2014

MOOD AND VIOLENCE SENSITIVITY: USING AN EMOTION ELICITATION PARADIGM TO ASSESS PERCEPTIONS OF VIOLENCE SEVERITY

Justine Egan
University of Rhode Island, justine_egan@my.uri.edu

MOOD AND VIOLENCE SENSITIVITY:

USING AN EMOTION ELICITATION PARADIGM

TO ASSESS PERCEPTIONS OF VIOLENCE SEVERITY

BY

JUSTINE EGAN

A MASTER'S THESIS SUBMITTED IN PARTIAL FULFILLMENT OF

THE REQUIREMENTS FOR THE DEGREE OF

MASTER OF ARTS

IN PSYCHOLOGY (BEHAVIORAL SCIENCE)

UNIVERSITY OF RHODE ISLAND

2014

MASTER OF ARTS THESIS

OF

JUSTINE N. EGAN

APPROVED:

Thesis Committee:

Major Professor Charles Collyer

Paul Bueno de Mesquita

Kristin Johnson

Nasser H. Zawia
DEAN OF THE GRADUATE SCHOOL

UNIVERSITY OF RHODE ISLAND
2014

ABSTRACT

This study aimed to examine the effects different emotions had on perceptions of violent behaviors. Students from an introductory psychology course (n = 517), were randomly assigned to one of five different emotion elicitation conditions (anger, fear, sadness, happiness, and neutral) using one of two methods (automatic story recall and film clip procedure). Perceptions of violence were measured using a modified version of the Violence Sensitivity Magnitude Estimation Scale (VSMES) which asks participants to rate a series of behaviors as to the severity of violence. Trait aggression was found to mediate the relationship between emotion and perceptions of violence. No significant differences were found between the two methods or the five emotion groups. However, significant differences between violence-sensitive and violence-tolerant groups were found, confirming findings from the previous literature. Future research and implications using the VSMES are discussed.

ACKNOWLEDGEMENTS

I would like to thank my advisor Dr. Charles Collyer for his support through the completion of this project. It has been a long road, my progress being halted with my breast cancer diagnosis in July 2012. He was supportive during my surgery and chemotherapy treatments, when I had to slow down my coursework and thesis progress. He was understanding when my thesis progress took longer than expected and when I had to catch up on coursework due to my treatments. Overall, he provided kind words and laughter on the hardest days.

I would like to thank the rest of my committee, Dr. Paul Bueno de Mesquita and Dr. Kristin Johnson; who provided their time and support to my success and completion of this project. I would like to thank Dr. Jill Doerner, who agreed to serve as defense chair for my thesis, I appreciate her time and support as well.

I would finally like to thank my boyfriend, Zachary Kunicki, who pushed me to complete my thesis. Even on days when I felt as though I would never see the light at the end of the tunnel, he showed me that I could succeed.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1

EMOTION ELICITAITON AND VIOLENCE SENSITIVITY

Living in a world that is ravaged by wars, school shootings, and other types of horrific violence, people are continuously searching for the why and the what. Why does violence happen and what causes it? Unfortunately, many times exact explanations are difficult or unable to be found. Rather than trying to solve the puzzle of what causes such violence, focus can be placed on how we can prevent further violence from taking place. There are a variety of ways that this might be accomplished, one example being non-violence interventions; especially with young children in school contexts. Other approaches include changes in laws, explicitly gun control laws for instance.

However, individuals differ in what they mean by violence, and how they see themselves in relation to it. Until we know more about how individuals differ in their understanding of violence, how can we go about solving the problems of violence? The simple answer is that it could prove quite difficult. Non-violence teachings can only go so far and most (if not all) persons who participate in nonviolence trainings are intentionally making the choice to do so. Therefore, they are going in with the mindset of wanting to recognize and evaluate violence and violent behaviors.

If the goal is to target other types of individuals (e.g. individuals who may be more desensitized to violence) to modify views towards violence, then a way is needed to assess how individuals conceptualize violence. Clearly, one way to accomplish this would be to measure a myriad of variables such as previous exposure

to violence in one's own life (e.g. physical or psychological), exposure to violent media, or how violence was discussed as a child by important models around him/her (e.g. parental figures). Examining these variables as well as measuring them several times would allow us to better assess individuals across multiple situations with regards to their understanding of violence. Usually we do not have the time nor the resources to measure every single variable that can influence an individual's understanding of violent behavior. It can also be problematic to ascertain what variables may be applicable to one individual but not another.

One way to examine differential understanding of violence is to simply ask participants about their feelings regarding violent behaviors. This way individual differences in perceptions of violence can be assessed. This method provides an understanding of explicit attitudes towards violence and how that can differ across individuals. Though it should be noted that this does not look at implicit attitudes. The current study utilizes one explicit approach, the Violence Sensitivity Magnitude Estimation Scale (VSMES), which was use in a study by Collyer and Melisi (2008). Further discussion of the development of the VSMES and the concept of violence sensitivity and violence severity is presented in the next chapter.

CHAPTER 2

LITERATURE REVIEW AND THEORETICAL BACKGROUND

Magnitude Estimation

In 1957, Stevens explained his method of magnitude estimation as an extension of psychophysical methods originally developed by Gustav Fechner several decades earlier (Stevens, 1957). Stevens proposed that the perception of stimuli can fall into one of two classes, Class I continua or Class II continua. Class I continua consist of "how much" with regards to perceptual stimuli (e.g. how loud a sound is) while Class II continua involve "what kind and where" (e.g. what type of sound). The term just noticeable difference or jnd means the smallest amount of change necessary to detect a difference between two stimuli. Stevens proposed that the jnd may not be equal in size, which was in opposition to Fechner who theorized that just noticeable differences were equal proportions of total stimulus magnitude. Fechner also proposed that how the stimuli are presented can affect how said stimuli are perceived such that stimuli presented second may be judged greater than stimuli presented first. Stevens pointed out that this concept may matter to Class I continua but not Class II continua.

