THE EFFECT OF MOOD ON DECISION-MAKING:
A ROLE FOR PERSONAL EXPERIENCE

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A Thesis Submitted to the
University of North Carolina Wilmington in Partial Fulfillment
of the Requirements for the Degree of
Master of Arts

Department of Psychology

University of North Carolina Wilmington

2007

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ABSTRACT

This research had two objectives. The first was to examine the effect of mood on decision-making using a novel induction procedure. The second was to assess whether an individual's personal history moderates those mood effects. The mood induction procedure involved having participants listen to an audiotape depicting a fictional 911 call of either a domestic violence disturbance or a bar fight. Participants then completed four decision-making tasks, and their performance was compared to a no-induction control group. The influence of personal experience was examined by comparing the performance of participants with and without a history of domestic violence. Both the mood induction manipulation and prior experience with domestic violence were expected to result in riskier decision-making. Moreover, the two factors were expected to interact, such that victims show the greatest deficits in the domestic violence induction condition. The results revealed some limited evidence that non-victims exposed to the domestic disturbance audiotape demonstrated higher levels of risk-taking behavior. Contrary to the aforementioned predictions, domestic violence victims demonstrated a tendency towards risk aversion, and the relevant induction procedure seemed to exacerbate their cautious behavior. Correlations between the various decision-making tasks were generally low supporting the idea that decision-making is a multifaceted construct. Explanations for the main findings, as well as their theoretical and practical implications, are explored more fully in the General Discussion.

ACKNOWLEDGMENTS

I would like to take this opportunity to thank my research mentor, Dr. Karen Daniels, for her continual guidance and support. She encouraged me to explore new ideas and helped form the vision of this research project. Her assistance and feedback have been invaluable throughout my graduate experience. Above all, her dedication to helping her students succeed is commendable. I am truly grateful for all of her efforts.

I would also like to thank my thesis committee members, Dr. Richard Ogle and Dr. William Overman, for their suggestions and enthusiastic support. I am very thankful for the continuous assistance and encouragement from Dr. Jeffrey Toth and members of the Memory and Aging Laboratory. Also, I would like to thank my research assistants, Morgan Reddy and Mandy Moore, for helping me conduct this experiment. Thank you, as well, to Dr. Caroline Clements for sharing her research knowledge and ideas. Finally, I appreciate the constant support of my family and friends.

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INTRODUCTION

Mood and Decision-Making

Considerable research has demonstrated that an individual's mood can affect the types of decisions he or she will make. Mayer, Gaschke, Braverman, and Evans (1992) coined the term *mood congruency* in judgments to describe situations in which mood affects an individual's thoughts, attributions, and expectations, which, in turn, influence that individual's decisions. According to their view, happy people are more likely than sad people to expect nice weather for a picnic, because nice weather is congruent with their pleasant mood.

Also consistent with this view, McFarland, White, and Newth (2003) proposed that people who are in a pleasant mood are more likely to "…view the world through 'rose-colored glasses'…" (p. 483) than people who are in a melancholic mood. They found that individuals experiencing a positive mood state judged those around them to be more blissful and gifted compared to those in a negative mood, who tended to view others less favorably. They surmised that this mood congruency occurs because individuals attribute their negative mood to the targeted individual, rather than to the actual cause of their negative mood.

Mayer and colleagues (1992) extended this mood-congruent judgment effect to a variety of tasks. In their study, each participant's mood state was assessed, and they were then administered four different judgment tasks. One task involved estimating the likelihood of 16 positive or negative life events, a second required participants to evaluate a fictional character's behavior, a third involved generating ideas and images associated with specific word stimuli, and a final task asked participants to choose what they believed to be the most characteristic example of a given category. Performance on all of the aforementioned tasks was significantly influenced by the valence of participants' moods. Participants experiencing a negative mood were more

likely to generate negative responses across the various tasks, whereas participants experiencing a positive mood responded more favorably. Together, these studies point to a correspondence between positive or negative mood state and the salience of positive or negative information contributing to decision-making.

Studying Mood Congruency in the Laboratory

The relationship between mood and decision-making has commonly been studied in the laboratory using mood induction procedures. The following section provides an overview of the research that has used such induction procedures to produce mood-congruent judgments and decisions. Most relevant to the present study is research that has demonstrated a link between mood induction and increased risk-taking in decision-making.

An experiment by Isen, Nygren, and Ashby (1988) studied the relationship between induced *positive* affect and decision-making. Researchers induced half of the subjects into a positive mood by giving them candy as a gesture of gratitude for participating in the experiment. This was followed by a decision-making task that involved having participants gamble with poker chips representing their participation credit. On each trial, participants were required to indicate their preference for either a gamble that had both outcomes fixed at a particular amount of points (win five points if event E occurs and lose five points if event E does not occur) and another gamble that had one fixed outcome and one variable outcome (win five points if event E occurs and lose ten points if event E does not occur). They found that subjects induced into a positive mood demonstrated an increased preference for avoiding losses. This suggests that individuals in a positive mood are motivated to maintain that mood, and thus tend perceive losses as more aversive than individuals in a neutral mood. Taking a dangerous chance is not worth the risk of upsetting their mood.

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By contrast, distressed individuals have a tendency to select more risky options. Leith and Baumeister (1996) conducted a series of experiments aimed at showing how negative moods lead to disadvantageous choices. One experiment asked subjects to create autobiographical narratives and found that participants were more likely to recollect previous experiences where riskier alternatives were preceded by unpleasant moods. Another experiment examined the effects of a mood induction procedure on a gambling task. Negative mood was induced by the expectation of an anxiety-provoking situation or by reflecting on an angry experience. Other subjects viewed comedy skits to induce a positive mood. All subjects were then asked to select a safe, low payment bet or a dangerous, high payment bet. Consistent with previous research by Isen and colleagues (1988), subjects induced into a positive mood were risk averse. However, participants induced into an embarrassed or angry mood had a strong inclination to select the risky bet. The researchers theorized that negative moods result in a failure to rationally consider the subjective value of possible outcomes, and thus may lead to a lack of self-control. They tested this hypothesis by having participants who were induced into an angry mood rationally consider their options before selecting a bet. These "rational" participants were significantly less likely to select the dangerous, high-payment bet. The fact that risky behavior was extinguished in these individuals lends support to the claim that negative moods lead to illogical decisions.

Baradell and Klein (1993) induced negative mood by having participants reflect on stressful life events. They predicted that re-experiencing these negative life events would create an autonomic response that individuals would interpret as anxiety. In their study, participants were administered the Life Experiences Questionnaire and the Daily Hassles Scale, which require subjects to reflect on various pleasant and unpleasant life events. Each participant's level of anxiety was then measured using the State Anxiety Inventory, prior to performing a

computerized decision-making task. They found that participants who experienced higher levels of anxiety were significantly more likely to make errors on the decision-making task. The researchers concluded that making decisions when anxious leads to defective information processing strategies and failure to think about alternative choices.

Two convergent theories about the effects of negative mood on decision-making emerged from this prior research. The first is that negative mood affects the perceived worth of potential outcomes. In other words, individuals in a negative emotional state seek to change their mood by selecting choices that offer a possibility of substantial reinforcement. An individual who is already in an unpleasant mood does not have much to lose, but has considerable room for improvement, leading to strategic selection of positive outcomes, even if they are risky. The second theory suggests that individuals in a negative mood behave irrationally and fail to inhibit injudicious impulses, thus failing to evaluate long-term consequences (Leith & Baumeister, 1996).

A final study of particular relevance to the current research examined whether there are individual differences in susceptibility to mood induction. Miranda, Gross, Persons, and Hahn (1998) measured dysfunctional attitudes prior to and following a depressed mood induction procedure that involved viewing a sad video clip. They found that the mood induction activated dormant self-defeating attitudes in participants who were already vulnerable to depression but had no effect on participants without such a history. This suggests that cognitive vulnerability factors may remain latent in susceptible individuals until triggered by a relevant mood induction task. The current study examined whether individuals who have previously experienced violent events show a similar vulnerability to more stressful, or traumatic, induction procedures.

Stressful/Traumatic Mood Inductions

Mood was induced in the current study by having participants listen to 911 audiotapes depicting different violent events. Although this specific procedure is novel, the next section summarizes research that has employed similar mood induction techniques.

Cavallo and Pinto (2001) investigated the influence of mood on the smoking and eating behavior of women who were dieting. Mood was manipulated in their study by exposing half of the participants to a ten-minute video clip depicting a domestic violence scenario, which was intended to induce nervousness, stress, despair, and fury; the remaining participants viewed a comedic video clip intended to induce a positive mood. Although the mood induction procedure did not significantly influence smoking and eating behavior, it is relevant to the present study that participants who viewed the domestic violence scene experienced significantly greater levels of negative emotion than subjects who viewed the comedy scene.

Another study by Anderson, Carnagey, and Eubanks (2003) examined the effects of violent versus non-violent song lyrics on a variety of word judgment tasks. As the researchers predicted, participants who were exposed to the violent lyrics reported feeling increased levels of hostility. Consistent with the notion of mood congruence, these participants subsequently rated neutral words as more aggressive, and they produced more aggressive responses in a word-completion task, relative to participants who heard the non-violent lyrics.

A final study by Joorman and Siemer (2004) explored the differential effects of traumatic inductions. Specifically, they had depressed and non-depressed individuals view either a suicide scene from a popular film (the negative-induction condition) or a comedic film clip (the positive-induction condition). They found that depressed participants in the negative-induction condition, who were also instructed to ruminate about their feelings, tended to engage in mood-congruent

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recall. Non-depressed participants, however, attempted to inflate their mood following the negative mood induction procedure, and thus demonstrated mood-*in*congruent memory.

To summarize the above literature on mood and mood induction, natural mood states have been shown to reliably influence an individual's decisions. Similarly, laboratory-based mood inductions, both violent and non-violent, have been shown to produce mood-congruent judgments. Specifically, individuals induced into a positive mood state tend to be risk averse, whereas individuals induced into a negative mood state tend to be more risk seeking. It is believed that induced negative states promote irrational decision-making and failure to exhibit self-control. However, one boundary condition on these mood congruency effects involves the personal characteristics of the participant. Of particular interest for the present study, not all individuals appear equally affected by such inductions. Some research suggests that only individuals with dormant cognitive vulnerabilities tend to show mood congruency in subsequent judgments.

The current research examined the degree to which stressful induction procedures affect a range of decision-making measures. An additional goal was to assess whether victims of domestic violence showed an increased vulnerability to such inductions. The next section more fully explores the relationship between domestic violence and decision-making.

The Influence of Personal Experience on Mood Inductions

Very little research has taken into account the influence of extra-experimental factors on mood induction procedures. The present study examined the degree to which mood induction effects are moderated by personal experience. Specifically, this study investigated whether personal experience with domestic violence undermines decision-making and whether these effects are exacerbated by the nature of the induction procedure. Domestic violence was selected

because of its current social relevance and its apparent connection to risk, both of which are discussed below.

Domestic violence is a pervasive problem that impacts people of all ages, ethnicities, economic statuses, and religions. The National Coalition Against Domestic Violence (2005) defines domestic violence as "the willful intimidation, assault, battery, sexual assault, or other abusive behavior perpetrated by an intimate partner against another" (p. 1). Although men and women can be victimized by domestic violence, the majority of victims are women (Samuelson & Campbell, 2005). Research reports that as many as one in four women will be victimized by intimate partner violence during their lifetime (National Coalition Against Domestic Violence, 2005). Thus, between two and four million women are directly affected by domestic violence each year (Elliot, Nerney, Jones, & Friedmann, 2002). This statistic likely underestimates the true prevalence of the crime. National surveys are unable to access certain strata of the population, such as individuals who are destitute, foreign, imprisoned, and institutionalized. The stigma associated with victimization also influences many victims to remain silent (Samuelson & Campbell, 2005).

