specific incidental emotions in an economic decision-making task, of the Dictator Game (DG). The DG is a strategic situation based on a simplification of the original UG conducted by Kahneman and colleagues (1986), specifically to explore altruism and pro-fairness. While in the UG, proposers have to take into account that their offer might be rejected by the responder which in turn might lead to non-zero or fair proposals, in a DG the responder plays a passive role. The proposer, known as a Dictator, has the sole right to decide how to split an amount which has to be accepted by the other player. Thus, any non-zero amount given to the anonymous, unidentified responder is seen as altruistic on the part of the proposer. Even though in-lab experiments are not identical to natural field settings, such controlled laboratory economic experiments provide us with evidence of cognitive trends in real world decisions (Camerer, 2011).

Experimental studies have previously investigated the effect of specific emotions in in-lab laboratory experiments using economic tasks. Xiao and Houser (2005) used the Ultimatum game to investigate the link between emotion expression and punishment decisions. This study found that the acceptance of unfair splits in responders increased if they could express their emotions towards the proposers about the offer, concurrently with their decision. The results of the study showed that among responders who received allocations of 20% or less, 79% of the responder messages communicated a negative emotion and none of the messages expressed a positive emotion. Being able to express their emotions directly to the proposers served as a satisfying alternative form of punishment for them to accept 80/20 or 90/10 splits of the

endowment. Furthermore, Capra (2004) induced a mood state (good, bad or neutral) in participants and had them play a one-off Dictator game. Individuals in the good-mood treatment were found to be more helpful or altruistic (12/13) as compared to compared to individuals in the bad-mood treatment (8/13). Thus, mood or emotion states can be deduced to have a strong effect on decisions due to the cues they moderate.

A couple of other studies have looked at the effect of specific emotions on decisions in economic games. Bonini et al. (2011) induced the emotion of disgust by releasing a disgusting smell and found that participants were more willing to accept a 20% offer in an Ultimatum game than those in the control group. The proposed explanation for this unpredicted finding was that the participants misattributed the unfairness of the offer to the smell in the room. Usually, however, rejections of unfair offers are correlated with negative emotions like anger (Bosman, Sonnemans & Zeelenberg, 2001). Another experiment induced incidental anger, guilt or gratitude and evaluated decisions made in a one-factor between-subject design in trust situations, using the Trust Game (Kausel & Connolly, 2014). An assigned player 'A' was endowed with $20 and informed that their assigned partner 'B' was feeling guilty, angry or grateful (as induced) and that they could send any amount of the $20 to B. Further, A was told that whatever amount they donated, would be tripled by the experimenters before giving to B, and then B in turn, could return any amount to A, as they deemed appropriate. From their findings, player 'A' who had heard of player B being angry donated significantly less to player B than those in the neutral condition. When player B felt guilty, player A's behavior was significantly more altruistic than in the angry condition. However, being in the grateful condition as compared to

the neutral condition did not result in more prosociality towards player B by player A. Thus, these studies support the importance of further research to clarify the effects of specific emotions on prosocial decision making, as through established economic tasks.

Present Study

Integrating these ideas, in line with the broad core appraisal themes of the specific emotions in this study, the current research focused on understanding the influence of distinct incidental affect states on altruistic decisions. Specifically, I focused on two negative emotions (anxiety, sadness), a neutral emotion condition and two positive emotions (hope, pride) and analyzed differences in prosocial behavior via willingness to give, in a completely anonymous single allocation of $10 in a dictator game task. Further, the Dictator game task followed the paradigm of Bicchieri and Xiao (2009), in terms of instructions provided to participants. Additionally, this builds on the research conducted by Capra (2004) which looked at differences in general positive and negative mood states in a one-shot Dictator game. In short, the aims of this research are:-

1) To assess if specific emotions influence altruistic decisions

2) To determine how affective states of the same valence might have a differential effect on subsequent prosocial decisions

3) To determine if certain trait measures might influence the effect of incidental emotions on prosocial behavior.

Study task –Dictator game and Similar Research in Economic Experiments.

The dictator game has been used in several behavioral lab experiments and is usually interpreted as an altruistic and fair game, with an associated aversion to inequity (Kahneman, Knetsch, & Thaler, 1986; Engel, 2011). In this task, players are allotted a windfall endowment and asked to split the sum between themselves (Dictator) and one other anonymous person (Recipient) in a one-shot interaction. The dictator (participant) gets to decide the split and is told that the recipient will be passive in the game. Thus, any offers in this one-shot anonymous game are attributed to pure altruism and thus, the offers are seen to be reflective of behavioral fairness that is independent of kinship, reciprocity, reputation or threat and punishment (Henrich, et al., 2004). In the present study, a one-off allocation of the DG was presented to the participants, after the induction of the emotional states. The decisions made in the DG were operationally defined as altruistic behavior under the influence of the specific emotion (pride, hope, anxiety, sadness, or neutral).

A standing debate regarding the validity of the Dictator game in a laboratory experiment is the motivation to try to fulfill expectations of the experimenter or to look good to the experimenter, resulting in experimenter demand effects. One study which used a variation of the dictator game with an exit option (Dana, Cain, & Dawes, 2006) allowed participants to make two choices of a $10 amount. In the study, however, after noting down an initial allocation of $10 of real money to a recipient, dictators were given the option to exit with $9 and informed that the receiver would not only get anything, but that their paired partners would also be completely unaware of a DG having been played. By their reasoning, if dictators reneged on the second

allocation choice, in spite of their anonymity being maintained, it could be assumed that they were trying to appear unselfish to their recipients and reneged when they were assured of the receiver not being informed of their (dictator's) decisions. Of all the dictators who had initially opted to give a positive amount, almost 40% decided to renege on their passing amount, despite the fact that the allocations were anonymous and made under no threats, thus supporting the fact that the dictators refrained from their initial allocation due to experimental participants being motivated to take the action that they thought was expected of them. Thus, apparent initial prosocial behavior might have been a result of participants' intention to avoid the negative utility of appearing greedy to the experimenter. In this present study, I took into account similar motivations of the participants' by controlling for the construct of self-affirmation. Raghunathan and Trope (2002) provided evidence of the relationship of self-relevant information and recall memory as being moderated by mood valence. Their results were found to be in congruence with the mood-as-a-resource hypothesis (Trope & Neter, 1994) with positive mood states serving as a buffer to cope with highly self-relevant negative information, but, in contrast, under negative mood states, self-relevant but negative events were recalled as being more unpleasant than they actually were. Based on such evidence, although it is not of direct focus in this study, self-affirmation might be thought of as an important construct affecting the relationship between emotions and altruism and is important to control due to the experimental setting of a controlled lab environment.

Hypotheses

In this current study, a between-subjects design was planned to examine if there was a differential effect among hope and pride (and among two discrete negative emotions of anxiety and sadness) on prosocial behavior when no identifying information is given, as in an anonymous dictator game.

The primary hypothesis was that emotions will influence cooperative behavior, as both positive and negative mood states have been seen to induce helping in various studies. Further, all the *specific* emotions were expected to induce prosocial behavior in the dictator game but differences in helping behavior between each of the emotions is hypothesized. Specifically, sad individuals were expected to be most altruistic as the induced sadness would initiate a redressal measure to eliminate the negative feeling. Among the certain emotions of sadness and pride, induced pride was expected to be relatively less altruistic than sadness. Due to some uncertainty associated with the positively-valenced emotion of hope, hopeful individuals were expected to be relatively less altruistic than those in the high-certainty, negatively-valenced sad or high-certainty, positively-valenced proud conditions. Anxious individuals were expected to be least altruistic among the emotion conditions in this study.

Chapter 2

Method

This chapter details the data collection and the methods used to collect the data for a pilot study and the main experiment. Participants, study design, procedures and analysis for the pilot test are included. The protocols for this study were approved by the University of Texas at Arlington Institutional Review Board (IRB). The experiments were conducted in-lab via Qualtrics.