When assessing perceptual stimuli, different methods have been utilized that include: "ratio estimation", "ratio production", "magnitude estimation", and magnitude production" (Stevens, 1957). These methods have been mainly used to assess stimuli such as loudness or brightness. Ratio estimation involves either having participants adjust a stimulus to another specific stimulus, or asking participants

whether a stimulus meets a specified ratio of a prior set stimulus. Instead of specifying the ratio, ratio production provides the participant with two stimuli and asks them to specify the ratio. For example, a participant may be given two sounds to listen to. After listening to both sounds, they are asked to specify the ratio difference between the two sounds. Magnitude production involves a comparison of stimuli. For instance, participants may be given a set of sounds and asked to set the brightness that would correspond to the loudness of each sound.

Magnitude estimation has participants assign numerical values to a set of stimuli. A set point, or modulus may be used or the researcher may allow the participant to select it on his/her own. Magnitude estimation is the method utilized in this study but rather than studying stimuli such as loudness or brightness, the stimuli of interest are words denoting violent behavior. Stevens pointed out that magnitude estimation can be "applied to stimuli for which there is no underlying metric" (Stevens, 1961, 1962). Quantifying violent sensitivity, or more specifically an individual's impression of violence severity for a particular example of violence can be difficult. A subjective utilization of a magnitude estimation scale allows an assessment of violence perception without a pre-specified metric. A detailed explanation of violence sensitivity is given below.

Violence Sensitivity

The concept of violence sensitivity involves an examination of how severe a person deems violent acts (e.g. murder or swearing) to be. While the word "violent" suggests a categorical variable, in practice violence is naturally on a "continuum of

intensity" (Collyer, Gallo, Corey, Waters, and Boney-McCoy, 2007). By rating a series of behaviors, ranging from not severe to extremely severe researchers can examine an individual's own continuum of violence severity and understand how these continua may differ across persons.

This concept was first examined in an exploratory fashion by Collyer et al. (2007). Two studies were conducted; the first examined participants' mean ratings of violence severity while the second study looked at consistency of these ratings considering factor and cluster structures. Essentially, the second study investigated whether sub-groups of individuals existed within the sample as well as whether any behaviors could be categorized together based upon the ratings provided. Initially a focus group was utilized to establish the list of behaviors, the final list consisting of forty[1] behaviors. Participants in both studies consisted of students at the University of Rhode Island the first sample consisting of psychology majors in upper-level methods classes, the second of Introduction to Psychology students.

Participants were asked to rate the forty (in the second study, thirty-eight behaviors were used[2]) behaviors. Each behavior's level of severity on an 8-option Likert scale was rated using the following choices: "7: Highest level of violence; 6: High level; 5: Moderate-to-high level; 4: Low-to-moderate level; 3: Low level; 2: Lowest level of violence; 1: Borderline; 0: Not violent at all" (Collyer et al., 2007). Participants were told that someone was engaging in said behavior against another

[1] The forty behaviors are listed as follows: murder, rape, shooting, stabbing, execution, kidnapping, beating, attacking, hitting, home invasion, fighting, dragging, stalking, slapping, robbery, pushing, throwing things, road rage, grabbing, vandalism, sabotage, shoving, exploitation, bullying, verbal rage, stealing, manipulation, screaming, insults, yelling, cursing, profanity, gossip, staring, rudeness, competition, interrupting, suicide, and fantasy violence.

[2] The behaviors of suicide and fantasy violence were removed as in the first study it was difficult for participants to interpret these as two person (agent and victim) behaviors.

person, that the persons did not know each other, and that the behavior would have long-term effects. Participants were also given two different situations, one being that the behavior had no justification and the other being that the behavior was justified. The order of these two conditions was counter-balanced.

The results of both studies showed that there was a consistent ordering of behaviors, meaning that each participant had a similar rating curve (e.g. swearing was always rated below murder for instance). This result alone would allow us to believe that individuals share similar views with regards to violence as the behaviors were consistently ordered across participants, with some variations. Participants did not necessarily provide similar absolute ratings across behaviors, meaning that one participant may have rated the behavior of swearing as a 3 and murder as a 7 while another participant may have rated the same behaviors as a 1 and a 7, respectively.

Factor analysis suggested that of the 38 behaviors, four sub-groups existed within the continuum. These four groups with were termed: "more severe physical violence (V1), less severe physical violence (V2), more severe non-physical violence (V3), and less severe non-physical violence (V4)" (Collyer et al., 2007). Cluster analysis using vectors of four mean violence severity ratings for each of these types of violence suggested differences at the individual level which allowed an assessment of whether sub-groups existed within the sample.

The cluster analysis suggested two sub-groups of participants that were categorized as violence-tolerant and violence-sensitive. These two groups had similar ratings for V1 behaviors, the extremely violent behaviors; but when it came to the other behaviors violence-tolerant individuals' ratings were lower than violence-

sensitive persons. The similarities for V1 behaviors for violence-sensitive and violence-tolerant individuals may have existed due to the use of a close-ended Likert scale. This may have produced a ceiling effect and so prevented individual differences on the more severely violent behaviors from being seen.