Samuelson and Campbell (2005) concluded that victims of domestic violence suffer from severe and chronic physical and psychological consequences. Physical abuse may result in bruises, fractured bones, permanent disabilities, and even death. The researchers suggested that the impact of emotional abuse is often minimized, but the resulting effects can be just as damaging, especially if the abuse is severe and persistent. Psychological consequences include clinical depression, PTSD, anxiety, panic disorder, and substance abuse disorder.

Past research has suggested that domestic violence involves three stages in a repeating cycle (Rothenberg, 2002). Stage one is the tension-building phase. Abusers become

increasingly cantankerous, suspicious, and intimidating, while victims try to pacify them. Stage two involves the explosion or abusive incident. This is followed by what is known as the honeymoon phase, or loving contrition, in stage three. This stage is characterized by abusers displaying affection and being remorseful for their actions. Victims may want to escape the abuse, but the batterers' promises and gifts convince them to return or stay. Thus, the cycle of abuse repeats and places domestic violence victims in a real-life decision-making situation where a number of risky options must be weighed (Rothenberg, 2002).

Although there is evidence that abuse may stabilize or terminate in some circumstances, research suggests that abuse tends to become more frequent and acute over time (Stroshine and Robinson, 2003). One study revealed that three out of every four victims of domestic violence endure multiple incidents of abuse (Samuelson & Campbell, 2005). Therefore, if victims stay with their abuser, the situation is not likely to improve. Remaining with the abuser in hopes that things will get better entails great risk. However, escaping this dangerous environment does not eliminate risk. Between 19 and 44 percent of domestic violence victims are abused after they escape from their batterer (Stroshine & Robinson, 2003).

The research on domestic violence clearly demonstrates the need for intervention. In recent years, the American Psychological Association implemented a new policy entitled "Resolution on Male Violence Against Women" that underscores the responsibility of psychologists in aiding domestic violence victims (Samuelson & Campbell, 2005). However, the development of a truly effective intervention strategy will require an understanding of the personal, social, and cognitive characteristics of victims. The current research takes an initial step in that direction by trying to better characterize the decision-making processes used by victims to select among the potentially risky options with which they are continually confronted.

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The Selection and Analysis of Decision-Making Tasks

Decision-making is a complex cognitive construct. In an effort to capture this complexity, participants in the present study completed four separate decision-making tasks: the Balloon Analogue Risk Task, the Iowa Gambling Task, the Delay Discounting Task, and the Domain-Specific Risk-Taking Scale. As discussed below, in addition to measuring an important facet of decision-making, each of these tasks bears some relevance to the decisions faced by victims of domestic violence.

Balloon Analogue Risk Task (BART)

The BART corresponds to real-life risky decisions, in which risk is only beneficial until a particular point, beyond which further risk results in adverse outcomes (Harrison, Young, Butow, Salkeld, & Solomon, 2005). In this task, participants receive a monetary reward every time they inflate a balloon; however, if the balloon explodes, all the money they have acquired is lost. This requires participants to decide when the potential gain of a particular course of action (inflating the balloon one more time) no longer outweighs the potential loss associated with that action (losing the accumulated money; Lejuez, Aklin, Jones, Richards, Strong, & Kahler, 2003). The BART significantly correlates with other measures of risk, including impulsivity and sensation-seeking scales, and it also correlates with self-reported risky behavior, such as tobacco, alcohol, and drug use, risky sexual behavior, and delinquent activity (Lejuez, Read, Kahler, Richards, Ramsey, Stuart, et al., 2002; Jones & Lejuez, 2005).

This task has theoretical parallels to domestic violence. Domestic violence victims who remain with their abuser will be rewarded up until a certain point, at which the abuse is likely to occur again. The honeymoon period in the cycle of domestic violence offers the rewards of

kindness and affection, but it is probable that the explosion phase, or abusive incident, will reoccur (Rothenberg, 2002).

Iowa Gambling Task (IGT)

The Iowa Gambling Task assesses whether individuals are sensitive to reward and punishment contingencies in their environment. Participants are required to choose cards from four decks, two considered disadvantageous (losses outweigh gains- decks "A" and "B") and two advantageous (gains outweigh losses- decks "C" and "D"). Normal control subjects gradually adopt the strategy of selecting cards from the advantageous decks. Impaired performance is characterized by continued selection from the disadvantageous decks and is evident in individuals with damage to the ventromedial prefrontal cortex, substance abusers, and pathological gamblers (Overman, Frassrand, Ansel, Trawalter, Bies, & Redmond, 2004). Bechara (2004) proposed that this poor performance is due to a disruption in emotional signals that steer decision-making. This disruption presumably causes insensitivity to punishment and possibly heightened sensitivity to reinforcement.

Females also demonstrate impaired performance relative to males. Females consistently select cards from the "B" deck, which has a high ratio of rewards to penalties, but results in a long-term loss of money. Note that this deck has traditionally been described as the "yellow" deck in other versions of the task. These females appear to prefer a single, severe loss accompanied by a larger number of smaller gains. Research suggests that this phenomenon may be due to gender differences in activation of the prefrontal cortex (Overman, Graham, Redmond, Eubank, Boettcher, Samplawski, et al., 2006). The selection of cards from the "B" deck parallels the pattern of reward and punishment experienced by domestic violence victims. Victims experience a brief instance of abuse, followed by a longer period of reward in the honeymoon

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phase (Rothenberg, 2002). This suggests that personal experience with violence may impact the performance of females on the IGT.

Delay Discounting Task (DDT)

Delay discounting refers to "the reduction in the present value of a future reward as the delay to that reward increases" (Kirby, Petry, & Bickel, 1999, p. 78). In other words, the same reward is considered less desirable the further it occurs into the future. This task provides a measure of preference for small, instant reinforcements or larger, deferred reinforcements (Kirby et al., 1999). While domestic violence victims may consider the immediate consequences of remaining with their abuser, they may disregard the more long-term consequences (Rothenberg, 2002). The Delay Discounting Task provides a measure of the degree to which the decisions of victims are oriented toward the future.

Domain-Specific Risk-Taking Scale (DOSPERT)

The DOSPERT measures self-reported risk across a variety of areas. Past research has demonstrated that risk-taking behavior is highly domain-specific; thus an individual may be very risky in certain areas and very risk averse in others (Weber, Blais, & Betz, 2002). This scale provides an opportunity to measure components and types of risky behavior that the other tasks are not capturing.

Past research has revealed that decision-making tasks do not always correlate well with one another; nor do they seem to account for the same variance in real-world behaviors. For example, Lejuez and colleagues (2003) found that the Balloon Analogue Risk Task predicted smoking behavior, but the Iowa Gambling Task did not. As well, Bornovalova, Daughters, Hernandez, Richards, and Lejuez (2005) discovered that the Balloon Analogue Risk Task does not correlate with the Delay Discounting Task. This suggests that each of these tasks may be

assessing a different aspect of decision-making. Conversely, Monterosso, Ehrman, Napier, O'Brien, and Childress (2001) determined that performance on the Iowa Gambling Task correlated with performance on the Delay Discounting Task in cocaine dependent participants. Likewise, research by Weber and colleagues (2002) found that the financial domains of the DOSPERT significantly correlated to performance on a gambling task, which involved selecting cards from either a risky or a non-risky deck. Because of the similarities between this gambling task and the Iowa Gambling Task, the financial domains of the DOSPERT may also correlate with the IGT. To the researcher's knowledge, no prior research has examined the correlations between the other combinations of tasks. In order to assess the relationship among the various decision-making tasks, the present research included a secondary correlational analysis.

Aims of the Current Study and Hypotheses

The current research was designed to examine the combined effects of mood induction and personal experience on various aspects of decision-making. The mood induction procedure involved listening to audiotapes of 911 phone calls depicting either a domestic disturbance between romantic partners or a bar fight between strangers. Following this induction procedure, participants completed the four decision-making tasks discussed above. Data was sorted according to whether participants have a personal history of domestic violence; the effect of the mood induction was analyzed for these two induction groups separately, as well as a no-induction control group. Three predictions emerged from the prior literature: (1) Participants in the mood induction groups were expected to make riskier decisions than participants in the no-induction group; (2) Domestic violence victims were expected to make riskier decisions across all mood induction conditions; and (3) Domestic violence victims assigned to the domestic violence induction condition (the tape depicting the domestic disturbance) were expected to

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exhibit the riskiest decision-making performance overall. The relevance of the induction to their personal situation was expected to magnify the mood effects typically seen in the literature.

METHOD

Participants

Ninety-four female psychology students were recruited from the Psychology Department at the University of North Carolina Wilmington. They participated to fulfill course requirements for introductory psychology classes or to earn extra credit for advanced psychology classes. The participants' ages ranged from 18 to 47, with a mean age of 20.6 (SD = 4.41). The sample was primarily Caucasian (89%, n = 84). In addition, 5% of the sample was African-American (n = 5), 3% was Hispanic (n = 3), 1% was Asian (n = 1), and 1% listed their race as "other" (n = 1). Regarding relationship status, 35% of the sample classified themselves as currently single (n = 33), 56% as dating (n = 53), 6% as cohabitating (n = 6), and 2% as married (n = 2). Participants were prescreened for their history of domestic violence using the Participant Information Questionnaire described below. This was done unobtrusively by including two critical items in a more general questionnaire (see Items 11 and 12 in Appendix B). Based on their responses to the items, the experimenter attempted to evenly assign victims and non-victims to the three mood induction conditions (domestic disturbance, bar fight, or no induction). However, the final victim samples were classified according to responses on the Conflict Tactics Scale Revised (see "Defining Victim Status" in the Results section for further explanation). There were 23 domestic violence victims and 10 non-victims in the control condition, 14 victims and 16 non-victims who were exposed to the bar fight induction condition, and 18 victims and 13 non-victims who were exposed to the domestic disturbance induction condition. The most recent incidents of physical

and sexual abuse averaged between 17.66 months and 12.98 months, respectively, prior to participation.

Materials

Participant Information Questionnaire

A questionnaire was developed by the researcher to gather personal and demographic information from each participant (see Appendix B). The questions related to hobbies, health, alcohol consumption, and relationships. As discussed above, two questions (11 and 12) pertained to domestic violence and were used to assign participants to the three mood induction conditions.

Mood Induction Audiotapes

Two audiotapes, each approximately one minute and fifteen seconds in length, were created to induce mood in the current study (see Appendices C and D). One tape depicted a 911 phone call made by a third party observer who is witnessing a domestic violence disturbance between her female roommate and her roommate's boyfriend. The frantic woman reporting the crime explains to the dispatcher that the man is beating his girlfriend and that she can hear her screaming and yelling for him to stop. The second tape depicted a 911 phone call made by the same third party observer who is witnessing a bar fight between her male roommate and a stranger. The panicked woman reporting the crime explains to the dispatcher that the stranger at the bar is assaulting her roommate.

Audiotapes, rather than the video clips used in prior research, were employed in the current study for two reasons. First, it was expected that participants would be better able to identify with the events in the audiotape, because they could visualize the details in their own mind. Video clips would require actors and situations with which the participants might not be

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able to identify. Audiotapes were thus expected to increase the anxiety and/or empathy felt by participants, as a result of the induction procedure. The second benefit of audiotapes was that the absence of visual detail made them easier to match with one another. For example, the same actress used similar tones, inflections, and expressions (e.g., "Oh my God, there's blood!", "I'm so scared!"), and the same altercation noises can be heard in the background of both tapes (e.g., muffled grunts, breaking glass). Thus, except for the descriptions of the parties involved in the altercation (romantic partners vs. strangers), the tapes were matched very closely.