Pilot Study of Manipulation Check

The purpose of the pilot study was to determine the reliability of the manipulation check set up for the main experiment. Following manipulation checks set up in previous studies (Lerner & Keltner, 2001), the manipulation check consisted of 4 adjectives each of the four emotions in focus in this study – anxiety, sadness, hope and pride. Conceptually, each individual participant is expected to score significantly higher on average, on the four adjectives for each pertinent emotion. The synonym words used for anxiety were 'nervous', 'tense', 'uneasy' and 'worried'; for sadness the words were 'unhappy', 'gloomy', 'sad' and 'upset'; for hope, 'optimistic', 'encouraged', 'hopeful' and 'expectant' were used, while for the pride condition, the words were 'confident', 'proud', 'accomplished' and 'successful'. For the control neutral condition, the words 'unemotional', 'indifferent', 'neutral' and 'calm' were used in the check. Each of these 20 words were rated on an eight-point Likert scale of "0" (did not experience the emotion at all) to "8" (experienced the emotion more strongly than ever before) by all participants, irrespective of the emotion condition.

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Results

  The protocol for the pilot study was approved by the Institutional Review Board at the University of the Texas at Arlington. The sample's 55 undergraduate participants took part in this pilot study as follows - anxiety ($N = 14$), hope ($N = 13$), sadness ($N = 11$), pride ($N = 10$) and neutral ($N = 7$) conditions. Among the negative moods, in the anxiety condition, participants reported feeling more anxious than in the sad condition ($M_{\text{anxious}} = 6.40$ vs. $M_{\text{sad}} = 5.80$) while those in the sad condition reported feeling more sad than anxious ($M_{\text{sad}} = 7.39$ vs. $M_{\text{anxious}} = 4.61$). Among the positive emotions, in the pride condition, participants reported feeling more pride than hope ($M_{\text{pride}} = 7.35$ vs. $M_{\text{hope}} = 6.71$) while in the hope condition, participants felt more hopeful than proud ($M_{\text{hope}} = 6.84$ vs. $M_{\text{pride}} = 5.95$). For the neutral condition, participants claimed to feel calm ($M_{\text{neutral}} = 4.92$ vs. $M_{\text{anxiety}} = 3.70$, $M_{\text{sad}} = 3.34$, $M_{\text{hope}} = 3.19$ and $M_{\text{pride}} = 2.88$). Thus, the manipulation check was deemed appropriate to be used in the main study to verify whether the relevant emotion had been induced.

<div align="center">

Main Study

</div>

Participants

  One hundred and fifty undergraduates from the University of Texas at Arlington participated in this study. Students were offered 1.25 research course credits in exchange for participation. The age of the participants ranged from 18 to 56 ($M = 20.21$, $S.D. = 4.17$) and a majority of the sample were females (68.7%; $N = 103$). The sample was diverse with 29.3% non-Hispanic White or Caucasian individuals ($N = 44$), 28.7% Asians ($N = 43$), 24.7% Hispanics (N

= 37), 14.7% African-American ($N = 22$), 0.7% Native American ($N = 1$). The remaining 2% of the sample identified themselves as being of another race ($N = 3$). By year of college, the participants included 40% freshmen ($N = 60$), 27.3% sophomores ($N = 41$), 20.7% juniors ($N = 31$), and 9.3% seniors ($N = 14$). 2.7% ($N = 4$) identified their year in college as being other than those mentioned above such as post-baccalaureate program.

Materials

      Self-Affirmation. Self-affirmation has been defined as the motivation of people to maintain self-integrity, which is a perception to present themselves as globally moral, adequate and efficacious when they confront threats to a valued self-image (Steele, 1988) as cited in Sherman, Cohen, Nelson, Nussbaum, Bunyan & Garcia (2009). Also, self-affirmation has been seen to be a driver of behavior in social decision making situations, and specifically in prosocial behavior (Lindsay & Creswall, 2014). However, since there is no direct measure of self-affirmation, prior research has used a self-integrity scale (Townsend & Sood, 2012).In this study, self-affirmation was measured using the same scale such that it can be controlled for and a clearer relationship of incidental emotions on prosocial behavior can be revealed. Participants rated the short self-integrity scale of eight items, on a scale of 1 (strongly disagree) to 7 (strongly agree) as the measure for self-affirmation. Sample items included "I feel that I'm basically a moral person" and "When I think about the future, I'm confident that I can meet the challenges that I will face". Items were coded so that higher scores indicated high levels of social affirmation, and scores on the items were summated for each participant to obtain a score within the possible range of 8-56.

Risk Propensity. Trait measures of risk propensity were assessed using a seven item scale, adapted from Meertens & Lions (2008). The original scale measures levels of risk in a general manner with items like "Safety first" and "I do not take risks with my health". The scale was customized such that the items focus on a financial context rather than the general trait measures that they were originally measuring. Sample items were "I would prefer to avoid experimenting with my finances." and "I would be willing to make financial choices, even if they are tricky". Participants rated the seven items on a scale of 1 (totally disagree) and 9 (totally agree) and each participant's item scores were summed to obtain a total trait measure score of risk propensity (range 8-63).

Compassion Scale. A brief 5-item scale of compassion towards others (Hwang, Plante & Lackey, 2008), was also rated by participants to communicate general attitudes of compassion. Each item was rated on a Likert scale between 1 (not at all true of me) and 7 (very true of me). Higher scores indicated higher levels of compassion and each participant had a score within the possible range of 5-35.

Emotion Induction

The emotion induction task had the following five questions (adopted from Smith & Ellsworth (1985) and Lerner & Keltner's (2001) emotion induction tasks). For instance, in the hope condition, the following questions was asked:

2) Think and mention about three to five things that have made you or that make you most *hopeful.*

Now, we want you to write about one specific past situation or event when you felt *hopeful*. Try to imagine as vividly as you can of the past *hopeful* situation: Think of what happened to make you feel *hopeful*, and what it felt like to be in the situation. Then you will explain this situation to someone who has NEVER had a *hopeful* experience before.

2) Please describe the past life situation that has made you feel most hopeful. When and what happened to make you feel hopeful?

3) What did it feel like to feel hopeful in the situation?

4) Why did the event make you hopeful?

5) How did you know that you felt hopeful in this situation?

Participants in the neutral condition will be asked to write about a chore from their regular daily routine and all subjects will be requested to write at least 3- 5 lines for each question.

Other/situational responsibility

Appraisals of situational control were measured with 3 items that tapped perceptions of whom the students thought were responsible for the event they described in the autobiographical writing task to induce a particular emotion. To assess other/ situational responsibility, three statements were rated on a 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). These statements were asked ***after*** they have decided on a specific event to elaborate on, but ***before*** they had actually written about the situation so that the strength of the induced emotion would be preserved for the subsequent decision task. The statements were as follows.

 1. I feel powerless at this moment.

 2. I feel responsible for what happened in the event I just thought about.

3. The circumstances in the event I thought about were beyond my control.

Manipulation Check

   The same manipulation check as tested in the pilot study, was used.

Procedures

   Prior to the lab experiment, each participant was randomly assigned to one of the five emotion conditions (pride, hope, sadness, anxiety or neutral). Upon starting the study via Qualtrics, participants were first presented with an online consent form. The survey started with questions pertaining to demographics, followed by Clark & Tellegen's (1988) Positive and Negative Affect scale (PANAS). This scale asked participants to indicate the extent to which they felt each of 20 different emotions (10 positive and 10 negative) at *that moment*. This helped to establish a baseline measure of emotion for each participant. Upon completing the PANAS, the participants were presented with a short filler task to neutralize the subject's mood and remove any mood differences due to extraneous factors (Wegener, Petty & Smith, 1995; Kim, Park & Schwarz, 2010).This task consisted of two short parts: a math problem- solving section and an alphabetizing word section. Thereafter, participants completed the scale measures of self-affirmation, risk propensity and compassion towards others. These three scales were counterbalanced among 30 participants in each of the five emotion conditions. Counterbalancing the scales ensured that there were no carryover effects in their ratings. The experimental survey continued with an autobiographical emotion induction task, along with appraisals of situational responsibility associated to the event each of them described. Thereafter, the emotion manipulation check was presented to verify if the emotion had been appropriately induced.

Finally, in the "second" part of the experiment, the dictator game was presented and the participants were asked to estimate an allocation in a dictator game task to assess the dependent measure of altruism. After the experiment, participants were debriefed regarding the dictator game, as per the approved IRB protocol.