Collyer and Melisi (2008) investigated whether this similarity with regards to V1 behaviors was due to a ceiling effect or if violence-tolerant and violence-sensitive people actually agreed in their appraisals of the more severely violent behaviors. An open-ended magnitude estimation scale was utilized that allows participants to assign ratings without the upper and lower bounds of a Likert scale. Stevens (1957, 1961, and 1962) had utilized magnitude estimation to understand differential relationships between physical intensity of a stimulus and a person's impression of that stimulus. In this procedure, the experimenter gives the participant a reference point, of say, 100, and asks him/her to rate the stimuli with reference to the point provided. For example, if you play a sound and tell a participant the sound has a rating of 100, any sounds played thereafter that are louder or softer can be rated higher or lower than the reference point of 100 with no upper or lower bounds. Please refer to the prior section for a more thorough explanation of magnitude estimation.

Twenty-seven students from a general psychology course at the University of Rhode Island were provided the list of thirty-eight behaviors utilized in Collyer et al. (2007) and asked to rate the behaviors as to their degree of violence severity and provocation. The V2 behavior of "Pushing" was used and assigned the rating of 100 which Stevens (1968) referred to as the modulus. This study had two aims: (1) to determine whether estimates of less violent behaviors (V2, V3, and V4) could predict

estimates given of severely violent behaviors (V1) and (2) to ascertain whether the distinction between violence-sensitive and violence-tolerant individuals could be extended to V1 behaviors when an open-ended scale is used. Unlike the Collyer et al. (2007) study, Collyer and Melisi (2008) utilized a median split rather than cluster analysis to identify violence-tolerant and violence-sensitive individuals, for two reasons. First, cluster analysis is known to "reveal" clusters even when the data source mechanism does not generate clusters (Aldenderfer & Blashfield, 1984). Second, the open-ended scale tends to produce unmanageable extreme values for severely violent behaviors (e.g. 100,000,000 for the behavior of murder), undermining the assumptions of cluster analysis and of parametric statistical approaches.

Collyer and Melisi (2008) determined that there was a correlation between one's non-V1 ranking of behaviors and one's V1-ranking. The Spearman rho correlation was .60 for the violence severity data. Violence-sensitive individuals were found to have higher ratings across all four sub-groups of violence types, specifically with regards to the severely violent behaviors. This provided evidence that use of a close-ended Likert scale produces ceiling effects when used as a response measure for the perception of violence severity. While use of an open-ended scale may make analysis more difficult, it provides a more complete understanding of individual differences with regards to perceptions of violence severity.

Collyer, Brell, Moster, and Furey (2011) examined differences between violence-sensitive and violence-tolerant individuals at the University of Rhode Island utilizing both quantitative and qualitative measures. Collyer et al.'s (2007) Violence Sensitivity Scale (VSS) was used to ascertain whether an individual could be

categorized as violence-sensitive or violence-tolerant. When asked to provide a definition of violence, violence-tolerant individuals more often described violence in terms of physical harm while violence-sensitive individuals were more likely to describe violence in both physical and psychological terms. When a question was asked regarding how bullies should be treated, violence-tolerant individuals were more likely to answer that bullies should be punished (e.g. "bullies should be bullied"). This study, while exploratory, reinforces the idea that there are distinct differences between individuals associated with ratings of violence severity with regards to conceptualizations of violence.

Egan (2010) sought to not only examine these differences but to examine the relationship between one's perception of violence and involvement in violent/risky behaviors. As in previous studies, the sample in this study consisted of URI undergraduate Introduction to Psychology students. However, whereas the sample size in Collyer and Melisi (2008) was only 27 participants; Egan's sample was much larger and consisted of 348 students. This study utilized a modification of Collyer and Melisi's Violence Sensitivity Magnitude Estimation Scale (VSMES) rather than the close-ended scale to allow for differences to be assessed with regards to V1 behaviors. Participants were provided with a reference V2 behavior of "Grabbing" which was given a modulus value of 75 and the following set of instructions:

> "We would like to know your opinions on various behaviors. Please rate each act as to its extent of violence. You are provided with a starting point (i.e. grabbing = 75) and you should rate each act in reference to this point with no numerical limit. For example, if grabbing is 75 you could rate bullying as high or lower to that number (i.e. 80). Please enter ratings into the text boxes below." (Egan, 2010)

Due to the extreme magnitude estimates provided for some of the severely violent behaviors (e.g. murder), the values were converted to a logarithmic base 10 scale to normalize the distribution. Transformation did not fully normalize the distribution, yet, a negatively skewed distribution was expected. Violent behaviors used on the scale increase in severity based on societal standards of violence (Collyer et al, 2007 and Collyer & Melisi, 2008). As in the Collyer and Melisi (2008) study, violence-sensitive and violence-tolerant individuals did differ on the more severely violent behaviors (See Figure 1), confirming that this distinction is meaningful even for very violent acts.

Egan (2010) asked participants about their involvement in a variety of violent/risky behaviors (e.g. swearing, injuring someone, shooting a firearm, and binge-drinking). Although no significant correlations were found between the measure of violence severity and involvement in violent/risky behaviors, this was likely due to methodological issues with the study. Many of the questions had non-mutually exclusive answers. For instance, one question asked, "How many times do you swear in a day?" with the following answer options: "None"; "1-5 Times"; "5-10 Times"; "10+ Times". This may have led to mixed answers or confusion on the part of participants. Participants were also asked about their opinions on violent topics (e.g. corporal punishment). There were several moderate negative correlations, for example having lower ratings of violent behaviors was associated with higher acceptability of violence (e.g. acceptability of the death penalty). This study

demonstrated that violence-sensitive and violence-tolerant individuals do differ in their perceptions of violent behaviors, replicating the Collyer and Melisi study (2008). Egan (2010) also provided a glimpse into understanding the relationship between violent behaviors and perceptions of violence.