Dispatcher Questionnaire

The Dispatcher Questionnaire was developed by the researcher to disguise the mood induction procedure (see Appendix E). It was presented to participants as the first decision-making task. Participants were told to listen to the audiotape and to answer the three items on the questionnaire, as though they were the 911 dispatcher. They were asked to decide whether to dispatch emergency personnel, the urgency of the situation, and their confidence in their decision. In actuality, the goal was to expose participants to the mood-inducing tape without them being aware of the study's primary objective.

Balloon Analogue Risk Task (BART)

The BART is a computerized, laboratory-based task that measures risk-taking propensity, as it relates to real world risky behavior (Lejuez et al., 2003). This task simulates 10 trials of a balloon being inflated by the subject clicking on a mouse. The computer screen displays a balloon, a rectangular button labeled "Press this button to pump up the balloon," and a rectangular button labeled "Press to collect $$$." Another rectangular button labeled "Total Earned" displays the total amount of money that has been accumulated from all trials.

Each mouse click inflates the balloon approximately .3 centimeters in every direction and earns $.05 in a temporary bank. The objective of the game is to earn as much money as possible, without letting the balloon explode. Each balloon has a different probability of exploding; it could explode on the first mouse click, or the balloon may inflate to fill the entire computer screen. It takes an average of 64 pumps on each trial for the balloon to explode. If the balloon explodes, all the money accrued on that trial is lost and a new trial will begin. Participants may press the button labeled "Press to collect $$$" at any point during a trial, and the money will be transferred into a permanent bank, designated by the "Total Earned" button. Then a new trial with a deflated balloon will begin. Risky behavior is defined as the number of mouse clicks on balloons that do not explode (Lejuez et al., 2003).

Iowa Gambling Task (IGT)

The Iowa Gambling Task is a computerized task that has been commonly used to measure decision-making processes, including risk-taking (Overman et al., 2004; Lejuez et al., 2003). Four decks of cards (labeled A, B, C, and D) are displayed on the computer screen, along with instructions to select a card from any of the four decks. When a card is selected, a message appears on the screen indicating the amount of money won or lost. The computer also displays a green bar on the top of the screen that increases in length as participants win money and decreases in length as they lose money. Participants are loaned $2000 to begin the game, and a red bar on the screen serves as a reminder of the amount of money they have borrowed. Each deck contains 60 cards, and the game is over once 100 cards have been selected. The purpose of the game is to win as much money as possible. The "A" and "B" decks of cards are associated with high rewards (each card pays as average of $100), but even higher sporadic penalties. Consistent selection from these decks will result in a long-term loss; thus, they are considered the

disadvantageous decks. The "C" and "D" decks of cards are associated with low rewards (each card pays an average of $50), but even lower sporadic penalties. Consistent selection from these decks will result in a long-term gain making them advantageous decks (Bechara, Dolan, Denburg, Hindes, Anderson, and Nathan, 2001). Risky behavior on the IGT is defined as the number of cards selected from the disadvantageous decks (Reavis & Overman, 2001).

Delay Discounting Task (DDT)

The Delay Discounting Task is a computerized measure that has been extensively used to measure sensation-seeking, impulsivity, and risk-taking (Bornovalova et al., 2005). This task is administered in a questionnaire format that includes 27 choices. Participants must choose between a smaller amount of money that can be received immediately and a larger amount of money that can be obtained after some delay. The delays range from 7 to 186 days. For example, participants are asked, "Would you prefer $54 today, or $55 in 117 days?" (Bornovalova et al., 2005, p. 313). Risky decision-making is defined as the tendency to defer delayed rewards.

Domain-Specific Risk-Taking Scale (DOSPERT)

This scale assesses self-reported risk-taking behavior (Harrison et al., 2005; Weber et al., 2002). It includes 40 questions that measure the likelihood that an individual will engage in various risky behaviors across six domains (gambling, investment, health/safety, recreational, ethical, and social). Responses are recorded on a Likert scale ranging from one to five, with one equaling "very unlikely" and five equaling "very likely."

Multiple Affect Adjective Checklist Revised (MAACL-R)

This questionnaire asks participants to choose among various adjectives that best describe their current mood state. It lists 130 adjectives designed to measure anxiety, depression,

hostility, dysphoria, positive affect, and sensation-seeking (Zuckerman & Lubin, 1985). Participants are instructed to "place a check mark beside each word that correctly describes how you are feeling at this moment." This served as a manipulation check for the mood induction procedure.

Conflict Tactics Scale-Revised (CTSR)

This questionnaire is commonly used to measure experienced domestic abuse (Straus, Hamby, Boney-McCoy, and Sugarman, 1996). The scale contains 33 items that measure the severity and frequency of physical, psychological, and sexual abuse and six items that measure healthy relationship behaviors. A variant of this questionnaire was employed with slight changes to the response options. In the current version, responses to the question "How often has this [behavior/event] happened?" were indicated on a Likert scale format, with zero equaling "This has never happened," one equaling "Once," two equaling "Twice," three equaling "3-5 times," four equaling "6-10 times," five equaling "11-20," and six equaling "More than 20 times." A second part to each question asked participants to estimate how long ago (in number of months) the most recent abusive event had occurred. The CTSR provided a binary classification of victim status.

Violent Experiences Questionnaire

This questionnaire was designed by the researcher to assess experience with non-domestic violence that occurred outside the context of a romantic relationship, such as robbery or non-domestic assault (see Appendix F). It consists of eight two-part questions, one that asks about the event itself (e.g., "Have you ever been physically assaulted by someone who was not your romantic partner?") and a second that asks participants to indicate when the event occurred

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(e.g., Never, More than 10 Years Ago, Within the Past 10 Years, Within the Past 5 Years, Within the Past Year, or Within the Past Month).

Procedure

A sign-up sheet in the Psychology Department requested female volunteers for a study involving personal experiences and decision-making. When participants arrived for the experiment, they were first instructed to read and sign a consent form (see Appendix A). This form explained that the participant would be administered a variety of decision-making tasks and questionnaires. Participants were also informed that some of the tasks may include upsetting material. They were reminded that their participation was completely anonymous and that they could withdraw from the study at any time. As well, the contact information for a clinical psychologist was provided to all participants in case of an unanticipated, emotional reaction.

Participants were then administered the Participant Information Questionnaire. After participants read the instructions on the questionnaire, the experimenter reiterated that the questions were being asked with hopes of contributing important information to the scientific and clinical community. A personable approach was taken in effort to build rapport with participants. The experimenter then left the room, due to the sensitive nature of some of the questions. After each participant completed the questionnaire, the experimenter unobtrusively glanced at items 11 and 12, which inquired about experienced physical and sexual abuse (see Appendix B). If a participant responded "yes" to either of these items, she was given preliminary status as a domestic violence victim.

The placement of domestic violence victims was sequenced such that the first victim was assigned to the control condition, the second was assigned to the non-domestic violence (bar fight) mood induction condition, and the third was assigned to the domestic violence mood

induction condition. The same process determined the assignment of non-victims. This counterbalancing system was used in effort to distribute victims and non-victims to the three conditions as evenly as possible. Because of a discrepancy between participants' responses to the Participant Information Questionnaire and the Conflict Tactics Scale Revised (the latter was used to form the final victim samples), a perfectly even distribution was not possible (see "Defining Victim Status" of the Results section for an explanation of the final victim status classification).

The researcher then gathered the appropriate audiotape for the mood induction procedure. Participants were given the following instructions: "This task will involve pretending to be a 911 dispatcher. You will be listening to an audiotape of part of a real 911-phone call. Please pay close attention, as you will be asked to respond to a few questions following the tape." After listening to the instructions for this task (and all the tasks discussed below), participants had the opportunity to ask the researcher clarifying questions. After the experimenter exited the room, participants listened to the tape depicting the domestic disturbance or the bar fight and completed the Dispatcher Questionnaire.

Immediately following the mood induction procedure, participants were administered the Balloon Analogue Risk Task. This was the first task that the control subjects were administered. The BART task was followed by the IGT, the Delay Discounting Task, the Domain-Specific Risk-Taking Scale, and the three questionnaires (the Multiple Affect Adjective Checklist-Revised, the Conflict Tactics Scale- Revised, and the Violent Experiences Questionnaire). To ensure understanding of the instructions for each task, participants were asked to explain the objective of each task in their own words. The experimenter then reiterated any aspect of the instructions that was not correctly described by the participant. Participants were also given

clarifying examples when necessary. The experimenter left the room during the Conflict Tactics

Scale- Revised and the Violent Experiences Questionnaire, due to the sensitive nature of the

questions.

The experiment concluded after these questionnaires were administered. During

debriefing, the experimenter informed participants that the 911 audiotapes were created by

actors, and thus did not depict real harm to any individual. The reasons for the deception and the

objectives of the study were explained thoroughly. Prior to leaving, participants were asked to

rate their distress level on a scale of one to ten, with one equaling "Not at all distressed" and ten

equaling "Extremely distressed." This precaution ensured that no participants left the study

under high levels of distress. No participants indicated the need to seek counseling from the on-

call clinical psychologist.

<center>RESULTS</center>

The results are organized into five sections. The first section discusses the complexities

and limitations involved with defining domestic violence victim status. The next section

describes the Analyses of Variance conducted for each of the four decision-making tasks. The

third section reviews the correlations among the decision-making tasks. The fourth section

discusses the results of the mood manipulation checks, and the final section discusses other

factors that might have affected decision-making in this study.

Defining Victim Status

The present study illustrated the complex nature of defining domestic violence victim

status. There is no generally accepted standard for identifying domestic violence victims. Prior

research using the same diagnostic tool, the Conflict Tactics Scale, has defined a domestic

violence victim as an individual who reports having recently experienced two or more incidents

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of physical or sexual abuse (Clements & Ogle, 2007). However, given that the primary goal of the current study was to examine the impact of a mood induction procedure on individuals who had *any* personal experience with domestic violence, a single recent incident of physical or sexual abuse was used to identify victims for the current study. Use of the original, two-instance definition would have resulted in the placement of individuals with a single instance of personal domestic violence into the non-victim, control group which might have minimized group differences. It is important to note that these are meant as experimental distinctions only and are in no way an attempt to socially define who should be considered a victim of domestic violence.

While the analyses discussed in the following sections focus exclusively on the single-instance definition of domestic violence for the reasons just discussed, it should be noted that the critical dependent variables for the four decision-making tasks were initially analyzed according to both of the aforementioned definitions (see Table 1). However, the two-instance definition provided similar, albeit weaker, patterns of data relative to the single-instance definition – perhaps for reasons relating to victims being placed in the control groups as predicted – and therefore these data will not be discussed further.

Table 1. Results of the Victim Status by Mood Induction Analyses of Variance for Each Decision-Making Task: Values of Both Domestic Violence Victim Status Definitions.