Figure 3 below shows a summarized view of the order in which the measures were presented to the participants in this experiment.
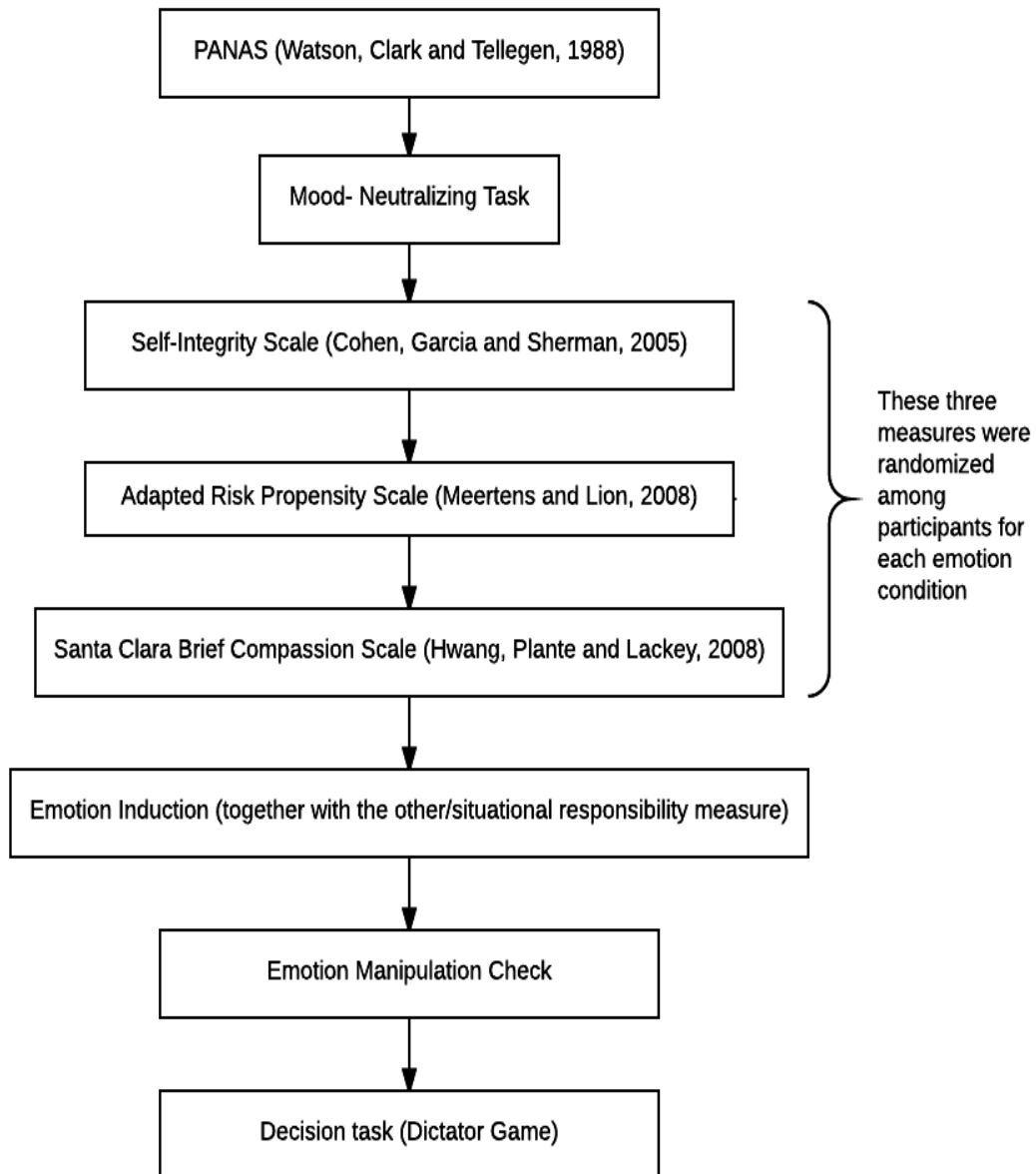
Figure 3. Order in which Measures were presented in the Current Experiment

Chapter 3

Results

Data Screening

Before analyses, the data variables were screened for implausible data, outliers, data entry errors, normality and skewedness.

Among the categorical variables of age, gender, class and ethnicity, there was just one participant who did not mention their age and thus, there was just one missing value for age. For the baseline measure of affect via the PANAS scale, the 10 items for positive affect and the 10 items for negative affect were separately summed to obtain a PA score and a NA score for each participant, which together formed the baseline measure for every individual. There were no missing values for any participant.

For the three continuous variables of self-affirmation, risk propensity and compassion, the scores of the items of each scale were summed to obtain a total score for each measure. There were no missing values among any of these measures. Further, for these continuous variables, normality was assessed. For the self-affirmation variable, the Shapiro-Wilk test of normality was significant ($p < .001$) and indicated non-normality. The skewness value (-.77) and assessment of the histogram showed a moderate negative skew. For a more normal distribution of the scores, the self- affirmation scores were reflected and square root transformed. The transformation yielded a normally distributed self-affirmation variable with a non-significant Shapiro-Wilk test ($p = .25$) and a skewness value of 0.02 and thus, the transformed variable was used for subsequent analyses. The variable of risk propensity was examined and found to satisfy the Shapiro-Wilk test ($p = .40$) and thus, was fairly normally distributed with a skewness value of -.10. The general compassion levels of the participants was assessed and found to be non-normal by the Shapiro-Wilk test ($p < .001$) with a slight

negative skew (skewness = -.49). However, the skewness and kurtosis values were within ±2 SE and thus, the scores did not need to be transformed and the original values were retained.

Reliability of scale measures

Self-affirmation scale

      Respondents were asked to indicate their agreements with statements related to self-perceived personal integrity on a scale of 1 (strongly disagree) to 7 (strongly disagree). The scale was reliable and had a Cronbach's alpha of 0.76. The possible range of the scale was 7-56 and the mean score was seen to be 45.36 (SD = 5.74) with a minimum score of 27 and a maximum of 55. The statement "Even though there is always room for self-improvement, I feel a sense of completeness about who I fundamentally am" yielded the least mean score (M = 4.68, SD = 1.64) while participants most agreed with the statement "On the whole, I am a capable person" (M = 6.03, SD = 0.77).

Risk Propensity scale

      With respect to risk propensity, an adapted version of Meertens & Lions (2008) 7-item risk propensity scale was completed by participants. Three of the seven items – 1) I would prefer not taking any risks with my finances, 2) I would prefer to avoid experimenting with my finances, and 3) *At this point*, embarking on new experiences seems to be a challenge - were reverse-coded to determine trait measures of inclination to take risks in each participants on a range of 7-63. The scale was seen to be acceptably reliable (α = .77, M = 37.74, SD = 9.29). On average, respondents agreed the least with the statement "I would prefer to avoid experimenting with my finances" (M = 3.58, SD = 2.17) and agreed the most with the statement "I am open to new experiences" (M = 7.39, SD = 1.58).

Compassion Scale

The compassion scale was a short 5-item measure (Hwang, et al., 2008) filled out by participants to assess general compassion levels, based on self-report. The scale was found to be highly reliable ($\alpha = .88$) with a mean score of 26.18 ($SD = 6.09$) with the possible range of scores being 5-35. Participants agreed the least with the statement "I would rather engage in actions that help others, even though they are strangers, than engage in actions that would help me" ($M = 4.75$, $SD = 1.54$) and agreed most with the statement "One of the activities that provide me with the most meaning to my life is helping others in the world when they need help" ($M = 5.46$, $SD = 1.44$).

Other/ situational Responsibility measure

This measure was composed of 3 items – 1) I felt powerless at that moment, 2) I feel responsible for what happened in the event, and 3) The circumstances in the event I thought about were beyond my control. Prior to being included for further analyses, the factorability of the 3 items was examined and a principal factor analysis was conducted to determine the items in the other/situational responsibility measure which best reflected the thoughts of participants with respect to their relevant emotion conditions. Bartlett's test of sphericity was significant ($p < .001$), thus indicating that the measure was factorable. The eigenvalue value for the first component (1.76) was much greater than the next items (0.82, 0.42) and explained about 58.49% of the total variance. This indicated that the scale items were unidimensional. However, the first item (.81), second item (-.59) as well as the third item (.86) loaded highly on the measure. The second item was reverse coded and the three item scale was found to be reliable ($\alpha = .63$) and included for further data analysis.