As stated earlier, an important piece of this research area is to identify differential attitudes towards violence in order to potentially evaluate the success of interventions that aim at changing violent attitudes. Collyer, Johnson, Bueno de Mesquita, Palazzo, and Jordan (2010) showed that violence sensitivity can be increased following non-violence training. Two studies were conducted, one using college-aged traffic offenders in RI and the other a group of student teachers at URI. In both studies, a comparison group of students in psychology research methods classes at URI did not receive the non-violence training to rule out testing alone as an explanation for changes in ratings. The Collyer et al. (2007) close-ended scale was utilized for both the pretest and posttest measures. The number of stimulus behaviors differed, with 15 used in the traffic offender group, and 38 used in the student teacher group. Both groups were asked to rate behaviors as to their severity of violence.

In the traffic offender group, the mean rating across all 15 behaviors increased significantly after training while it did not in the comparison group. Six of the 15 behaviors increased individually while in the comparison group only one of the 15 did. In the student teacher group, the mean rating across all behaviors increased significantly after training while it did not in the comparison group. Eleven of the 38 behaviors increased individually while in

the comparison group none did. There were no significant mean differences between the traffic offenders and the comparison group. Overall, ratings of violence severity increased after non-violence training and did not increase without such training. As the close-ended scale was used, it is hard to say whether non-violence training would affect violence severity ratings with regards to more severely violent behaviors. Use of an open-ended scale as an evaluation of nonviolence training could be a potential consideration for future research in order to avoid this ceiling effect. The Collyer et al. (2010) study showed that the VSS could potentially be used to evaluate nonviolence or violence prevention interventions.

Egan and Collyer (2012) examined violence severity before and after mood induction. The study also explored the relationships between violence severity and the variables of anxiety and aggression. These two variables were hypothesized to be correlated with initial violence severity measured before manipulation. Participants were asked a series of demographic questions, and filled out the Taylor Manifest Anxiety Scale (TMAS), and the Buss-Perry Aggression Questionnaire – Short Form (BPAQ-SF) as initial measures. Thirty-two of the behaviors from the original 38 behaviors[3] from Collyer et al. (2007) were used, in two sets of sixteen, each consisting of four from each typology of violent behaviors.

Fifteen non-anchor behaviors were used to measure initial levels of violence severity and another fifteen were used as the post-test measure. Grabbing and pushing, both V2 behaviors, were chosen as anchors for the pretest and posttest

[3] The behaviors of murder and execution were repeated in order to have four from each type (V1, V2, V3, and V4) of violent behaviors.

respectively, and assigned values of 100 as reference points for participants' ratings. Grabbing had been the anchor behavior used in the Egan (2010) study. Participants gave similar ratings for the behavior of pushing, another V2 behavior in the Egan (2010) study.

Mood was manipulated using two classical music pieces: Bergamasca, from Respighi's Ancient Airs & Dances, Suite 2, mvt 4 for the positive mood induction condition and Alexander Nevsky, The Battle On The Ice for the negative mood induction condition. While listening to the classical music piece, participants were asked to imagine themselves in some of the situational vignettes used by Mayer (1995). At the end of the session, the subjects in the negative condition were also instructed to complete the same mood induction procedure as in the positive condition which was intended to return participants to a neutral mood state.

Anxiety was not correlated with either V1 or V2-4 violence sensitivity before induction. However, aggression and violence sensitivity (both V1 and V2-4) before induction were moderately negatively correlated. An initial one-way ANOVA found no significant differences between after mood induction conditions on violence sensitivity. ANOVAs were also run examining the before mood induction conditions with anxiety and aggression as DVs. Significant differences were found between the positive and negative mood induction conditions on initial levels on aggression, $F(2,293)=3.81$, $p=.02$.

Given these initial differences, an ANCOVA was run examining mood induction condition and violence sensitivity while accounting for initial levels of aggression. There was a significant difference between positive and negative mood

induction conditions after manipulation with regards to violence sensitivity, $F(2,218)=4.38$, $p=.01$. Due to the uneven randomization of subjects, it is hard to say whether this difference is due to faulty randomization or that aggression is a mediator of the relationship between violence sensitivity and mood. Another issue was the non-normality of the data which may have contributed to the non-significant finding between the three conditions. Egan (2012) provided a deeper examination of perceptions of violence and potentially under what conditions an individual may be more tolerant to violence.

Mood Induction and Emotion Elicitation

The study of mood induction began with Velten (1968). He had female participants read a set of self-referent statements that were meant to be elating (EL), depressing (DE), and neutral (NU). The design also included elation (EDC) and depression (DDC) demand characteristic control groups. Two types of pre-measures were used to assess pre-treatment mood level; one was a timed decision task and the other a "perceptual ambiguity (PA)" task (Velten, 1968). All participants were randomly assigned to one of the five groups upon completion of the PA task and expected to read the instructions silently then aloud. For the four mood groups, self-referent statements started neutral and escalated to the targeted mood. In the neutral group, only neutral statements were presented with no self-references used. The two demand characteristic groups were instructed to behave either elated or depressed after being

provided with synonyms of elation/depression and saw five of either the elated or depressed statements as an example of what the other groups had seen.

Seven measures were utilized to determine the effects of the treatment on mood which included the following: "Writing Speed (WS), Distance Approximation (DA), Decision Time (DT), Perceptual Ambiguity (PA), Word Association (WA), Multiple Affect Adjective Check List, Today Form (MAACL), and Spontaneous Verbalizations (SV)" (Velten, 1968). It was hypothesized that the EL and DE groups would differ significantly on all seven measures and that the NU's performance would fall in between these two. The results of the study found that on five of the seven criteria, EL and DE groups differed significantly. On all measures except DA, the NU group's means fell in between the EL and DE groups. On two of the seven measures, the EL and EDC groups and the DE and DDC groups differed significantly. The demand characteristic group treatment means were closer to the opposite mood than intended. These results indicate that effective mood induction occurred and that subjects did not respond to demand characteristics.