Task	Dependent Variable	At Least One Instance of Domestic Violence						At Least Two Instances of Domestic Violence					
		Victim ME		Condition ME		Interaction		Victim ME		Condition ME		Interaction	
		F	P	F	P	F	P	F	P	F	P	F	P
BART	Explosions	.084	.772	.318	.729	.513	.601	.454	.502	.259	.773	.370	.692
	Pumps Adjusted Average	1.13	.291	.295	.745	.006	.994	1.06	.307	.330	.720	.399	.672
	Earnings	.710	.402	1.07	.349	.037	.963	1.47	.228	1.313	.274	.146	.864
IGT	Total Proportion Good	.176	.676	2.04	.136	2.01	.141	.175	.676	1.33	.269	.487	.616
	Proportion Good Q1	.388	.535	1.59	.210	.795	.455	1.26	.265	1.45	.239	.016	.984
	Proportion Good Q2	.760	.386	.810	.448	1.34	.267	1.63	.205	.512	.601	.660	.520
	Proportion Good Q3	.200	.656	.820	.444	3.27	**.043**	.226	.635	.403	.669	.818	.445
	Proportion Good Q4	.614	.436	1.57	.215	.379	.686	.531	.468	1.14	.325	.572	.566
DDT	Proportion Immediate	.000	.990	5.07	**.008**	3.44	**.036**	.178	.674	4.06	**.021**	2.62	.079
	Overall *K* Value	.019	.891	2.09	.130	.514	.600	.002	.967	1.81	.169	.418	.660
	K Value- Small Rewards	.730	.395	2.27	.109	1.87	.161	.201	.655	1.52	.224	.913	.405
	K Value- Medium Rewards	.578	.449	2.53	.086	.245	.783	.402	.528	2.47	.091	.383	.683
	K Value-Large Rewards	.002	.964	1.25	.292	1.85	.163	.050	.823	1.17	.314	1.27	.285
DOSPERT	Average Rating	2.06	.155	.393	.676	.488	.616	1.76	.188	.279	.757	.231	.794
	Proportion 1's & 2's Ethical	.000	.995	.138	.871	1.33	.270	.106	.746	.116	.891	2.81	.066
	Proportion 1's & 2's Gambling	1.44	.234	1.40	.252	.021	.980	.177	.675	1.75	.180	.772	.465
	Proportion 1's & 2's Invest.	.029	.864	.446	.642	.159	.854	.003	.955	.415	.661	.829	.440
	Proportion 1's & 2's H/S	.004	.948	.761	.470	1.01	.369	.000	.983	1.24	.295	.709	.495
	Proportion 1's & 2's Rec.	12.16	**.001**	1.42	.247	.550	.579	8.28	**.005**	1.07	.347	.272	.762
	Proportion 1's & 2's Social	.013	.910	.020	.980	3.94	**.023**	.000	.990	.149	.862	3.07	.051

Note: ME= Main Effect; F= F Value; P= Alpha Value; Q= Quartile; 1's & 2's= "Very Unlikely" and "Unlikely" Response Choices; Invest.= Investment Items; H/S= Health and Safety Items; Rec.= Recreational Items; Bold= Values significant at the .05 alpha level.

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Another complex aspect of defining domestic violence victim status involves the manner in which the construct is measured. Participants in this study responded to two questionnaires regarding abuse within the context of a romantic relationship (see Materials section for a detailed description of these questionnaires). The Participant Information Questionnaire was used as an initial screening and included two questions that directly asked respondents whether they had experienced broad examples of physical or sexual abuse. The results of this questionnaire indicated that 14% ($n = 13$) reported experiencing physical abuse and 11% ($n = 10$) reported experiencing sexual abuse. The second questionnaire, the Conflict Tactics Scale Revised, included many more specific examples of each type of abuse and yielded much higher figures. The results of this scale revealed that 32% ($n = 32$) of the sample reported experiencing physical abuse and 43% ($n = 40$) of the sample reported experiencing sexual abuse. Because the Conflict Tactics Scale is standardized and more widely used, the final victim samples were formed using this measure. The differences between the two measures of victim status are discussed further in the General Discussion section.

Decision-Making Tasks

A 2 (victim status: domestic violence victim vs. non-victim) x 3 (mood induction: domestic disturbance vs. bar fight vs. no induction) between-subjects ANOVA was conducted on dependent measures for each of the four decision-making tasks. Three main findings were hypothesized. First, a main effect of mood induction was expected for all tasks, such that participants who listened to the 911 tapes would make riskier decisions than participants in the control condition. A second hypothesis involved a main effect of victim status, such that domestic violence victims would make generally riskier decisions than non-victims. Finally, mood induction and victim status were expected to interact; domestic violence victims would

demonstrate the greatest risk-taking behavior following exposure to the audiotape depicting the domestic disturbance.

Risky decision-making was defined for each task as follows. On the BART, riskier decisions were defined as more mouse clicks on balloons that did not explode. On the IGT, risky behavior translated into increased selection of cards from the disadvantageous (A and B) decks. On the DDT, risky decision-making involved a tendency to choose small, but immediate, rewards rather than large, delayed rewards. On the DOSPERT, riskier decisions were characterized by more self-reported risky behaviors.

An exception to the second hypothesis – victims demonstrating riskier decisions - was predicted due to the differential saliency of risk in each task. In the BART, for example, risk seems quite salient because each button press may result in the balloon exploding and a total loss of reward. By contrast, risk in the IGT accrues more gradually, with overall reward and loss determined by a *series* of responses over time. In cases of salient risk, it was predicted that victims may behave more cautiously than non-victims. Such a pattern would parallel their tendency during the tension-building phase to avoid triggering another "explosion" by their abuser. The following sections will assess whether any of these hypotheses were supported across the four main tasks.

Balloon Analogue Risk Task (BART)

ANOVAs were conducted on (a) the total number of balloon explosions, (b) the total number of pumps on balloons that did not explode, and (c) the average number of pumps on balloons that did not explode. As shown in Table 1, no significant main effects or interactions were obtained. However, when these data are interpreted in the context of prior research by Lejuez and colleagues (2002), it becomes clear that the non-significant findings may be due to

the fact that all participants (both victims and non-victims) were generally risk-averse on this task. According to these researchers, pumping each balloon 64 times is the optimal strategy to maximize earnings on this task. Participants in the current study pumped each balloon an average of 27.69 times (SD = 11.65), which is considerably lower than optimal performance.

Iowa Gambling Task (IGT)

Three participants were excluded from the analyses of this task, two due to experimenter error and one due to a computer malfunction. ANOVAs were conducted on (a) the total proportion of advantageous cards selected, (b) the proportion of advantageous cards selected across quartiles (i.e., for every 25 cards selected), (c) the total proportion of cards selected from the disadvantageous "B" deck, and (d) the proportion of cards selected from the "B" deck across quartiles. None of the main effects or interactions was significant (see Table 1) except for the following: A significant victim status x mood induction interaction was observed in the third quartile of trials, $F(2, 85) = 3.27$, MSE = .048, $p < .05$. Figure 1 shows that, relative to victims in the control condition (Mean = .58), victims who were exposed to the bar fight audiotape (Mean = .69, $t(35) = 1.69$, $p = .08$) and the domestic disturbance audiotape (Mean = .68, $t(39) = 1.68$, $p = .09$) selected a *higher* proportion of advantageous cards during the third quartile. By contrast, relative to non-victims in the control condition (Mean = .73), non-victims who were exposed to the domestic disturbance audiotape (Mean = .52, $t(18) = 1.73$, $p < .05$) selected significantly fewer advantageous cards. Thus, whereas victims who were exposed to the domestic violence induction displayed a tendency towards risk aversion on this task, non-victims who were exposed to the same induction exhibited more risky behavior.

Typically, group differences in this task would be assessed in the fourth quartile, because participants have been exposed to more trials and thus learning should be most apparent in this

quartile. However, a procedural limitation in the current study made performance in the fourth quartile difficult to assess. The IGT was administered using the standard settings designed by Bechara (2004), in which there were 100 trials and each of the four decks contained 60 cards. Therefore, if a participant selected all of the cards in one deck, she was forced to choose cards from another deck. The results revealed that 16% of participants ($n = 15$) selected all of the cards from a particular deck. This may have altered performance, because card choices were restricted for these participants and they were forced to discover a new strategy during the fourth quartile. Due to the substantial number of participants whose learning curve was interrupted in the fourth quartile, the third quartile was treated as the more accurate reflection of performance in the current study.
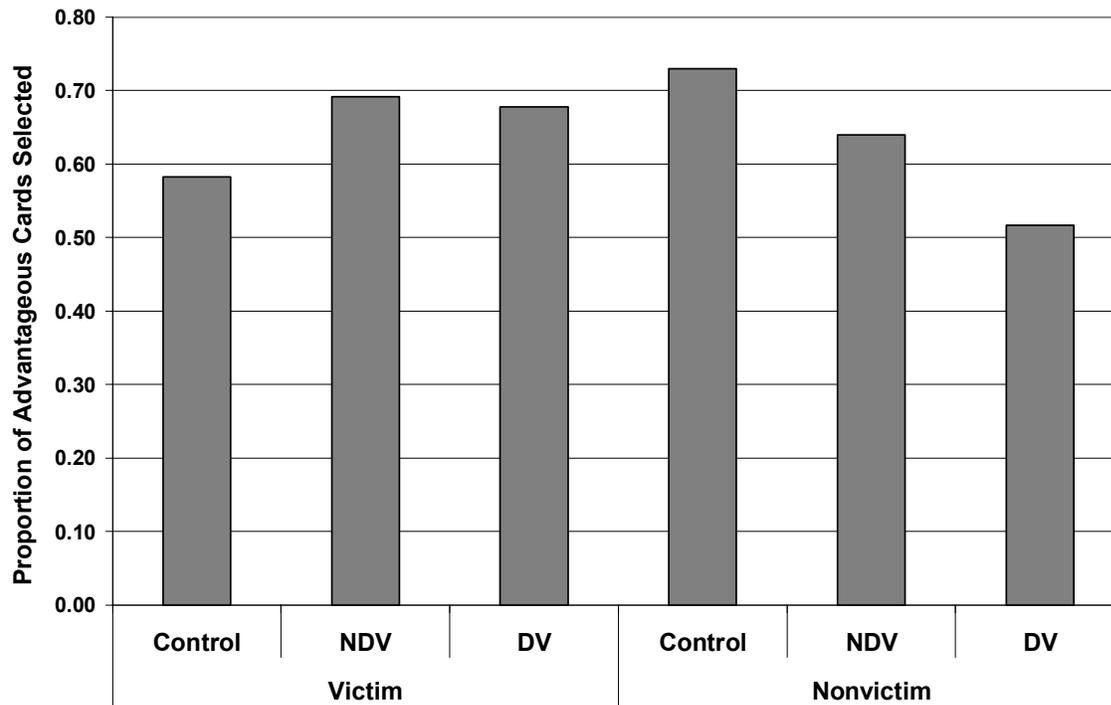
Note: NDV= Non-Domestic Violence Induction Condition (Bar Fight Audiotape); DV= Domestic Violence Induction Condition (Domestic Disturbance Audiotape).

Figure 1. The Proportion of Advantageous Cards Selected During the Third Quartile of the Iowa Gambling Task as a Function of Mood Induction Condition and Victim Status.

Delay Discounting Task (DDT)

The primary means by which risk or impulsivity is analyzed in this task is using k values. These values were determined for each participant using standard methods described by Kirby and colleagues (1999). These researchers formulated a table displaying "k at indifference values," which are the points at which participants consider the immediate and delayed rewards to be equal. Participants were assigned the k value that reflected their most consistent response pattern. When more than one value yielded equal consistency, the geometric mean was computed for those values. Larger k values indicate that participants only preferred delayed rewards when there was a short delay; thus demonstrating more risk/impulsivity.