Emotion Manipulation Check

Participants had worked on the emotion induction task after responding to the scale measures. Following which, participants answered the extent to which they felt each of the

emotions presented in the emotion manipulation check. The emotion manipulation check consisted of four synonymous words for each of the emotions in the study – anxiety, sadness, hope, pride and neutral. To verify if the specific emotions had been appropriately induced, detailed one-way analyses of variance with follow-up post hoc tests were conducted on the average scores of each participant in each emotion condition. As expected, in the anxious condition, participants reported feeling relatively higher anxiety than any of the other emotions ($M_{anxiety} = 5.28$ vs. $M_{sad} = 4.48$ ($p = 1.00$), $M_{hope} = 2.74$ ($p < .001$), $M_{pride} = 1.81$ ($p < .001$), $M_{neutral} = 2.03$ ($p < .001$); $F(4) = 19.62$, $p < .001$). However, the difference between sadness and anxiety was not significant among these anxious participants. In the sad emotion condition, participants also reported feeling comparatively increased sadness than any other emotion ($M_{sad} = 5.33$ vs. $M_{anxiety} = 4.45$ ($p = 1.00$), $M_{hope} = 2.33$ ($p < .001$), $M_{pride} = 0.68$ ($p < .001$), $M_{neutral} = 2.26$ ($p < .001$); $F(4) = 24.23$, $p < .001$). However, there were significant differences of sadness with all other emotions, except anxiety, among the sad participants.

In the hope condition, there was a main effect of emotion, $F(4) = 8.91$, $p < .001$. Participants also reported feeling significantly more hopeful than any other emotion, except pride ($M_{hope} = 5.22$ vs. $M_{pride} = 4.87$ ($p = 1.00$), $M_{anxiety} = 2.97$ ($p = .005$), $M_{sad} = 2.73$ ($p = .001$), $M_{neutral} = 3.58$ ($p = .024$)). In the pride condition as well, there was a main effect of emotion, $F(4) = 17.63$, $p < .001$. All individuals reported feeling significantly more pride than any other emotion ($M_{pride} = 6.38$ vs. $M_{hope} = 4.71$ ($p = .05$), $M_{anxiety} = 2.29$ ($p < .001$), $M_{sad} = 2.22$ ($p < .001$), $M_{neutral} = 4.38$ ($p = .01$)).

Finally, in the neutral condition, participants reported feeling significantly most neutral but also revealed experiencing other emotions ($M_{neutral} = 3.47$ vs. $M_{hope} = 2.45$ ($p = .02$), $M_{pride} = 2.44$ ($p = .01$), $M_{sad} = 2.44$ ($p = .03$), $M_{anxiety} = 2.08$ ($p = .02$); $F(4) = 2.77$, $p = .03$).

Due to participants claiming to be slightly anxious when sad and vice versa, and also reporting a sense of pride upon writing of hopeful events, an inter-rater reliability analysis using the kappa statistic was conducted to confirm the effectiveness of the specific emotion inductions. To conduct the reliability of the events described by each participant to induce their condition-specific emotion, the autobiographical emotion writings of all subjects were rated by two raters in a fully-crossed design using a coding scheme such that coders coded '0' if they thought that the described event would not elicit the specific emotion, a '1' was coded if the description was thought to meet the task requirement and a '2' was coded if it was believed to be inappropriate yet thought to describe some other emotion better. The two raters separately coded the emotion writings in quiet rooms and solely evaluated if the event described by the participant was pertinent and reliable enough to induce the emotion they had been asked to describe. Further, the coders were asked to be uniform and consistent in their analyses of events. A fully-crossed design of coding was used with both coders evaluating all the participants' descriptions, to reduce systematic bias.

The reliability analysis was important to be assured of the participants describing pertinent emotions that they had been asked to write about, as an additional step in spite of the emotion manipulation check. The interrater reliability for the raters was found to be Kappa (κ) = .712, $p < .001$, 95% CI [0.55, 0.87]. By Landis and Koch (1977), this shows a substantial agreement (0.61- 0.80) among the raters and thus, the emotion inductions were assumed to be effective for conducting further analyses.

Judgments in the Dictator game task

The effect of specific emotions on decisions made in the dictator game (DG) was the primary focus in this study. It was hypothesized that anxious individuals would be least altruistic in comparison to the other emotion manipulations. Sad and proud individuals were supposed to be most giving as a redressal measure to battle sadness and as a mood

maintenance mechanism in the case of pride, respectively. Hopeful individuals were thought to be relatively less donating to others than sad and proud respondents, followed by neutral and anxious participants.

Initially, a one-way between subjects ANOVA was conducted to compare the effect of emotion on altruism for the dictator game decision in the anxiety, sadness, hope and pride conditions. Homogeneity of variance was met ($p = .70$) as indicated by Levene's test. The results indicated that there were no significant differences among the emotion conditions on altruistic giving, $F(4, 145) = 0.841$, $p = .50$. The overall average donation to (fictitious) counterparts across emotion conditions was \$4.97 ($SE = .13$). On average, anxious individuals gave \$5.27 ($SE = 0.21$) followed by hopeful individuals ($M = \$5.03$, $SE = 0.41$), sad individuals ($M = \$4.90$, $SE = 0.23$) while proud individuals passed on \$4.57 ($SE = 0.25$). With such closely similar amounts bestowed, there were no significant differences between the emotion conditions. Further, there were no significant differences between the neutral condition ($M = 5.10$; $SE = 0.30$) and any of the emotion conditions. This can be attributed to neutral participants reporting feeling some degree of emotions in their emotion induction task even while conducting daily chores. Some instances of participants reporting emotions in the neutral conditions are as follows, "It makes me proud to wash dishes and clean around the house to help my parents", "I enjoy cleaning my room because I like living in a clean space", "Cooking dinner for my family is a chore that I love and dislike at the same time" and "I feel pure joy and comfort knowing that (God) is there for me and I am not alone". Thus, it is understandable that those in the neutral condition tried to be fair and a majority of them (25/30) divided the resource evenly between themselves and an unknown, unidentified member. In correspondence, 26/30 of anxious individuals, 22/30 of hopeful individuals, 21/30 of sad individuals and 27/30 of proud individuals opted for an even split of their \$10 allocations.
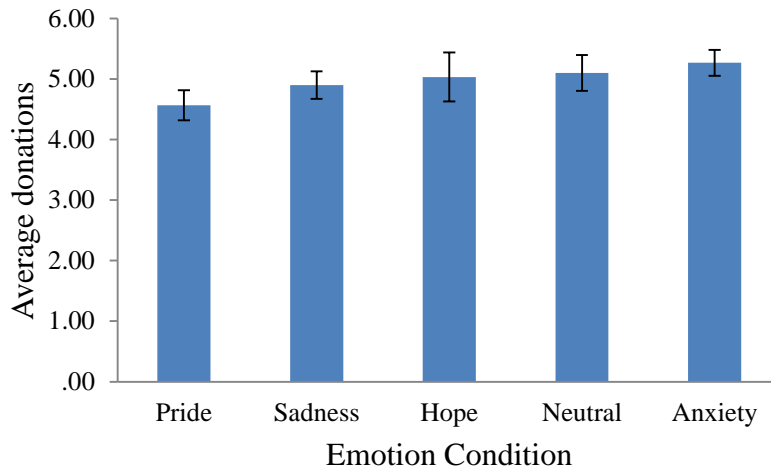
Figure 4. Average donations in each emotion condition

Separate ANCOVAs were conducted with the induced incidental emotion as the independent variable, the dictator game decision as the dependent variable and self-affirmation as a covariate and another model with the risk propensity and compassion measures as covariates. As mentioned earlier, the mean score of the positive affect and negative affect items from the PANAS scale also served as non-interacting covariates in each of the models.