Since Velten (1968), many other researchers have used mood induction in a variety of contexts using several different types of methods. For example Brewer, Doughtie, and Lubin (1980) evaluated the effectiveness of autobiographical recollections as a non-hypnotic form of mood induction. Autobiographical Recollections are different from self-referent statements in that the former are more personal and involve the recollection of events. The

results of this study suggested that Autobiographical Recollection was a better method to induce depression and elation in both males and females.

Polivy and Toyle (1980) suggested that demand characteristics did contribute to the change in mood in Velten's work after controlling for experimenter bias. However, participants in Velten's study did report actually feeling the mood that was inducted upon debriefing. This could either deflate or inflate actual measures of mood states in research. Kenealy (1986) evaluated forty different studies which utilized Velten's mood induction procedure in order to assess the efficacy of the procedure. She found that across the forty studies, self-report findings were more consistent than behavioral measures.

Other methods of mood induction include autobiographical recollection (as mentioned previously), affective story recall, musical mood induction, and film mood induction. Mayer (1995) utilized musical mood induction and guided imagery to elicit four different emotions: anger, happiness, fear, and sadness. The study employed twenty non-vocal classical music pieces and seventy-five vignettes (25 per mood) as determined by twenty judges (ten for music, ten for vignettes). Mayer's study suggested that participants overall began with happier moods than unhappy moods and that the induction methods were successful at inducing the targeted moods (e.g. happiness).

Film emotion elicitation was utilized during the mid-1990s by Gross and Levenson (1995). In the past several years, other researchers (Panksepp, 1998; Hewig et al., 2005; Salas et al., 2012) have investigated emotion elicitation using film clips. Film mood induction has been found to be an effective method for eliciting genuine

mood states. Another method that has emerged in the mood induction research is Affective Story Recall (ASR) which was first used by Turnbull et al. (2004). Similar to the Autobiographical Recall method, ASR asks participants to recall events from their personal lives related to the specific intended emotion. Salas et al. (2012) compared these two methods of emotion elicitation and found both to be equally effective for inducing intended mood states in participants. The researchers also found that ASR produced higher levels of emotion in comparison to film clips with regard to the emotion of joy. The current study aims to compare these two methods and to assess whether internally generated methods produce greater differences in violence sensitivity than film clip procedures.

Despite the inconsistent findings regarding Velten's method, Westermann et al.'s (1996) meta-analysis discussed the methods in which mood induction is effective. This meta-analysis examined eleven different mood induction procedures[4] across 111 articles (138 studies) from 22 different published journals. Effect sizes were only compared in those studies that utilized self-report measures. Despite being less biased by demand characteristics, behavioral measures were not examined as few studies actually utilized them in assessing mood induction.

Results indicated that the Film/Story mood induction procedure with explicit instruction was the most effective with an effect size of 0.73 for elated mood states. Even without instruction, the Film/Story mood induction procedure was more effective for elated mood states than other mood induction procedures with an effect size of 0.53. For depressed mood, the two most effective methods were Film/Story

[4] The mood induction procedures utilized include: Imagination MIPs, Velten MIPs, Film/Story MIPs (with and without instruction), Music MIPs (with and without instruction). Feedback MIPs, Social Interaction MIPs, Gift MIPs, Facial Expression MIPs, and Combined MIPs.

and Combined mood induction procedures with effect sizes of 0.74 and 0.76, respectively. Film/Story procedures were the most effective in inducing mood. This differs from previous research that stated that Music procedures were the most effective (Clark, 1983; Clark & Teasdale, 1985; Martin, 1990).

Mood and Perceived Violence

The research literature examining the influence of mood on violence is limited. However, Raney and Depalma (2006) evaluated the influence of watching violent sports programming on an individual's mood and how they perceived violence. Participants were asked to view one of three different types of sports violence: scripted violence, unscripted violence, and no violence. In the scripted violence condition, participants watched professional wrestling matches. Those in the unscripted violence condition watched clips from professional boxing matches. Finally, those in the non-violent condition watched half of an inning of a professional baseball game. Participants in the scripted violence condition reported more negative mood states than those in either the unscripted violence or no violence conditions. There was no difference between the unscripted and no violence conditions. This provides evidence of the relationship between negative emotions and violence, such that viewing at least some kinds of violence can elicit a negative emotion. A further observation is that more negative mood states were elicited by content that was designed intentionally to elicit such responses.

Understanding the Differences between Emotion, Mood, and Core Affect

According to Ekkekakis (2013), the research literature over the years has used the terms mood, emotion, and affect interchangeably. Please note that in the prior discussion of the research literature, the terminology was used simply followed the authors' usage. Therefore, in that context emotion and mood were used interchangeably. However, each term has a distinct definition that moving forward should be used. Emotion is defined as a set of interconnected states which consist of components such as "appraisal, physiology, expression, action" (Ekkekakis, 2013, p. 1136). Frijda and Scherer (2009) posited that emotions may have a strong effect on behavior as they are linked to action taken. Mood is defined as a state that lasts over time but is not necessarily directed at one object specifically. When defining the constructs of emotion and mood, duration and intensity must be taken into account. Emotions may only last seconds while moods may last for an extended period of time (e.g. hours or days). Emotions tend to be elicited by specific stimuli in the moment while moods do not have an eliciting stimulus and are considered more free-floating. The last term to be defined is core-affect. Ekkekakis cites Russell and Feldman Barrett (2009) when explaining that core affect is a "neurophysiological state" that is constantly available and easily accessible but can encompass either mood or emotion or both at the same time. Although these terms have been used interchangeably so far, they will be discussed based on these definitions from here on.