ANOVAs were conducted on overall k values and k values for small, medium, and large rewards. Table 1 shows that none of the main effects or interactions was significant for these dependent variables. An additional ANOVA was conducted on the overall proportion of immediate selections made by each participant. Both a significant main effect of mood induction, $F(2, 88) = 5.07$, $MSE = .015$, $p < .01$, and a significant victim status x mood induction interaction, $F(2, 88) = 3.44$, $MSE = .015$, $p < .05$, were observed. Both of these results appear to be driven by an unexplainable drop in the selection of immediate rewards by non-victims who were exposed to the bar fight audiotape (Figure 2). Finally, note that all participants indicated a preference for the smaller, immediate rewards on over half of the questions. This points to a level of impulsivity that was not evident on the BART task, consistent with the idea that these tasks may be measuring different aspects of decision-making. The relationships between tasks will be discussed further in the section describing the correlational analyses.
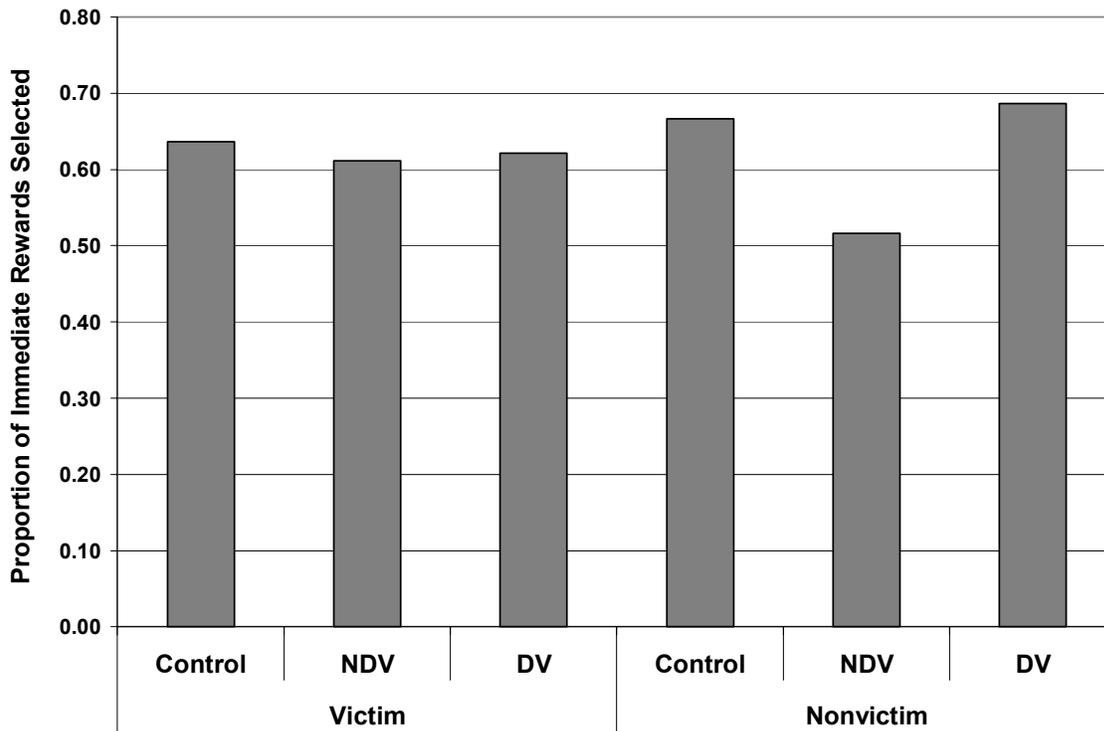
Note: NDV= Non-Domestic Violence Induction Condition (Bar Fight Audiotape); DV= Domestic Violence Induction Condition (Domestic Disturbance Audiotape).

Figure 2. The Proportion of Immediate Rewards Selected in the Delay Discounting Task as a Function of Mood Induction Condition and Victim Status.

Domain-Specific-Risk-Taking-Scale (DOSPERT)

ANOVAs were conducted on (a) participants' average risk ratings and (b) the proportion of "unlikely" and "very unlikely" (1 and 2) responses made by participants across the various domains of risk-taking behavior. Overall, participants demonstrated risk-averse attitudes on this scale; the average rating was at the lower end of the response scale (Mean = 2.74, with 3 representing the middle of the scale, or "undecided"). As seen in Table 1, none of the main effects or interactions was significant, except for the following. A significant main effect of victim status was revealed for recreational items, $F (1, 88) = 12.16$, MSE = .07, $p < .01$. Domestic violence victims (Mean = 4.5) selected more "unlikely" and "very unlikely" response choices than non-victims (Mean = .27), suggesting that they are less likely to take recreational risks. A significant victim status x mood induction interaction was obtained for social items, $F (2, 88) = 3.94$, MSE = .026, $p < .05$. Figure 3 illustrates that victims who were exposed to the domestic disturbance audiotape (Mean = .21) selected significantly *more* "unlikely" and "very unlikely" social item response choices than victims who were exposed to the bar fight audiotape (Mean = .09, $t (30) = 1.7$, $p < .05$). The opposite pattern occurred for non-victims. Non-victims who were exposed to the domestic disturbance audiotape (Mean = .09) selected significantly *fewer* "unlikely" and "very unlikely" social item response choices than non-victims who were exposed to the bar fight audiotape (Mean = .20, $t (27) = 1.7$, $p < .05$). Therefore, victims in the domestic violence induction condition and non-victims in the bar fight induction condition reported more cautious social behavior than their counterparts. Once again, victims were made more cautious by the relevant mood induction.
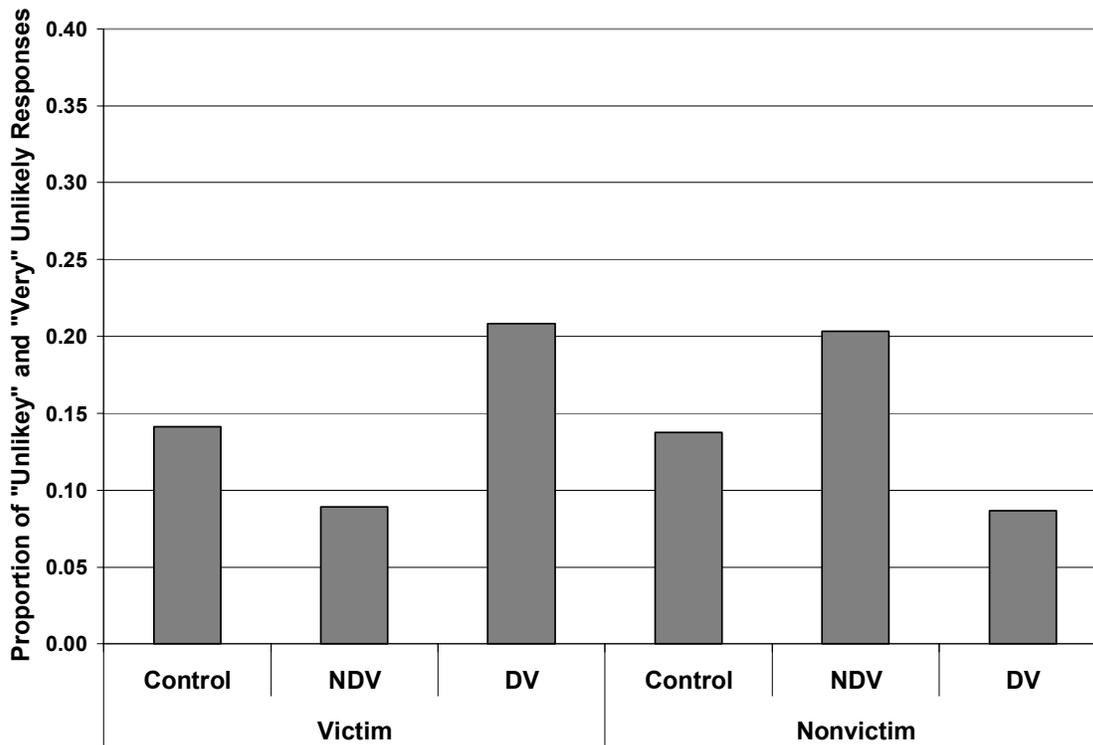
Note: NDV= Non-Domestic Violence Induction Condition (Bar Fight Audiotape); DV= Domestic Violence Induction Condition (Domestic Disturbance Audiotape).

Figure 3. The Proportion of "Unlikely" and "Very Unlikely" Social Item Response Choices on the Domain-Specific Risk-Taking Scale as a Function of Mood Induction Condition and Victim Status.

The Relations Among Decision-Making Tasks

Within Task Correlations

Table 2 contains correlation coefficients between the critical measures for the four tasks described above. For the BART, the IGT, and the DDT, there was good agreement between the various dependent measures *within each task*. All of the correlations between the dependent measures of the BART were significant, with correlation coefficients ranging from .570 to .897. Seven out of ten correlations between the dependent variables of the IGT were significant, with correlation coefficients ranging from .392 to .889. The non-significant correlations involved the proportion of advantageous cards selected during the first quartile. This may have been due to the fact that participants were still familiarizing themselves with the task during the first quartile of trials. All of the dependent measures of the DDT correlated significantly, with correlation coefficients ranging from .694 to .850.

The within-task correlations also provided good support for the domain-specific nature of the DOSPERT. Unlike the other tasks, weak correlations were obtained between the various dependent measures of the DOSPERT. Most of the significant correlations involved the relation between the average rating and the proportion of "unlikely" and "very unlikely" (1 and 2) responses for the different domains; the correlations between the different scales of the DOSPERT were weak or nonexistent   This supports the claim that this task measures domain-specific risk-taking where risk-taking in any one domain does not relate to risk-taking in the other domains.

Between Task Correlations

The highlighted values on Table 2 indicate significant correlations that occurred *between* the decision-making tasks. Note that there was not total agreement between these tasks,

suggesting that some dependent variables might have been measuring different aspects of decision-making. Despite evidence from Bornovalova and colleagues (2005) suggesting that the BART would not correlate strongly with the DDT, the number of balloon explosions on the BART correlated negatively with the proportion of immediate reward selections on the DDT ($r = -.267$, $p < .01$). Prior research by Monterosso and colleagues (2001) found that performance on the DDT correlated with performance on the IGT in cocaine dependent individuals. Consistent with these findings, the proportion of immediate reward selections on the DDT also correlated negatively with the total proportion of advantageous cards selected on the IGT ($r = -.211$, $p < .05$). The k value for large rewards on the DDT negatively correlated with total proportion of advantageous cards selected on the IGT ($r = -.222$, $p < .05$), and the proportion of advantageous cards selected during the third quartile ($r = -.213$, $p < .05$) and fourth quartile of the IGT ($r = -.224$, $p < .05$). The overall k value on the DDT negatively correlated with the total proportion of advantageous cards selected on the IGT ($r = -.249$, $p < .05$) and the proportion of advantageous cards selected during the fourth quartile ($r = -.290$, $p < .01$). Past research by Weber and colleagues (2002) suggests that the financial domain of the DOSPERT may correlate well with the IGT. However, these findings were not replicated in the current study. Although, there was a significant negative correlation between the proportion of "unlikely" and "very unlikely" response choices for recreational items on the DOSPERT and the number of balloon explosions on the BART ($r = -.213$, $p < .05$).

Table 2. Correlations Within and Between Decision-Making Tasks.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. B_Explosions	1.00																			
2. B_Pumps Adjusted Total	**.570**	1.00																		
3. B_Pumps Adjusted Avg.	**.820**	**.897**	1.00																	
4. I_Total Good	-.092	-.081	-.130	1.00																
5. I_Q1 Good	.046	.020	.013	**.392**	1.00															
6. I_Q2 Good	-.085	-.180	-.168	**.759**	.111	1.00														
7. I_Q3 Good	-.145	-.159	-.198	**.877**	.102	**.638**	1.00													
8. I_Q4 Good	-.065	.045	-.040	**.889**	.180	**.542**	**.743**	1.00												
9. DDT_Prop. Immediate	**-.267**	-.051	-.090	-.211	-.167	-.167	-.101	-.204	1.00											
10. DDT_k sm.	-.091	-.058	-.034	-.095	.003	-.079	-.033	-.146	**.697**	1.00										
11. DDT_k med.	-.076	.008	-.008	-.191	.019	-.177	-.177	-.195	**.736**	**.745**	1.00									
12. DDT_k lg.	-.179	-.092	-.109	-.222	-.057	-.127	-.213	-.224	**.697**	**.642**	**.800**	1.00								
13. DDT_k overall	-.023	.042	.035	-.249	-.054	-.187	-.169	-.290	**.733**	**.849**	**.850**	**.694**	1.00							
14. DOS_Avg. Rating	.174	-.001	.083	.159	.155	.140	.086	.121	-.150	-.010	-.142	-.101	-.182	1.00						
15. DOS_21 Ethical	.049	.079	.068	.001	.092	-.079	.097	-.082	-.084	.093	-.047	-.136	.101	-.202	1.00					
16. DOS_21 Gambling	-.141	-.152	-.139	.071	-.012	.065	.030	.107	.099	.094	.121	.118	.094	**-.426**	.052	1.00				
17. DOS_21 Investment	-.048	-.034	-.065	.089	-.127	.160	.050	.137	-.031	-.018	-.024	-.016	-.046	-.214	.026	.185	1.00			
18. DOS_21 Health/safety	-.157	.094	-.039	-.095	-.019	-.104	-.120	-.046	.004	-.043	.181	.123	.152	**-.617**	.128	.153	-.015	1.00		
19. DOS_21 Recreational	-.213	-.171	-.203	-.057	-.135	-.069	.055	-.057	.173	.064	.132	.083	.178	**-.683**	.033	.122	-.078	.248	1.00	
20. DOS_21 Social	-.078	-.039	-.080	.045	.063	.073	.015	.008	-.053	-.107	-.005	-.136	-.035	**-.303**	.048	.138	-.027	.029	.184	1.00

Note: B= BART; Avg.= Average; I= IGT; Good= proportion of advantageous card selections; Q= quartile; Prop Immediate= proportion of immediate rewards selected; k= discounting value; DOS= DOSPERT; 21= proportion of "unlikely and "very unlikely" response choices; Ethical-Social= domain of risk-taking; **bold**= values significant at $p < .01$ level; underlined= values significant at $p < .05$ level. Highlighted values are across-task correlations and are of particular interest.