Prior to analyses, each of the covariates, namely, self-affirmation, risk propensity, compassion with others, PA and NA scores were assessed for correlations with each other and the dependent variable. The covariates were only slightly or negatively correlated with each other and with the donation variable, except for compassion which was moderately related with donation decisions, $r(148) = .34$, $p < .001$.

The primary hypothesis of the study was that there would be differences in judgments made in the Dictator game depending on the specific emotions. Further, it was hypothesized that sad and proud individuals would be most giving followed by those in the hopeful and neutral conditions, while anxious people would be least prosocial. Controlling for self-affirmation to eliminate demand characteristics of an economic experiment in a lab setting, an

analysis of covariance (ANCOVA) was conducted for the effect of emotion condition and donation amounts, with baseline measures of positive and negative as additional covariates. Prior to the analysis, the assumptions of an ANCOVA were examined. There were no outliers and a linear relationship was seen between each of the covariates -self-affirmation, PA score, NA score - and DG decisions (dependent variable) for each level of emotion (independent variable). Secondly, the dependent variable of decisions in the Dictator game task was found to be slightly negatively skewed (-.06) but still within ±2 SE and thus, even though Shapiro-Wilk's test was significant ($p < .001$) and transformations could not improve the normality of the variable, the original values were retained. ANCOVA is robust to violations of normality and even with a significant Shapiro-Wilk test, subsequent analyses could be conducted with the original values.

The assumption of homogeneity of regression slopes was met with each of the covariates – self affirmation ($p = .19$), PA score ($p = .09$), NA score ($p = .73$) - and an ANCOVA was appropriate to be conducted. Additionally, the assumption of homogeneity of variance was met by Levene's test ($p = .63$). The results of the ANCOVA revealed that there was no significant main effect of self-affirmation, $F(1, 142) = .52$, $p = .47$, no main effect of baseline positive affect, $F(1, 142) = .39$, $p = .53$ and no main effect of baseline negative affect, $F(1, 142) = .04$, $p = .85$. Also, there was no main effect of emotion on the donated amounts in the DG task, $F(4, 142) = .76$, $p = .55$. On average, anxious individuals were the most prosocial ($M = 5.27$, $SE = .29$) followed by those in the neutral condition ($M = 5.06$, $SE = .29$), hopeful individuals ($M = 5.02$, $SE = .29$), sad individuals ($M = 4.94$, $SE = .29$) and proud individuals ($M = 4.55$, $SE = .29$); even though these differences were not significant. Thus, the primary hypothesis of the study was not supported.

Controlling for trait levels of risk propensity and compassion along with positive and negative affect as non-interacting covariates, a second ANCOVA was conducted with

emotion condition on DG decisions. The covariates – risk propensity, compassion, PA score and NA score- were linearly related to the donation decisions at each level of emotion condition, thus making it appropriate to run an ANCOVA. Additionally, the assumption of homogeneity of regression slopes for all the covariates - compassion ($p = .93$), inclination for risk ($p = .59$), PA score ($p = .73$) and NA score ($p = .56$), was met. Subsequently, the ANCOVA was conducted. Homogeneity of variance was met, as indicated by the Levene's test ($p = .35$). Results of the ANCOVA revealed that controlling for baseline measures, risk propensity and compassion, the main effect of emotion was not significant, $F(4, 140) = .66$, $p = .62$. There was also no significant main effect of risk propensity, $F(1, 140) = .50$, $p = .48$, and no main effect of baseline measures, namely PA score, $F(1, 140) = .001$, $p = .97$, and NA score, $F(1, 140) = .22$, $p = .64$ on decisions made in the Dictator game. However, trait levels of compassion were found to significantly explain the donation decisions, $F(1, 140) = 16.60$, $p < .001$. As there was no main effect of emotion, there were no significant differences on donations between the emotion conditions as well. However, a similar trend as before was observed with those in the neutral condition choosing an approximate even split of the $10 endowment ($M = 5.17$, $SE = .28$) while anxious individuals offered to give more ($M = 5.21$, $SE = .28$). Hopeful ($M = 4.96$, $SE = .28$), sad ($M = 4.85$, $SE = .28$) and proud ($M = 4.66$, $SE = .28$) individuals all donated less than the control neutral condition.

Broadly, there were no significant differences between positive and negative emotions as well, $t(118) = .99$, $p = .32$, even though on average, negative emotion states ($M = 5.08$, $SD = 1.21$) were more prosocial than positive emotion states ($M = 4.80$, $SD = 1.84$).

Thus, overall, there was considerable prosocial behavior in all the groups in this study. Contrary to the main hypothesis, however, there were no significant differences between the donation amounts among the emotion conditions. However, it is to be noted that the results were opposite to what was predicted in terms of differences. Based on literature, I

had predicted proud and sad individuals to be most altruistic, followed by hopeful, neutral and anxious individuals. By the results of the study, even though the differences between emotions were not significant due to a majority of the participants ($N = 121$) opting to evenly split \$10 between themselves and their fictitious counterparts, a consistent trend was observed with anxious individuals being most giving, followed by neutral, hopeful, sad and proud individuals, even when other trait measure constructs were controlled for.

Exploratory Analyses

Some additional exploratory analyses were conducted. A series of hierarchical multiple regressions were conducted to examine the overall main effects and interaction of emotion conditions and responsibility on donations. The categorical variable of emotion condition had 5 levels and thus, was dummy coded into 4 codes. The continuous variable of responsibility, on the other hand, was centered prior to conducting the analyses. There was a marginally significant overall main effect of the predictors together, $R^2= .07$, $\Delta F(5, 144) = 2.26$, $p =.05$. Specifically, there was a significant main effect of responsibility on amounts passed on in the Dictator Game, $R^2= .10$, $\Delta F(1, 140) = 5.54$, $p = .02$. However, there was no significant main effect of emotion on donation, $R^2= .10$, $\Delta F(4, 140) = .22$, $p = .93$. Emotion, though significantly predicted responsibility, $R^2= .38$, $\Delta F(8, 141) = .10.85$, $p < .001$. Specifically, sadness ($b = 4.84$, $SE = .86$, $t(141) = 5.64$, $p < .001$), pride ($b = -3.67$, $SE = .77$, $t(141) = -4.76$, $p < .001$) and anxiety ($b = 1.66$, $SE = .72$, $t(141) = 2.29$, $p = .024$) had a significant effect on responsibility. Hope did not predict responsibility, $b = -.46$, $SE = .68$, $t(141) = -.68$, $p = .49$.

There was also no overall significant interaction between emotion and responsibility, $R^2= .10$, $\Delta F(4, 140) = 1.12$, $p = .35$. Further, the interaction of each emotion and responsibility in predicting donations was probed to see if specific emotions mediated donations through responsibility. Sadness and responsibility together marginally predicted

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donations, $R^2 = .10$, $\Delta F(1, 140) = 3.66$, $p = .058$. A simple effects analysis revealed that at high levels of responsibility, sad individuals donated $0.53 less than those in the neutral condition, and this effect was marginally significant, $b = -.53$, $SE = .28$, $t(146) = -1.93$, $p = .055$. At low levels of responsibility, sad individuals donated about $0.16 less than those in the neutral condition but this effect was not significant, $b = -.158$, $SE = .33$, $t(146) = -.476$, $p = .64$.

There was no significant interaction of any of the other emotions with responsibility on donations: pride and responsibility, $R^2 = .10$, $\Delta F(1, 140) = 0.16$, $p = .90$; anxiety and responsibility, $R^2 = .10$, $\Delta F(1, 140) = 1.53$, $p = .22$ and hope and responsibility, $R^2 = .10$, $\Delta F(1, 140) = .78$, $p = .378$.

A chi-square analysis was conducted to examine if there was a relation of gender and donations in the decision task, even though there were more females ($n = 103$) than males ($n = 47$) in the study sample. Donations were coded as 0 if it was less than $5, 1 if it was exactly $5 and 2 if it was above $5. Gender was not found to be a significant predictor of donations, $\chi^2(2) = 1.83$, $p = .40$.