CHAPTER 3

STATEMENT OF PURPOSE

In this study, emotion was the construct of interest. An experimental manipulation of emotion was used to assess whether there would be a change in how a person cognitively appraises violent behavior. Moods can "lower the threshold for arousing the emotions" (Ekman, 1994). For example if a person is in a grumpy mood they may be more prone to anger in comparison to someone who is not. Therefore, by eliciting different emotions experimentally, different prior mood states could potentially be activated which may possibly change attitudes towards violence. As stated previously, emotions last shorter, are less intense than moods, and tend to have a specific stimulus that causes the emotion. For instance, if someone jumps out and yells "Boo!" which causes you to feel fear, the person is the stimulus which elicited that emotion. However, if you were already feeling irritated that day, you may be less likely to respond to that stimuli due to your current mood state.

The four emotions that were elicited were fear, sadness, anger, and happiness in addition to a neutral condition that used emotion elicitation through the methods of film clips and autobiographical story recall. Methodological issues with the Egan and Collyer (2012) study may have obscured the effectiveness of the mood induction procedure, but that experiment now serves as a useful pilot study. The present study asks whether effects of induced emotion states are mediated by trait aggression.

CHAPTER 4

RESEARCH QUESTIONS AND HYPOTHESES

The aim of this study is to assess the relationship between aggression, emotion, and perceptions of violence. The hypotheses of this study include: (1) aggression will serve as a mediator of the relationship between emotion elicitation and violence sensitivity; (2) aggression will be negatively correlated with violence sensitivity as found by Egan and Collyer (2012); (3a) the automatic story recall procedure will result in a greater difference in violence sensitivity than the film clip procedure; (3b) the automatic story recall procedure will result in higher mood intensity in comparison to the film clip procedure (Salas et al., 2012), (4) there will be an effect of emotion elicitation condition on violence sensitivity; (4a) happiness and fear mood induction procedures will increase violence sensitivity relative to pre-induction levels, and (4b) anger and sadness mood induction procedures will decrease violence sensitivity relative to individual pre-induction levels.

CHAPTER 5

METHOD

Sample

An undergraduate student sample was collected from the University of Rhode Island. Students were a convenience sample of the university from an Introduction to Psychology course during the Fall 2013 semester. The total sample consisted of 669 participants; missing responses (defined as more than 40% of the survey not completed) were removed yielding a final sample size of 517 participants. The final sample was predominately female, freshman class status, 18 years of age, Caucasian, and with no political affiliation. Please refer to Table 1 for detailed sample frequencies.

Measures and Materials

Participants were recruited via a Sakai e-mail announcement sent to the entire class. They were directed to a Google blog page which contained a link that randomized participants into one of the ten conditions on the SurveyMonkey platform. Table 2 displays the ten conditions based upon emotion elicitation method used and emotion elicited.

Students only needed to have access to the Internet to enter and complete the survey. As some participants were shown YouTube videos, they needed to have adequate bandwidth to watch the videos. The Principal Investigator and student researcher were not contacted regarding any technological difficulties.

The measures utilized in this study were as follows: The Buss-Perry Aggression Questionnaire – Short Form (BPAQ-SF), the Positive and Negative Affect Schedule – Short Form (PANAS-SF), and the Violence Sensitivity Magnitude Estimation Scale (VSMES). A thorough discussion of reliability and validity of each scale is given below.

Buss-Perry Aggression Questionnaire – Short Form (BPAQ-SF)

The original BPAQ was constructed by Buss and Perry (1992). Before the construction of this questionnaire, the Buss and Durkee (1957) Hostility inventory had been used quite often. However, the sub-scales on this measure were developed a priori and no factor analysis was done to empirically support the sub-scales. Buss and Durkee (1957) factor analyzed the scales and found two factors that were later named Aggressiveness and Hostility. Others (Bendig, 1962 and Kendrick, 1980) conducted similar factor analyses and found different results. This inconsistency may be due the scale's lack of stability over time and its dichotomous true-false formatting.

Buss and Perry (1992) wanted to include the components from the Hostility Inventory which consist of: "Physical Aggression, Verbal Aggression, Anger, Indirect Aggression, Resentment, and Suspicion". Items were removed and re-written from the original Inventory that were unclear or otherwise required revision. The scale was given to 1,253 introduction to psychology students and they were asked to rate the items on a scale of 1 (extremely uncharacteristic of me) to 5 (extremely characteristic of me). A principal component factor analysis with oblimin rotation was run to examine the 52 aggression items given to participants.

Four factors were suggested by the analysis which include: "Physical Aggression, Verbal Aggression, Anger, and Hostility (a combination of Resentment and Suspicion items)". An item had to load .35 on the specified factor and less than .35 on the others. Twenty-nine of the 52 items met the criteria to create the original Buss-Perry Aggression Questionnaire (BPAQ). This four-factor model was replicated across three other samples. Buss and Perry (1992) ran chi-square goodness of fit tests on the pooled data to determine what type of model fit the data the best. It was determined that a one-factor model (general aggression) was not well fit but a four-factor model (as discussed earlier) and a hierarchical model (the four factors reflect a greater general factor of aggression) both fit better.

Bryant and Smith (2001) sought to modify the BPAQ as it was found that the four factors used only accounted for approximately 80% of the common variance. In the past, researchers have taken either the one-dimensional approach (summing all responses for an overall aggression score) or the multidimensional approach (summing the subscales for four correlated but separate scores). Five independent data sets were used (three collected, two archived data), the first being new data, the second and third being used for cross-validation, the fourth was used to assess the new short form AQ, and the fifth was used to determine whether the short form AQ could be replicated with a different sample. The new short form consisted of only 12 items which are detailed in Appendix A.