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Mood Manipulation Check

The effectiveness of the mood induction manipulation was assessed in three ways in the current study: the Dispatcher Questionnaire, the MAACL, and the distress rating included in the Follow-up Survey. A 2 (victim status: domestic violence victim vs. non-victim) x 3 (mood induction: domestic disturbance vs. bar fight vs. no induction) between-subjects ANOVA was conducted for each of the three mood measures. For the Dispatcher Questionnaire, the ANOVA was conducted on the participants' ratings of the urgency of the situations depicted in the mood induction audiotapes. A significant main effect of mood induction was obtained, $F(1, 57) = 42.57$, $MSE = .353$, $p < .001$, such that participants who heard the domestic disturbance audiotape (Mean = 5.84) reported a higher sense of urgency than participants who heard the bar fight audiotape (Mean = 4.83). An ANOVA was also conducted on participants' confidence about their decisions regarding dispatching the police to the scene. Again, a significant main effect of mood induction was observed, $F(1, 57) = 9.22$, $MSE = .679$, $p < .01$), such that participants who heard the domestic disturbance audiotape (Mean = 5.68) were more confident than participants who heard the bar fight audiotape (Mean = 5.03). The effect of victim status was not significant for either measure nor was the interaction.

The ANOVA for the MAACL revealed no significant main effects or interactions. However, there were a priori expectations that changes in mood would be most evident for domestic violence victims who were exposed to the audiotape depicting the domestic disturbance. Thus, an independent samples t-test was conducted between this group and domestic violence victims who were not exposed to a mood induction procedure. As predicted, victims who were exposed to the relevant mood induction procedure (Mean = 6.72) reported

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significantly less positive affect than victims who were in the control condition (Mean = 9.91), t (39) = 1.68, $\underline{p} < .05$.

Finally, an ANOVA was conducted on participants' subjective distress ratings following the experiment. There were marginally significant main effects for victim status, $F (1, 85) = 3.84$, MSE = 2.88, $\underline{p} = .053$) and mood induction condition, $F (2, 85) = 2.93$, MSE = 2.88, $\underline{p} = .059$). Domestic violence victims (Mean = 2.67) reported higher distress ratings than non-victims (Mean = 1.86). Also, participants who were exposed to the domestic disturbance audiotape (Mean = 3.07) reported higher distress ratings than participants who were exposed to the bar fight audiotape (Mean = 1.79) and control participants (Mean = 2.16). Looking at Figure 4, it is clear that these effects were driven by the domestic violence victims who, when exposed to the domestic violence audiotape, reported considerably higher distress ratings.
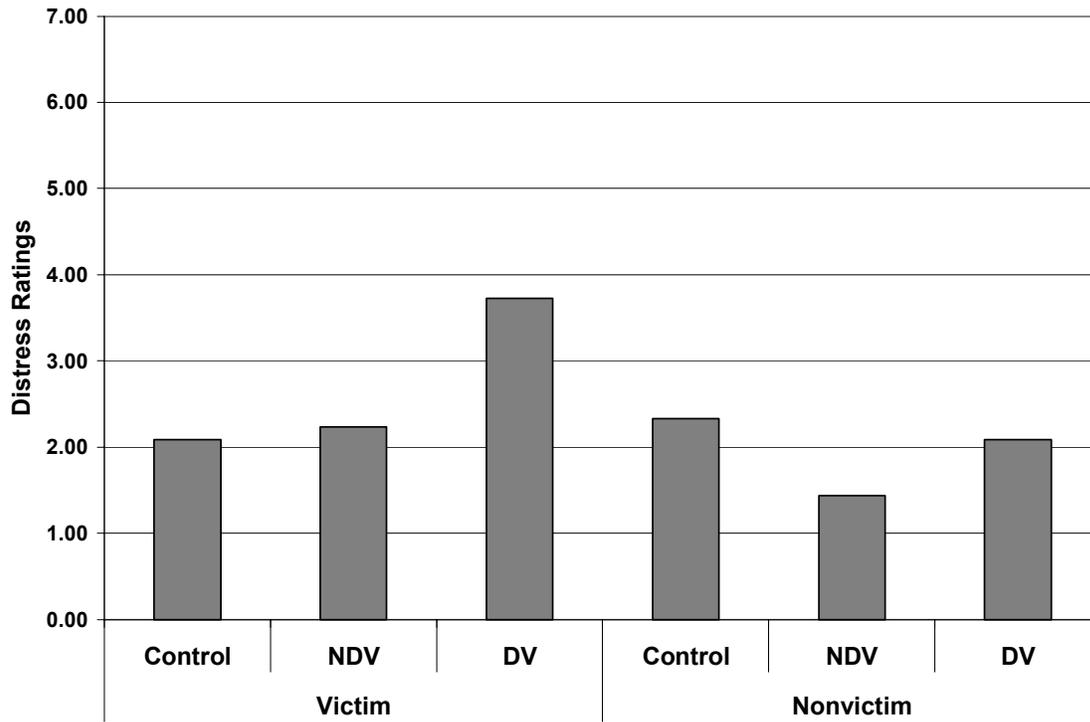
Note: NDV= Non-Domestic Violence Induction Condition (Bar Fight Audiotape); DV= Domestic Violence Induction Condition (Domestic Disturbance Audiotape).

Figure 4. Participants' Subjective Distress Ratings as a Function of Mood Induction Condition and Victim Status.

Other Factors Affecting Decision-Making

A 2 (victim status: domestic violence victim vs. non-victim) x 3 (mood induction: domestic disturbance vs. bar fight vs. no induction) between-subjects ANOVA was also conducted for the number of non-domestic violent experiences reported on the Violent Experiences Questionnaire (VEQ). Although there was a slight trend toward domestic violence victims having experienced more incidences of non-domestic violence than non-domestic violence victims (means of 2.55 and 1.90 instances, respectively), none of the main effects nor the interaction was significant. Thus, group differences in the current study are likely not attributable to general differences in experience with violence.

DISCUSSION

The present study examined the degree to which individual characteristics, such as personal experience with violence, moderate the relationship between mood inductions and decision-making. Participants with or without a history of domestic violence were exposed to a mood induction depicting either a domestic disturbance or a bar fight. They were then administered four primary decision-making tasks (the Balloon Analogue Risk Task, the Iowa Gambling Task, the Delay Discounting Task, and the Domain-Specific Risk-Taking Scale), and their performance was compared to a no-induction, control group. The mood induction procedure was expected to lead to riskier decision-making for both victims and non-victims, but the deficits were expected to be the greatest for domestic violence victims, especially in the relevant induction condition.

Overview of the Findings from the Decision-Making Tasks

The BART results demonstrated no reliable differences between the experimental groups; however, both domestic violence victims and non-victims showed an overall tendency towards

risk aversion in this task. Taking into account procedural limitations of the IGT, the results revealed that victims appeared to make better, less risky decisions than non-victims when both were exposed to the domestic violence mood induction procedure. The results of the DDT did not conform to expectations; no interpretable pattern of data was uncovered in this task, and all findings seem to have been driven by the unexplainable decrease in the selection of immediate rewards by non-victims who were exposed to the bar fight audiotape. The results of the DOSPERT revealed that, relative to control participants, the decision-making processes of victims were made more conservative by the domestic violence induction procedure, whereas the decision-making of non-victims was hindered in this condition. Finally, there was little correlation between the different dependent variables of the DOSPERT supporting the idea that this task measures discrete domains of risk-taking. In the sections that follow, the complexities of various aspects of the project will be discussed.

The Decision-Making Processes of Domestic Violence Victims

Looking at the decision-making tasks as a whole, the general pattern is for domestic violence victims, if anything, to be risk averse. The results from three out of the four decision-making tasks (BART, IGT, and DOSPERT) demonstrated this tendency toward risk aversion. Contrary to the initial hypothesis, there was no evidence supporting the idea that domestic violence victims make riskier decisions than non-victims. In fact, there were no observed deficits in the decision-making processes of domestic violence victims. Rather, in the cases where group differences emerged, they were in favor of victims.

Of additional interest is the effect that the mood induction procedures had on victims relative to non-victims. There was some evidence showing that victims who were exposed to the relevant mood induction tended to behave cautiously; whereas non-victims who were exposed to

the domestic disturbance audiotape tended to increase their risk-taking behavior. The latter supports the initial hypothesis that this mood induction procedure would increase risk-taking behavior, but it is interesting that this pattern was only demonstrated for non-victims.

The above patterns of data raise questions concerning why the relevant mood induction did not have an adverse effect on the decision-making abilities of domestic violence victims as originally predicted. One possibility is that personal experience with domestic violence may desensitize victims to violence in general, thus making the mood induction manipulation less effective in arousing this group. Refuting this possibility, however, were the mood manipulation checks which showed that domestic violence victims were more distressed than non-victims, and that the relevant mood induction procedure tended to exacerbate their distress. A second explanation is that, while domestic violence victims experience high levels of distress as a result of the mood induction procedure, their personal experience may have taught them to function effectively in the context of such high distress. Experiencing numerous abusive incidents may not desensitize victims to the stress of the situation, but it may force them to find conservative, non-contentious ways to deal with threats to their safety. Research by Wilson and Daly (1993) explains that the highest incidence of domestic homicide occurs after the victim has left her abuser. Although it is risky for a victim to stay in an abusive relationship, it may be more risky to leave. Considering this research, it is understandable why many victims behave cautiously.

As a third possibility, perhaps the mood induction procedure is having an unintended effect. Perhaps, rather than causing impairing levels of distress in domestic abuse victims, the mood induction procedure is allowing them to achieve more optimal levels of arousal. The Yerkes Dodson Law explains that the best performance is achieved at moderate levels of arousal, and that very low or very high arousal results in performance deficits (Yerkes & Dodson 1908).

It is possible that domestic violence victims came into the experiment with slightly higher levels of arousal than non-victims and that the relevant mood induction procedure took their arousal into a more optimal range.

What is a "Victim"?

The current study highlighted the complexities of defining domestic violence victim status. Looking at Table 1, it is clear that slightly different patterns of results emerged when the definition of victim shifted from experiencing two instances of abuse to experiencing one instance of abuse. As well, there were considerable differences between the two questionnaires used to measure victim status (the Participant Information Questionnaire and the Conflict Tactics Scale Revised) with the latter identifying a much larger proportion of the current sample as victims. The explicit, categorical nature of the Participant Information Questionnaire may have made participants reluctant to place themselves in the broad category of "victim." However, admitting to experiencing specific abusive incidents on the Conflict Tactics Scale may have seemed less threatening for participants than labeling themselves generally. This is consistent with prior research by Herbert, Silver, and Ellard (1991) showing that some victims cope with their distress by focusing on the positive aspects of their relationship, thus minimizing the extent of the abuse and allowing them to avoid the label of victim. From an experimental standpoint, it is clear that more consideration needs to be given to the specific methods for defining and measuring victim status.