Table 2

Crosstabulation of Donations by Gender

	Donation			
Gender	Less than 5	Equal to 5	Greater than 5	Total
Male	7	36	4	47
Female	8	85	10	103
Total	15	121	14	150

Chapter 4

Discussion

In recent times, the field of decision making has shifted from understanding rational decision making to understanding the role of emotions on cognitive processes and emotions being the basis for all meaningful decisions (Isen, et al., 1987; Lerner & Keltner 2000, 2001; Pham 2007). Thus, currently it is accepted that our judgment and decisions are guided by our emotions, even when we are not consciously aware of it. For instance, mood effects on purchase and consumption are well acknowledged and emotions have been found to affect different stages of the buying process (Gardner, 1985; Hill & Gardner, 1987). Activities like impulse buying are believed to fulfil not only utilitarian needs, but also emotional needs (Rook, 1987). Previous research has also highlighted that purchase behaviors are influenced by country-of-origin information (Graham, Shipley, & Krieger, 1988). Altruism in purchase behaviors has been in focus recently as it has been gaining significance with businesses expanding outside of domestic markets and in policy sectors. Powers and Hopkins (2006) looked at altruistic intent through previous automobile purchases and found the vehicle's region-of-origin and self-reported general prosocial behavior to influence purchases. Differential effects of anger and sadness in the evaluation of products based on the country-of-origin information have also been found (Maheswaran & Chen, 2006).

In this study, I probed into the effect of specific emotions through an altruistic decision making task to measure potential choices made for the benefit of others. Comparing among the two positive emotions of hope and pride and the two negative emotions of anxiety and sadness enabled the examination of different affective states within the same valence (positive: pride, hope and negative: sadness, anxiety) with respect to altruistic decision choices. Considering incidental emotions, the most direct prediction from the appraisal tendency framework (Lerner & Keltner, 2000, 2001) is that the informational value of

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emotions has a differential effect on the individual's contextual behavior. There is a lot of support for general positive affect in promoting helpfulness and generosity (Isen, et al., 1987) while general negative affect also has been known to induce helping (Cialdini et al., 1973). Taking it a step further, this research attempted to understand the role of certain specific affective states in prosocial judgment and decision making. By the results, individuals experiencing each of the specific emotions (anxiety, sadness, hope and pride) were seen to be prosocial with most individuals opting for an even-split of the $10 windfall allocation. These results support extant affect literature which posits the influence of each of these incidental emotions in subsequent helping decisions.

Further, this study included lesser understood positive emotions of hope and pride, along with more studied negative emotions of sadness and anxiety and investigated probable differences in prosociality among the emotions. However, as seen by the results in this study, there were no significant differences between the emotions on donation amounts of the allocation. Further, on controlling for self-affirmation, risk propensity and compassion, there were no significant differences between the specific emotion conditions on altruistic decisions. However, since there was only a single decision task in the study, the results are at a cost of generalizability to other contexts and situations where emotions might actually play stronger roles in influencing judgments.

Importance of this Research

This study makes several contributions to the understanding of emotions and ethical decision making. Firstly, although a number of studies have examined the effect of emotions on decision making (e.g., Raghunathan & Pham, 1999; Tiedens & Linton, 2001) and a few prior studies have examined the effect of emotions on giving behavior using the Dictator Game (Capra, 2004; Xiao & Houser, 2005), this research contributes to extant knowledge by examining and comparing the effects of both positive and negative *specific* emotions on

prosocial economic decisions via the Dictator Game task. Specifically, it is important to investigate a wide variety of emotions which would enable us to be better informed of the informational value of emotions and the impact on everyday decisions. Conversely, being aware of emotions might enable us to keep in check unwanted corresponding action tendencies.

Forgas and Tan (2013) had found negative mood states to induce fairer behavior in economic games like the dictator and ultimatum games, than positive mood states. Explaining the phenomenon in terms of processing strategies, the authors attributed the selfish behaviors of positive participants to optimistic and internally focused motivations while cooperative behavior under negative moods was thought to be due to cautious but externally oriented drives, which led to more accommodating behavior and altruistic decisions. Conversely, Capra (2004) found people in a positive mood to be more helpful than those in a bad mood and ascribed it to an inclination to maintain the positive state while self-regulation under bad moods as the reason behind refraining from larger donations. Similarly most of previous other experiments studying the attributes of emotions leading to decisions, have usually fallen back on cognitive explanations or appraisal dimensions of the concerned emotions. However, in this study, an additional aspect of perceived responsibility, under the influence of an emotion, was studied. Discrete emotions were seen to impact the appraisal dimension of responsibility and even though responsibility in turn, did not significantly explain altruistic judgments, there might be other constructs primed by specific emotions which affect decisions and may eventuate in behavior. Thus, future research needs to focus on mediating mechanisms which would help us to better understand and explain human behavior.

The first dictator game by Kahneman, et al., (1986) saw three-quarters of dictator participants choosing an even split of their allocation. Subsequent other studies have also found a similar effect with dictators passing on a considerable percentage of their allocation.

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Under the effect of emotions in this study, the results of this study found approximately 80% of the participants opting for an even split of their $10 endowment. Even though the results of the current research were inconsistent with the main hypotheses of incidental emotions differently influencing decision making, fairer offers were made by individuals in the incidental anxious condition, followed by those in the neutral, hope and sad individuals. Proud individuals were most willing to retain a larger amount for themselves. Thus, even though until now general positive affect was thought to make individuals more loss-averse and risk avoiding, under the mood maintenance hypothesis (Isen & Patrick, 1983) different positive emotions (hope and pride in this study) might influence behavior differently. Even though the differences between emotions were not significant, the cognitive processes due to different emotions might actually hint at different decision making processes like proud individuals were less prosocial than hopeful people in this study. Thus, this research validates the need for specific emotions to be investigated further as their implications on everyday consumption behavior can significantly vary.

This research also sought to contribute to the broaden-and-build theory of positive emotions by investigating two discrete positive emotions of pride and hope. Particular positive emotions have been primarily ignored as behavioral characteristics of positive emotions such as happiness and gratefulness are more difficult to empirically define than those of negative emotions such as anger and disgust. However, as the broaden-and-build theory posits, positive emotions too are being thought to be different in how they influence our judgments. In this study, even though there were no significant differences between hope and pride in terms of amounts passed, hope definitely induced more altruistic behavior, relative to pride.

Further, a noteworthy result among the negative emotions is that anxious people were most prosocial (among all conditions) on average, and even though the donations did not

significantly differ from sad respondents, further examination of the informational value of emotions is necessary. Anxiety and sadness are already known to differ in risk-taking with sadness inducing more risk-taking behavior in the hope of earning more rewards (Raghunathan & Pham, 1999), but in terms of prosociality, this study is the first to compare tendencies in giving behavior among the emotions.

Limitations and Future Directions

Despite not revealing differences between the different incidental emotions on prosocial decisions, the study itself had some limitations that need to be identified and explained. Firstly, the data on each of the scales were collected by self-report, and thus the information relied on a single source of data collection. A second limitation was that convenience sampling was used and the study sample consisted only of adult college students. Thirdly, the number of respondents in each group was relatively small (30 students in each emotion condition). Even though I did have enough power to run the analyses, a larger sample size might allow for an overall better understanding of differences in prosocial decisions between specific emotions.

The Dictator game has been used in a number of studies in the past; however, it has been criticized for being known as a game because there is no particular strategy to work on it (Capra, 2004). Even though, this study failed to find significant differences, the results do indicate that differences might be observed with the utilization of other economic games like the Trust game or more such nuanced measures. For instance, in the trust game or investment game, the participant (called an investor) decides on an allocation of a given sum. The invested amount is tripled by the experimenter and given to an anonymous partner called the Trustee, who can then choose to return as much of the tripled sum they like, back to the investor (Camerer, 2003). The amount sent back to the investor measures trustworthiness while the initial invested amount measures trust. Depending on an emotion, if individuals feel

more social or in favor of others, they might be more inclined to trust their anonymous partner and invest accordingly in the Trust Game.

Based on the findings of the current study, following are some of the directions for future research. Since this study looked at only four emotions, future studies can investigate a broader spectrum of emotions. Additionally, all the four emotions of the study had been seen to be independently prosocial in other studies which solely focused on them. In this study, I intended to compare the different emotions to examine probable differences in altruistic intent. However, incorporating other specific and more distinct emotions can be included to allow for clear demarcations between the influences of different emotions on decision making.