Bryant and Smith (2001) demonstrated that the new scale had convergent and discriminant validity, specifically with regards to the factors of Physical Aggression, Anger, and Hostility (Verbal Aggression did not show discriminant validity). Overall,

the new scale had a greater model goodness of fit than the original scale. Diamond and Magaletta (2006) examined the psychometric properties of the BPAQ-SF with federal offenders (both male and female). The study found the measure to be comparable across genders and to have satisfactory reliability (.62 or above for all of the subscales). As this particular instrument has been shown to have the same loadings and structure for both men and women, any differences between men and women could be attributed to the construct under study rather than the scale.

Violence Sensitivity Magnitude Estimation Scale (VSMES)

Please refer to the literature review for an in-depth explanation of violence sensitivity and the research that has been conducted in that area.

Corey (2008) examined concurrent validity of the close-ended version of the VSS scale. Concurrent validity is the investigation of different measures of the same construct at the same time. It was hypothesized that the VSS would correlated negatively with the Attitudes towards Violence Scale (ATVS) and correlate positively with the Non-violence Test (NVT). The ATVS and the VSS were negatively correlated and the VSS and NVT were positively correlated as predicted. This suggested that as violence sensitivity increased, so did acceptance of nonviolence while acceptance towards violence decreased.

With reference to the Violence Sensitivity Magnitude Estimation Scale (VSMES), no published work has been completed to assess reliability or validity. However, a secondary analysis was conducted with data previously collected by Egan (2010; 2012). The data were analyzed for internal consistency. Cronbach's alpha

ranged from .72 to .98 when the data were in raw form. However, the values provided can be extremely skewed, therefore; a log transformation was used to normalize the data which increased internal consistency to a range from .91 to .98.

Positive and Negative Affect Schedule-Short Form (PANAS-SF)

The original Positive and Negative Affect Schedule was constructed by Zevon and Tellegan (1982). They had 23 undergraduates complete a 60-item mood adjective list over the course of 90 days. Analyses suggested two distinct factors, identified as Positive Affect (PA) and Negative Affect (NA). The relationship between the two scales was examined to assess whether these constructs were actually two uncorrelated dimensions, as previous literature suggested (Crocker, 1997; Schmuckle, Egloff, & Burns, 2002). PA and NA have been studied and the research suggests that PA is related to increased social activity and satisfaction while NA has been associated with stress and poorer health outcomes (Watson, Clark, & Tellegan, 1988).

Watson, Clark, and Tellegan, 1988) sought to condense the original 60-item list by Zevon and Tellegan (1982) into a shorter, simpler form. They ran a principal components analysis on the 60-items to ascertain content areas. Terms that had an average loading of .40 or greater were included which yielded 20 PA items and 30 NA items. If a loading was greater than |.25| on the opposing factor (e.g. one PA item loading at .27 on NA), then these items were removed. This reduced the item pool even further to 12 PA items and 25 NA items.

Reliability analyses suggested that 10 PA terms were sufficient in comparison to 12 PA terms. The final 10 terms specified were: *"attentive, interested, alert,*

excited, enthusiastic, inspired, proud, determined, strong, and active". The 25 NA terms were trimmed even more as the number of items did not necessarily increase reliability/validity. The final result was a 10-item version that consisted of the following terms: *"distressed, upset, hostile, irritable, scared, afraid, ashamed, guilty, nervous, and jittery"* (Watson et al., 1988).

Watson et al. (1988) first used the original 60-item PANAS to assess reliability and validity. However, when the 20-item scale was used almost identical results were found. They asked participants to rate how they felt ""right now", "today", "during the past few days", "during the past week", "during the past few weeks", "during the past year", and "in general…on average". The internal consistency reliability ranged from .86 to .90 for PA and from .84 to .87 for NA. The test-retest reliability was consistent such that no significant differences were found over time, but were more consistent with regards to longer time periods. For example, asking how someone feels during the past year will likely produce a similar response several weeks later in comparison to asking them how they feel in the moment.

An assessment of scale validity found that within-scale items on the PA and NA scales had high correlations ranging between .89 and .95. In comparison, the between-scale correlations were low, ranging from -.02 to -.18. With regards to individual item validity, the items were found to load high (.50 or above) on the appropriate factor and load low on the other factor. The PANAS has also been used in non-college student sample populations, with similar results (Crocker, 1997; Melvin & Molloy, 2000; Gencöz & Dergisi, 2000; Crawford & Henry, 2004)

Procedure

Participants were recruited through an Introduction to Psychology course at the University of Rhode Island in the Fall 2013 semester. Participants were directed to a Google blog with the title "Personal Perspectives and Experiences with Violence" and the following instructions:

> "Hello, my name is Justine Egan and I am a Master's student in the Psychology Behavioral Science, Ph,D. program at URI. I am currently investigating views on violent behaviors towards partial fulfillment of my Master's degree and would like you to participate in my survey. It should only take approximately 35-40 minutes. Thank you very much for your time."

Students received extra credit or could use the research study as completion of a class assignment as incentive for participation. On the blog site, there was a button titled "SURVEY" which participants clicked that randomized them into one of ten groups (Refer to Table II for breakdown of survey conditions). Javascript coding was utilized to randomize the ten SurveyMonkey surveys constructed. Refer to Appendix A for the exact code utilized. The way the code works is that the math.random code is multiplied by the number of links of interest (in this case ten) and generates a random number between 0 and 10, rounds that number, and selects one of the ten links from that number.