Also relevant, because a college-aged sample was used in the current study, it is likely that the majority of abusive relationships experienced by participants were short-lived. The results may have been different or more pronounced if the experiment had been conducted with older victims who had endured more prolonged periods of abuse. Also, other characteristics of

abusive relationships were not measured. For example, assessing whether the abusive relationship was with a current or former partner or whether the victim left or remained with her abuser may have influenced results. Other procedural limitations were discussed in more detail in the Method section.

Implications of the Current Study and Future Directions

Despite limitations, the results of this study have both theoretical and practical import. The current study makes a number of important contributions to basic research on decision-making. First, very little research to date has explored the relationship between personal experience, mood inductions, and decision-making. Though the results of this study are not entirely clear, it does make two contributions in this regard. First, consonant with prior research (Leith & Baumeister, 1996; Baradell & Klein, 1993; Anderson et al., 2003; Joorman & Siemer, 2004), the mood induction procedure was shown to affect decision-making on the IGT and the DOSPERT. Second, the results point to a role for personal experience in determining decision-making ability; for example, participants with a history of domestic violence reported more cautious recreational behavior on the DOSPERT than participants without such a history. Also, victims and non-victims were differentially affected by the mood induction procedures on the IGT and the DOSPERT.

Another theoretical contribution of this project involved the interrelationships within and between the tasks uncovered in the correlational analyses. In sum, there was good evidence for agreement between measures within a task – except for the DOSPERT which was demonstrated to indeed be domain-specific – with a corresponding level of disagreement between some indices from different tasks. This supports the claim that decision-making is a complex, multifaceted construct that requires the use of multiple tasks for appropriate measurement.

Finally, a novel auditory mood induction procedure was introduced in the current study and the effects of that induction were verified using three separate manipulation checks: The Dispatcher Questionnaire; a widely accepted measure of mood state, the MAACL; and participants' subjective distress ratings. Prior research has tended to use exposure to depressing or violent film clips or reflecting on upsetting personal experiences to induce negative mood. The 911 audiotapes used to manipulate mood in the current study offered the following advantages. First, the absence of visual detail made it more likely that participants would personally relate to the scenarios. Second, the current method made it possible to match the induction conditions with one another as closely as possible, so that the only difference between the audiotapes was the nature of the violent incident being reported. Finally, disguising the mood induction procedure as a decision-making task prevented participants from being aware of the study's objectives.

On a more applied level, few researchers have taken a cognitive approach to domestic violence and understanding victims' perceptions. This study provided insight into the potential impact of domestic violence on various aspects of decision-making. It is necessary to more fully understand the decision-making abilities of domestic violence victims, in order to offer them appropriate support (Stroshine & Robinson, 2003). Understanding their tendency to behave cautiously may provide important information to psychologists and counselors regarding which intervention strategies are most appropriate for domestic violence victims. For instance, this knowledge may help mental health professionals further comprehend why many victims opt to remain in their abusive relationship. It would be beneficial to explore victims' concerns and evaluate the potential outcomes of leaving their abuser. This may help formulate an escape plan that takes into account victims' trepidation, while protecting their safety.

More research is clearly needed regarding the decision-making strategies of domestic violence victims in order to provide a comprehensive approach for supporting and treating these individuals. Future research should consider conducting a similar study with a domestic violence shelter population to determine if victims who have endured long-term abusive relationships utilize similar decision-making processes. It would also be interesting to assess differences between victims who have remained with their abuser versus victims who leave. Other studies may consider measuring how participants' coping mechanisms influence decision-making in response to trauma. More research is also needed to understand the multifaceted nature of decision-making. Some of the tasks used in the current study did not correlate with one another, and it is unclear what different aspects of decision-making they are each measuring. It would be interesting to include other decision-making tasks in future studies to determine if they are tapping unique aspects of the construct.

REFERENCES

Anderson, C.A., Carnagey, N.L., & Eubanks, J. (2003). Exposure to violent media: The

    effects of songs with violent lyrics on aggressive thoughts and feelings. *Journal of*

    Personality and Social Psychology, 84, 960-971.

Baradell, J.G., & Klein, K. (1993). Relationship to life stress and body consciousness to

    hypervigilant decision-making. *Journal of Personality and Social Psychology, 64,* 267-

    273.

Bechara, A. (2004). The role of emotion in decision-making: Evidence from

    neurological patients with orbitofrontal damage. *Brain and Cognition, 55,* 30-40.

Bechara, A., Dolan, S., Denburg, N., Hindes, A., Anderson, S.W., & Nathan, P.E. (2001).

    Decision-making deficits, linked to a dysfunctional ventromedial prefrontal cortex,

    revealed in alcohol and stimulant abusers. *Neuropsychologia, 39,* 376-389.

Bechara, A., Tranel, D., & Damasio, H. (2000). Characterization of the decision-making

    deficit of patients with ventromedial prefrontal cortex lesions. *Brain, 123,* 2189-2202.

Bornovalova, M.A., Daughters, S.B., Hernandez, G.D., Richards, J.B., & Lejuez, C.W.

    (2005). Differences in impulsivity and risk-taking propensity between primary users of

    crack cocaine and primary users of heroin in a residential substance-use program.

    Experimental and Clinical Psychopharmacology, 13, 311-318.

Cavallo, D.A., & Pinto, A. (2001). Effects of mood induction on eating behavior and

    cigarette craving in dietary restrainers. *Eating Behaviors 2,* 113-127.

Clements C., & Ogle, R.L. (2007) A comparison study of coping, family problem-solving

    and emotional status in victims of domestic violence. *Journal of Psychological Trauma,*

    6, 29-37.

Elliot, L., Nerney, M., Jones, T., & Friedmann, P.D. (2002). Barriers to screening for
domestic violence. *Journal of General Internal Medicine, 17,* 112-116.

Harrison, J.D., Young, J.M., Butow, P., Salkeld, G., & Solomon, M.J. (2005). Is it worth
the risk? A systematic review of instruments that measure risk propensity for use in the
health setting. *Social Science & Medicine, 60,* 1385-1396.

Herbert, T.B., Silver, R.C., & Ellard, J.H. (1991). Coping with an abusive relationship: I.
How and why do women stay? *Journal of Marriage and the Family, 53,* 311-325.

Isen, A.M., Nygren, T.E., & Ashby, F.G. (1988). Influence of positive affect on the
subjective utility of gains and losses: It is just not worth the risk. *Journal of
Personality and Social Psychology, 55,* 710-717.

Joorman, J. & Siemer, M. (2004). Memory accessibility, mood regulation, and
dysphoria: Difficulties in repairing sad mood with happy memories? *Journal of
Abnormal Psychology, 113,* 179-188.

Jones, H.A., & Lejuez, C.W. (2005) Personality correlates of caffeine dependence: The
role of sensation seeking, impulsivity, and risk taking. *Experimental and Clinical
Psychopharmacology, 13,* 259-266.

Kirby, K.N., Petry, N.M., & Bickel, W.K. (1999). Heroin addicts have higher discount
rates for delayed rewards than non-drug using controls. *Journal of Experimental
Psychology: General, 128,* 78-87.

Leith, K.P., & Baumeister, R.F. (1996). Why do bad moods increase self-defeating
behavior?: Emotion, risk taking, and self-regulation. *Journal of Personality and Social
Psychology, 71,* 1250-1267.

Lejuez, C.W., Aklin, W.M., Jones, H.A., Richards, J.B., Strong, D.R., Kahler, C.W, et al.

    (2003). The Balloon Analogue Risk Task (BART) differentiates smokers and

    nonsmokers. *Experimental and Clinical Psychopharmacology, 11,* 26-33.

Lejuez, C.W., Read, J.P., Kahler, C.W., Richards, J.B., Ramsey, S.E., Stuart, G.L., et al.

    (2002). Evaluation of a behavioral measure of risk taking: The Balloon Analogue Risk

    Task (BART). *Journal of Experimental Psychology: Applied, 8,* 75-84.

Mayer, J.D., Gaschke, Y.N., Braverman, D.L., & Evans, T.W. (1992). Mood-congruent

    judgment is a general effect. *Journal of Personality and Social Psychology, 63,* 119-132.

McFarland, C., White, K., & Newth, S. (2003). Mood acknowledgement and correction

    for the mood-congruency bias in social judgment. *Journal of Experimental Social*

    Psychology, 39, 483-491.

Miranda, J., Gross, J.J., Persons, J.B., & Hahn, J. (1998). Mood matters: Negative mood

    induction activates dysfunctional attitudes in women vulnerable to depression. *Cognitive*

    Therapy and Research, 22, 363-376.

Monterosso, J., Ehrman, R., Napier, K.L., O'Brien, C.P., & Childress, A.R. (2001). Three

    decision-making tasks in cocaine-dependent patients: Do they measure the same

    construct? *Addiction, 96,* 1825-1837.

National Coalition Against Domestic Violence. (2005). Domestic Violence Facts.

    Retrieved November 18, 2006, from http://www.ncadv.org/files/DV_Facts.pdf

Overman, W.H., Frassrand, K., Ansel, S., Trawalter, S., Bies, B., & Redmond, A. (2004).

    Performance on the IOWA card task by adolescents and adults. *Neuropsychologia, 42,*

    1838-1851.

Overman, W., Graham, L., Redmond, A., Eubank, R., Boettcher, L., Samplawski, O., et al. (2006). Contemplation of moral dilemmas eliminates sex differences on the Iowa Gambling Task. *Behavioral Neuroscience, 120,* 817-825.

Reavis, R., & Overman, W.H. (2001). Adult sex differences on a *decision-making task* previously shown to depend on the orbital prefrontal cortex. *Behavioral Neuroscience, 115,* 196-206.

Rothenberg, B. (2002). The success of the battered woman syndrome: An analysis of how cultural arguments succeed. *Sociological Forum, 17,* 81-103.

Samuelson, S.L., & Campbell, C.D. (2005). Screening for domestic violence: Recommendations based on a practice survey. *Professional Psychology: Research and Practice, 36,* 276-282.

Straus, M.A., Hamby, S.L., Boney-McCoy, S., Sugarman, D.B. (1996). The revised Conflict Tactics Scales (CTS2): Development and preliminary psychometric data. *Journal of Family Issues, 17,* 283-316.

Stroshine, M.S., & Robinson, A.L. (2003). The decision to end abusive relationships: The role of offender characteristics. *Criminal Justice and Behavior, 30,* 97-117.

Weber, E.U., Blais, A.R., & Betz, N.E. (2002). A domain-specific risk attitude scale: Measuring risk perceptions and risk behaviors. *Journal of Behavioral Decision Making, 15,* 263-290.

Wilson, M. & Daly, M. (1993). Spousal homicide risk and estrangement. *Violence and Victims, 8, 3*-16.

Yerkes, R.M., & Dodson, J.D. (1908). The relation of strength of stimulus to rapidity of habit-formation. *Journal of Comparative Neurology and Psychology, 18,* 459-482.

Zuckerman, M., & Lubin, B. (1985). *Manual for the MAACL-R: The Multiple Affect*

Adjective Checklist Revised. San Diego, CA: Educational and Industrial Testing Service.

APPENDICES

Appendix A. Consent Form

Consent to Participate in a Research Study

<u>Individual Differences in Decision-Making</u>

What Is The Research About? This research examines individual differences in various aspects of decision-making.

Who Is Doing The Study? The people in charge of this study are Dr. Karen A. Daniels (*PI*) and Kimberly Bolen, B.A., of the University of North Carolina at Wilmington.