Secondly, this study was limited to adult college students and future research can examine if these results apply equally to individuals of different age groups, etc. A majority of the sample ($N = 121$) decided on an even-split of their allocation between themselves and their counterparts in the Dictator game, which might be difficult to observe in the real world. However, since the Dictator game has been used in several prior studies, it was an ideal task to include in this first exploratory study to find initial differences among the emotions.

Thirdly, it would be interesting to identify appraisal dimensions of specific emotions which might be mediating the effects. Since this was a somewhat exploratory study, such variables were not identified but future studies can take those in account. It would further be interesting to determine different physiological differences of specific emotions and whether behavioral differences are reflective of the intensities of physiological measures. For instance, the intensity of incidental emotions might elicit different behavioral effects in different situations like fear or anxiety might lead to sweaty hands but can also increase concentration and lead to better exam performance in some people.

Regardless of its limitations, the findings of this study contributed to a better understanding of specific emotions with respect to altruistic judgments and these emotions need to be examined more in future studies. Emotions are an integral part of our daily interactions and even though the expression of emotions might be different in different contexts, the results of this study is a step forward towards understanding human decision making in social environments and emotional situations.

References

Aderman, D. (1972). Elation, depression, and helping behavior. *Journal of Personality and Social Psychology*, *24*(1), 91-101.

Antonetti, P., & Maklan, S. (2013). Moral emotions and self- regulation: An investigation in the case of ethical consumption. *Association for Consumer Research, 10*, 133-134.

Barasch, A., Levine, E., Berman, J., & Small, D. A. (2014). Selfish or selfless? On the signal value of emotion in prosocial behavior. *Journal of Personality and Social Psychology, 107*(3), 393-413.

Barros, L., & Botelho, D. (2012). Hope, perceived financial risk and propensity for indebtedness. *Brazilian Administration Review, 9*(4), 454-474.

Basil, D. Z., Ridgway, N. M., & Basil, M. D. (2008). Guilt and giving: A process model of empathy and efficacy. *Psychology and Marketing*, *25*(1), 1-23.

Bechara, A., Damasio, A. R., Damasio, H. & Anderson, S. W. (1994). Insensitivity to future consequences following damage to human prefrontal cortex. *Cognition*, *50*, 7-15.

Bernoulli, D. (1738/1954). Exposition of a new theory on the measurement of risk. *Econometrica*, *22*(1), 23-36.

Bicchieri, C., & Xiao, E. (2009). Do the right thing: But only if others do so. *Journal of Behavioral Decision Making, 22*, 191-208.

Bodenhausen, G. V. (1993). Emotions, arousal, and stereotypic judgments: A heuristic model of affect and stereotyping. In D. M. Mackie and D. L. Hamilton (Eds.) Affect, cognition, and stereotyping (pp.13-37). San Diego, CA: Academic Press.

Bodenhausen, G. V., Gabriel, S., & Lineberger, M. (2000). Sadness and susceptibility to judgmental bias: The case of anchoring. *Psychological Science*, *11*, 320-323.

Bonini, N., Hadjichristidis, C., Mazzocco, K., Dematte, M. L., Zampini, M., Sbarbati, A., & Magon, S. (2011). *Pecunia olet*: The role of incidental disgust in the ultimatum game. *Emotion, 11*, 965-969.

Bosman, R., Sonnemans, J., & Zeelenberg, M. (2001). *Emotions, rejections, and cooling off in the ultimatum game*. Unpublished manuscript.

Camerer, C. F (2003). Behavioral studies of strategic thinking in games. *Trends in Cognitive Science*, *7*(5), 225-231.

Camerer, C. F. (2011). *The promise and success of lab-field generalizability in experimental economics: A critical reply to Levitt and List*. SSRN Working Paper.

Capra, M. (2004). Mood-driven behavior in strategic interactions. *The American Economic Review*, *94*(2), 367-372.

Carlson, M., & Miller, N. (1987). Explanation of the relation between negative mood and helping. *Psychological Bulletin*, *102*, 91-108.

Cavanaugh, L. A., Bettman, J. R., & Luce, M. (2015). Feeling Love and Doing More for Distant Others: Specific Positive Emotions Differentially Affect Prosocial Consumption. *Journal of Marketing Research, 52*(5), 657-673.

Cialdini, R. B., Baumann, D. J.,& Kenrick, D. T. (1981). Insights from sadness: A three-step model of the development of altruism as hedonism. *Developmental Review, 1*(3), 207-223.

Cialdini, R. B., Darby, B. L., & Vincent, J. E. (1973). Transgression and altruism: A case for hedonism. *Journal of Experimental Social Psychology, 9*, 502-516.

Clore, G. L., Gasper, K., & Garvin, E. (2001). Affect as information. In J. P. Forgas, (Ed.). *Handbook of Affect and Social Cognition* (pp. 121-144). Mahwah, NJ: Lawrence Erlbaum Associates.

Dana, J., Cain, D., & Dawes, R. (2006). What you don't know won't hurt me: costly (but quiet) exit in dictator games. *Organizational Behavior and Human Decision Processes, 100*, 193-201.

Eisenberg, N., Fabes, R. A., & Spinrad, T. L. (2006). Prosocial development. In N. Eisenberg (Vol. Ed.), W. Damon & R. M. Lerner (Series Eds.), Handbook of child psychology: Social, emotional, and personality development (Vol 3. pp. 646-718). New York: Wiley.

Engel, C. (2011). Dictator games: A meta study. *Experimental Economics*, *14*(4), 583-910.

Forgas, J. P. (1995). Mood and judgment: The affect infusion model (AIM). *Psychological Bulletin*, *117*, 39-66.

Forgas, J. P., & Tan, H. B. (2013). To give or to keep? Affective influences on selfishness and fairness in computer-mediated interactions in the dictator game and the ultimatum game. *Computers in Human Behavior*, *29*(1), 64-74.

Fredrickson, B. L. (1998). What good are positive emotions? *Review of General Psychology*, *2*, 300-319.

Fredrickson, B. L. (2004). The broaden-and-build theory of positive emotions. *Philos. Trans. R. Soc. London*, 359, 1367-1377.

Frijda, N. H. (1986). *The emotions*: Cambridge University Press.

Gardner, M. P. (1985). Mood states and consumer behavior: A critical review. *Journal of Consumer Research, 12*, 281-300.

Graham, J. H., Shipley, D., & Krieger, N. (1988). A method for modeling consumer perceptions of country-of-origin. *International Marketing Review, 5*(3), 67-76.

Henrich, J., Boyd, R., Bowles, S., Camerer, C., Fehr, E., & Gintis, H. (2004). *Foundations of human sociality: economic experiments and ethnographic evidence from fifteen small-scale societies*. New York: Oxford University Press.

Hill, R. P. & Gardner, M. P. (1987). The buying process: Effects of and on consumer mood States, in NA - *Advances in Consumer Research.* Vol. 14,408-410 eds. Melanie Wallendorf and Paul Anderson, Provo, UT : Association for Consumer Research.

Hwang, J. Y., Plante, T., & Lackey, K. (2008). The Development of the Santa Clara Brief Compassion Scale: An abbreviation of Sprecher and Fehr's Compassionate Love Scale. *Pastoral Psychology, 56*(4), 421-428.

Inbar, Y., & Gilovich, T. (2011). Angry (or disgusted), but adjusting? The effect of specific emotions on adjustment from self-generated anchors. *Social Psychological and Personality Science*, *2*(6), 563-569.

Isen, A. M. & Levin, P. F. (1972). The effect of feeling good on helping: Cookies and kindness. *Journal of Personality and Social Psychology*, *21*, 384-388.

Isen, A. M. & Patrick, R. (1983). The effect of positive feelings on risk-taking: When the chips are down. *Organizational Behavior and Human Performance*, *31*, 194-202.

Isen, A. M. & Simmonds, S. F. (1978). The effect of feeling good on a helping task that is incompatible with good mood. *Social Psychology*, *41*(4), 346-349.

Isen, A. M. (1984). The influence of positive affect on decision making and cognitive organization. *Advances in Consumer Research*, *11*, 534-537.

Isen, A. M. Daubman, K. A., & Nowicki, G. P (1987). Positive affect facilitates creative problem solving. *Journal of Personality and Social Psychology, 52*(6), 1122-1131.

Isen, A. M., Nygren, T. E., & Ashby, F. G. (1988).The influence of positive affect on the perceived utility of gains and losses. *Journal of Personality and Social Psychology, 55*, 710-717.

Johnson, E. J., & Tversky, A. (1983). Affect, generalization, and the perception of risk. *Journal of Personality and Social Psychology, 45*, 20-31.

Kahneman, D. & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica*, *47*(2), 263-291.

Kahneman, D., Knetsch, J., & Thaler, R. (1986). Fairness as a constraint on profit seeking: entitlements in the market. *The American Economic Review, 76*(4), 728-741.

Kausel, E. E., & Connolly, T. (2014). Do people have accurate beliefs about the behavioral consequences of incidental emotions? Evidence from trust games. *Journal of Economic Psychology, 42*, 96-111.

Kenworthy, J.B., & Jones, J. (2009). The role of group importance and anxiety in predicting depersonalized ingroup trust. *Group Processes and Intergroup Relations, 12*(2), 227-239.

Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics*, *33*(1), 159-174.

Lazarus, R. S. (1991). Cognition and motivation in emotion. *American Psychologist, 46*(4), 352-367.

Lazarus, R. S. (1999). Hope: An emotion and a vital coping resource against despair. *Social Research*, *66*(2), 653-678.

Lerner, J. S., & Keltner, D. (2000). Beyond valence: Toward a model of emotion-specific influences on judgment and choice. *Cognition and Emotion*, *14*, 473-493.

Lerner, J. S., & Keltner, D. (2001). Fear, anger and risk. *Journal of Personality and Social Psychology*, *81*, 146-159.

Lerner, J. S., Li, Y., Valdesolo, P., & Kassam, K. (2015). Emotion and decision making. *Annual Review of Psychology*, *66*, 799-823.

Levin, J. (2006). Choice under uncertainty. Available at web.stanford.edu/~jdlevin/Econ 202/Uncertainty.pdf

Lindsay, E. K., & Creswell, J. D. (2014). Helping the self help others: Self-affirmation

    increases self-compassion and pro-social behaviors. *Frontiers in Psychology, 5*, 421-

    433.

MacInnis, D. J. & de Mello, G. E. (2005).The concept of hope and its relevance to product

    evaluation and choice. *Journal of Marketing, 69*(1), 1-14.

Maheswaran, D., & Chen, C. Y. (2006). Nation equity: Incidental emotions in country-of-

    origin effects. *Journal of Consumer Research*, *33*, 370-375.

Make the most of your ethics (June 9, 2005). *Marketing Week*. Retrieved from

    https://www.marketingweek.com/2005/06/09/make-the-most-of-your-ethics/

Mano, H. (1992). Judgments under distress: Assessing the role of unpleasantness and arousal

    in judgment formation. *Organizational Behavior and Human Decision Processes*, *52*,

    216-245.

Meertens, R. M. & Lion, R. (2008). Measuring an Individual's Tendency to take risks : The

    Risk Propensity Scale. *Journal of Applied Social Psychology, 38*, 1506–1520.

Mellers, B. A., & McGraw, P. A. (2001). Anticipated emotions as guides to choice. *Currrent*

    Directions in Psychological Science, 10, 210-214.

Moore, B., Underwood, B., & Rosenhan, D. L. (1973). Affect and altruism. *Developmental*

    Psychology, *8*, 99-104.

Myers, D. & Tingley, D. (2011). *The influence of emotion on trust*. Working paper.

    scholar.harvard.edu/dtingley/files/emotionmanipulationm11.pdf

Peters, E. (2006). The functions of affect in the construction of preferences. In S. Lichtenstein

    & P. Slovic (Eds.), *The construction of preference*. (pp. 454-463). New York:

    Cambridge University Press.

Pham, M. T. (2007). Emotion and rationality: A critical review and interpretation of

    empirical evidence. *Review of General Psychology, 11*, 155-178.

Powers, T. L., & Hopkins, R. A. (2006). Altruism and consumer purchase behavior. *Journal of International Consumer Marketing*, 19(1), 2006.

Raghunathan, R., & Pham, M. T. (1999). All negative moods are not equal: Motivational influences of anxiety and sadness on decision making. *Organizational Behavior and Human Decision Processes*, *79*, 56-77.

Raghunathan, R., & Trope, Y. (2002). Walking the tightrope between feeling good and being accurate: Mood as a resource in processing persuasive messages. *Journal of Personality and Social Psychology, 83*(3), 510-525.

Richarme, M. (2005). Consumer decision-making models, strategies, and theories, oh my! Retrieved from www.decisionanalyst.com/Downloads/ConsumerDecision-Making.pdf

Schwarz, N. (1990). Feelings as information: Informational and motivational functions of affective states. In E. T. Higgins and R. Sorrentino (Eds.), *Handbook of motivation and cognition*: *Foundations of social behavior* (Vol. 2, pp. 527-561). New York: Guilford Press.

Schwarz, N., & Clore, G. L. (1983). Mood, misattribution, and judgments of well-being: Informative and directive functions of affective states. *Journal of Personality and Social Psychology*, *45*(3), 513-523.

Sherman, D. K., Cohen, G. L., Nelson, L. D., Nussbaum, A. D., Bunyan, D. P., & Garcia, J. P. (2009). Affirmed yet unaware: Exploring the role of awareness in the process of self-affirmation. *Journal of Personality and Social Psychology, 97*, 745–764.

Siemer, M., Mauss, I, & Gross, J. J. (2007). Same situation- different emotions: How appraisals shape our emotions. *Emotion, 7*(3), 592-600.

Simon, H. A. (1955). A behavioral model of rational choice. *The Quarterly Journal of Economics*, *69*(1), 99-118.

Sitkin, S. B., & Weingart, L. R. (1995). Determinants of risky decision-making behavior: A

    test of the mediating role of risk perceptions and propensity for indebtedness.

    Academy of Management Journal, 38(6), 1573-1592.

Smith, C. A.,& Ellsworth, P. C. (1985). Patterns of cognitive appraisal in emotion. Journal of

    Personality and Social Psychology, 48, 813-838.

Steele, C. M. (1988). The psychology of self-affirmation: Sustaining the integrity of the self.

    In L. Berkowitz (Ed.). *Advances in Experimental Social psychology, 21*, 261–302.

    New York: Academic Press.

Tiedens, L. Z., & Linton, S. (2001). Judgment under emotional certainty and uncertainty: The

    effects of specific emotions on information processing. *Journal of Personality and*

    Social Psychology, *81*, 973-988.

Townsend, C., & Sood, S. (2012). Self-affirmation through the choice of highly aesthetic

    products. *Journal of Consumer Research, 39*, 415-428.

Tracy, J. L., & Robins, R. W. (2004a). Putting the self into self-conscious emotions: A

    theoretical model. *Psychological Inquiry*, *15*(2), 103-125.

Tracy, J. L.,& Robins, R. W. (2004b). Show your pride: Evidence for a discrete emotion

    expression. *Psychological Science*, *15*(3), 194-197.

Trope, Y., & Neter, E. (1994). Reconciling competing motives in self-evaluation: The role of

    self-control in feedback seeking. *Journal of Personality and Social Psychology*, *66*,

    646-657.

Tversky, A. & Kahneman, D. (1981). The framing of decisions and the psychology of choice.

    Science, 453-458.

Von Neumann, J. & Morgenstern, O. (1964). *Theory of Games and Economic Behavior*. New

    York: John Wiley and Sons.

Wallace, J., & Sadalla, E. (1996). Behavioral consequences of transgression: The effects of social recognition. *Journal of Experimental Research in Personality*, *1*, 187-194.

Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, *54*(6), 1063-1070.

Xiao, E.,& Houser, D. (2005). Emotion expression in human punishment behavior. *Proceedings of the National Academy of Sciences*, *104*, 1531-1534.

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