What Is The Purpose Of This Study? By doing this study, we hope to learn what aspects of decision-making differ between individuals, across a variety of tasks.

Where Is The Study Going To Take Place And How Long Will It Last? This research will be conducted at UNCW in Room 110 of the Academic Support building. This study requires a single visit of approximately 1 hour.

What Will I Be Asked To Do? Your participation will involve completing a number of decision-making tasks and questionnaires.

What Are The Possible Risks And Discomforts? You may be exposed to upsetting material in some of the tasks and questionnaires. If you experience an adverse emotional reaction, the researcher can escort you to UNCW's Counseling Center or you may contact Dr. Richard Ogle, a licensed clinical psychologist, at (910) 612-7831. This phone is left on at all times.

Will I Benefit From Taking Part In This Study? There are no known benefits associated with this research. However, the information you provide will be used to help researchers and psychologists understand decision-making processes.

Do I Have To Take Part In This Study? Your participation is voluntary and you may choose not to participate in this research study or withdraw your consent at any time. You will NOT be penalized in any way should you choose not to participate or withdraw.

What Will It Cost Me To Participate? There are no costs associated with taking part in this study.

Will I Receive Any Payment Or Reward For Taking Part In This Study? You will not receive any monetary payment for taking part in this study. You will receive partial course credit (1 credit per hour) for your participation in this study.

Who Will See The Information I Give? Your information will be combined with information from other people taking part in the study. When we write up the study to share it with other

researchers, we will write about the *combined* information. You will not be identified in these written materials.

We will make every effort to prevent anyone who is not on the research team from knowing that you gave us information or what that information is. All information regarding your performance on our tests will be kept on a password protected-computer and will be identified only by an ID number.

Can My Taking Part In The Study End Early? Even if you decide to take part in this study, you still have the right to decide at any time that you no longer want to continue. You will not be penalized in any way if you decide to stop participating in the study at any time.

What Happens If I Get Hurt Or Sick During The Study? If you believe you are injured because of something that is done during the study, you should call Dr. Karen Daniels at 962-7178 immediately. We will make sure you receive any needed care or treatment. However, it is important for you to understand that the University of North Carolina at Wilmington will not pay for the cost of any care or treatment that might be necessary because you get hurt or sick while taking part in this study. That cost will be your responsibility.

What If I Have Questions? Before you decide whether or not to participate in the study, please feel free to ask any questions. Later, if you have questions about the study, you can contact the primary investigator, Dr. Karen Daniels, at 962-7875. If you have any questions about your rights as a research participant, contact Dr. Candace Gauthier, Chair of the UNCW Institutional Review Board, at 910-962-3558.

Research Participant Statement and Signature: I understand that my participation in this research study is entirely voluntary. I may refuse to participate or stop participating at any time without penalty or loss of benefits. I was offered a copy of this form to take home with me.

_____
Printed name of person consenting to take
part in the study

_____   _____
Signature of person consenting to take part   Date
in the study

_____   _____
Name of person providing information to   Date
the participant

Appendix B. Participant Information Questionnaire

Participant Information Questionnaire

Please write or circle the most accurate response to the questions below. Some of these questions inquire about sensitive material. You have the right not to answer any question that makes you feel uncomfortable. Remember that your responses are *completely anonymous*, as you will only be identified by a subject number. Your name will not be linked in any way to the information you provide on this questionnaire. Please be truthful; this study will hopefully contribute important knowledge to the scientific and clinical community.

1. How old are you?   _____

2. What is your race/ethnicity?   _____

3. What is your class standing?

  Freshman Sophomore Junior Senior Graduate

4. What is your major or intended course of study? _____

5. What is your employment status?

  Employed Unemployed

6. What is your relationship status?

  Single Dating Cohabitating Married Separated/Divorced

7. Has a friend ever betrayed your trust?

  Yes No

8. Have you ever participated in a physical fight?

  Yes No

9. Has a romantic partner ever been unfaithful to you?

  Yes No

10. During a conflict, has a romantic partner ever verbally threatened or intimidated you?

  Yes No

11. During a conflict, has a romantic partner ever restrained, pushed, hit, kicked, etc. you?

  Yes No

12. Has a romantic partner ever used or threatened physical force in order to engage in sexual

 activity with you when you did not want to?

  Yes No

\<Please continue on the next page\>

13. Please rate your self-esteem, with 1 equaling "Not at all Confident" and 6 equaling "Very Confident."

_____

   1   2   3   4   5   6

14. Compared to other people your age, please indicate your health status, with 1 equaling "Very Poor" and 6 equaling "Very Good."

_____

   1   2   3   4   5   6

15. How often do you engage in physical exercise?   Never   Monthly or Less

     2-4 Times per Month   2-3 Times per Week   4 or More Times per Week

16. How often do you play video/computer games?   Never   Monthly or Less

     2-4 Times per Month   2-3 Times per Week   4 or More Times per Week

17. Have you ever experienced a head injury that resulted in a loss of consciousness?

     Yes   No   If so, please explain: _____

18. Are you currently taking any medications that hinder or improve your memory or attention?

     Yes   No   If so, please list: _____

19. How often do you drink alcohol?   Never   Monthly or Less

     2-4 Times per Month   2-3 Times per Week   4 or More Times per Week

20. How many drinks do you have on typical day when you are consuming alcohol?

     0   1-2   3-4   5-6   7-9   10 or more

Appendix C. Transcript of Domestic Violence Mood Induction Audiotape

Mood Induction- Domestic Violence Condition

Operator: 911, what is your emergency?
Caller: *(panicked)* I need the police! Oh my God, he's going to kill her!
Operator: Who? What is going on Ma'am?
Caller: It's my roommate…her boyfriend is beating her up again.
Operator: Ma'am, what is your location?
Caller: I'm in Wilmington, at the Mill Creek Apartments. Please Hurry!
Operator: What is the address?
Caller: 4112 Randall Parkway, Apartment 3G.
Operator: What is your name?
Caller: Jessica Wilkes.
Operator: Could you spell the last name please?
Caller: W-I-L-K-E-S.
Operator: I am sending an emergency response team now. Is your roommate okay?
Caller: I don't know. I can hear her screaming! She's hurt pretty bad this time.
Operator: This has happened before?
Caller: Yeah, they argue a lot and he's really mean to her, but it's never been this bad.
Operator: Do you know what started the argument?
Caller: Yeah. She wanted to go out with me and some of our friends, and he flipped out! He said she was going to let other guys flirt with her, but that's not what she was going to do! And then he started screaming at her and threw her against the wall… That's when I got scared and ran out of the room. *(Glass breaking and banging)*
Caller: Oh my God, there's blood!
Operator: What happened, Jessica?
Caller: There's broken glass in the hallway. I'm scared to go in there.
Operator: The police should be there soon. Are you safe?
Caller: Oh God! I don't want anything to happen to her!
Operator: Jessica, are you safe?
Caller: Yeah. I'm in another room now. *(Crying)* I'm so scared.
Operator: Stay on the line with me Jessica. Does her boyfriend have a weapon?
Caller: I'm not sure. I just know he's hitting her and throwing bottles.
Operator: Can you make it outside without being hurt?
Caller: I don't want to leave her.
Operator: It would be helpful if the police could talk to you when they arrive.
Caller: Alright… I think so.

Appendix D. Transcript of Bar Fight Mood Induction Audiotape

Mood Induction- Bar Fight Condition

Operator: 911, what is your emergency?
Caller: *(panicked)* I need the police! Oh my God, he's going to kill him!
Operator: Who? What is going on Ma'am?
Caller: It's my roommate…some guy is beating him up.
Operator: Ma'am, what is your location?
Caller: I'm in Wilmington, at Barbary Coast Bar. Please Hurry!
Operator: What is the address?
Caller: It's off Front Street. Hold on… 116 South Front Street.
Operator: What is your name?
Caller: Jessica Wilkes.
Operator: Could you spell the last name please?
Caller: W-I-L-K-E-S.
Operator: I am sending am emergency response team now. Is your roommate okay?
Caller: I don't know. He's hurt pretty bad.
Operator: Do you know the other guy?
Caller: He's just some drunk guy at the bar.
Operator: Do you know what started the argument?
Caller: Yeah, the guy thought my roommate was flirting with his girlfriend, and he flipped out! And then he started screaming at him and threw him against the wall… That's when I got scared and ran out of the room. *(Glass breaking and banging)*
Caller: Oh my God, there's blood!
Operator: What happened, Jessica?
Caller: There's broken glass in the hallway. I'm scared to go in there.
Operator: The police should be there soon. Are you safe?
Caller: Oh God! I don't want anything to happen to him!
Operator: Jessica, are you safe?
Caller: Yeah. I'm in another room now. *(Crying)* I'm so scared.
Operator: Stay on the line with me Jessica. Does this guy have a weapon?
Caller: I'm not sure. I just know he's hitting him and throwing bottles.
Operator: Can you make it outside without being hurt?
Caller: I don't want to leave him.
Operator: It would be helpful if the police could talk to you when they arrive.
Caller: Alright…I think so.

Appendix E. Dispatcher Questionnaire

Dispatcher Questionnaire

Please respond to the questions below, regarding the 911 audiotape that you just heard. Answer the questions as if you were the dispatcher.

1. Would you dispatch the police to the scene?
   No   Yes

2. How urgent do you consider the situation that was reported? Please circle your response, using the scale below:

1	2	3	4	5	6
Not at all					Very
Urgent					Urgent

3. How confident are you in your decision? Please circle your response, using the scale below:

1	2	3	4	5	6
Not at all					Very
Confident					Confident

Appendix F. Violent Experiences Questionnaire

VEQ

The following questions inquire about violent incidences that occurred *outside the context of a romantic relationship*. Please circle the most accurate response. Remember that your responses are completely anonymous.

1a) Have you ever witnessed a violent assault?

    No   Yes

1b) When did this event occur?

    Never   More than 10 Years Ago   Within the Past 10 Years

    Within the Past 5 Years   Within the Past Year   Within the Past Month

2a) Has someone *close* to you (i.e. close family member or good friend) ever been a victim of domestic violence?

    No   Yes

2b) When did this event occur?

    Never   More than 10 Years Ago   Within the Past 10 Years

    Within the Past 5 Years   Within the Past Year   Within the Past Month

3a) Have you ever been in a physical fight with someone who was *not* your romantic partner?

    No   Yes

3b) When did this event occur?

    Never   More than 10 Years Ago   Within the Past 10 Years

    Within the Past 5 Years   Within the Past Year   Within the Past Month

4a) Has anyone ever threatened to physically harm you (*not* including romantic partners)?

    No   Yes

4b) When did this event occur?

    Never   More than 10 Years Ago   Within the Past 10 Years

    Within the Past 5 Years   Within the Past Year   Within the Past Month

5a) Have you ever been physically assaulted by someone who was *not* your romantic partner?

    No   Yes

5b) When did this event occur?

    Never   More than 10 Years Ago   Within the Past 10 Years

    Within the Past 5 Years   Within the Past Year   Within the Past Month

<Please continue on the next page>

6a) Have you ever been stalked (*not* including romantic partners)?

    No   Yes

6b) When did this event occur?

    Never   More than 10 Years Ago   Within the Past 10 Years

    Within the Past 5 Years   Within the Past Year   Within the Past Month

7a) Has an assailant ever used violence or intimidation as a means to commit robbery against you?

    No   Yes

7b) When did this event occur?

    Never   More than 10 Years Ago   Within the Past 10 Years

    Within the Past 5 Years   Within the Past Year   Within the Past Month

8a) Have you ever been a victim of sexual assault (*not* including romantic partners)?

    No   Yes

8b) When did this event occur?

    Never   More than 10 Years Ago   Within the Past 10 Years

    Within the Past 5 Years   Within the Past Year   Within the Past Month