In order to avoid non-recruited individuals from accessing any of the surveys, participants were provided with a password (psysurvey) in order to access the survey. After reading through the consent form (only students 18 or older were allowed to participate), participants were asked a series of demographic questions (age, race, etc.). Before the induction phase, they were asked to fill out the BPAQ-SF, the

PANAS-SF, and the VSMES, consisting of 16 behaviors (Appendix A) from the Collyer et al. (2007) study.

Participants were placed in one of five emotion elicitation conditions, using two different methods (Table 5). Automatic Story Recall (ASR) and Film Clips (FC) were utilized to elicit the emotions of happiness, fear, anger, and sadness. In both method types, a neutral condition was used to compare across emotions and across methods. In the ASR conditions, participants were asked to describe a time in their lives when they felt the specified emotion. They were asked to write at least two sentences describing the memory being recalled. In the FC conditions, participants were asked to watch two clips (with the exception of the neutral group who watched one clip) and were told to concentrate on how they felt while watching them. Afterwards, participants filled out a second form of the modified VSMES (Appendix A) and the PANAS-SF again. Participants in the FC conditions were also asked whether they had seen any of the films based upon the film clips shown in order to ascertain whether there was previous knowledge of the film. Participants were debriefed, and told that the researchers wanted to understand how mood affected views on violent behaviors.

CHAPTER 6

RESULTS

Exploratory data analyses were done to assess normality and linearity, and to transform any non-normal variables. Due to the extremely variable nature of the open-ended violence severity estimates, a log transformation was utilized to normalize the data. However, this did not fully normalize the data as seen in Table 3. Table 3 shows the descriptive statistics for the violence severity data, both raw and log transformed. Both the mean and median were examined for normality. Skewness and kurtosis values were lowest overall for the median, thus it was deemed a better measure of central tendency. Due to the VSMES's severe non-normality, use of the median was expected (Collyer & Melisi, 2008). The main variables of interest, aggression and violence severity were linear with the exception of a few outliers.

Figures 2-5 provides examples of Q-Q normality plots that show how non-normal the violence severity data were. If the data were normally distributed, then they would cluster around the fitted line. However, most of the data points do not and there are many outliers. In addition, Shapiro-Wilk normality tests were run to assess normality of the violence severity data. If the p-value was less than .05, it was suggested that the data was not normally distributed. The p-value was significant for the log transformed violence severity mean before, w = 0.449, p <.0001; and after, w = 0.481, p < .0001; emotion elicitation. The p-value was significant for the log transformed violence severity median mean before, w = 0.785, p <.0001; and after, w = 0.739, p <.0001; emotion elicitation.

The first hypothesis was that aggression would serve as a mediator of the relationship between emotion and violence severity. According to Baron and Kenny (1986) a mediator is a variable that could affect the strength of the relationship between two other variables. Three steps (Table 4) must be taken to assess whether mediation has taken place (Kenny, 2014):

1. Demonstrate that your predictor is correlated to your criterion. This establishes that there is an effect that could be mediated. In this study, a regression analysis was run which used emotion (the five different emotion groups) as the predictor and violence sensitivity as the criterion. Emotion elicitation condition significantly predicted violence sensitivity scores, $\beta = 0.015$, $t(515) = 2.223$, $p = 0.03$. However, emotion elicitation did not explain a large proportion of variance in violence sensitivity, Adjusted $R^2 = 0.008$, $F(1,515) = 4.943$, $p = 0.03$.
2. Demonstrate that the criterion variable is correlated to your mediator, in this step the mediator is treated as an outcome variable. In this study, a regression analysis was run which use emotion as the criterion and trait aggression as the outcome variable. Emotion elicitation condition significantly predicted trait aggression scores, $\beta = -0.552$, $t(515) = -1.934$, $p = 0.05$. However, emotion elicitation did not explain a large proportion of variance in violence sensitivity, Adjusted $R^2 = 0.007$, $F(1,515) = 3.74$, $p = 0.05$.
3. Demonstrate that the mediator affects the outcome variable; in this step the mediator and original predictor are predictors. In this study, a multiple regression was run which used violence sensitivity as the outcome variable,

and emotion elicitation condition and aggression as the predictors. Emotion elicitation condition $\beta = 0.013$, $t(515) = 1.957$, $p = 0.05$, and aggression $\beta = -0.003$, $t(515) = -3.287$, $p = 0.001$, significantly predicted violence sensitivity scores. These two variables explained a larger proportion of variance than they did on their own but still did not explain a large proportion of variance with regards to violence sensitivity, Adjusted $R^2 = 0.026$, $F(2, 514) = 7.92$, $p < 0.001$. This is likely due to the non-normality of the data, even after transformation.

The second hypothesis was that trait aggression would be negatively correlated with violence sensitivity as found by Egan and Collyer (2012). Due to the non-normality of the data, the original violence severity mean (prior to emotion elicitation) was not significantly correlated with the initial trait aggression score, $r(515) = -0.03$, $p=0.48$, 95% CI [-0.117, 0.055]. However, when the mean of the median violence severity ratings was utilized, a significant small correlation was found, $r(515) = -0.13$, $p=.003$, 95% CI [-0.215, -0.046].

The third hypothesis was that the automatic story recall procedure would result in a greater difference in violence sensitivity than the film clip procedure. An independent samples t-test was run and found to not be significant, $t(515) = -0.11$, $p = 0.91$, 95% CI [-0.041, 0.037], $d = -0.01$. There was no effect based upon Cohen's (1992) conventions for effect size which was calculated using R3.01's compute.es package.

The fourth hypothesis was that the automatic story recall procedure would result in greater mood intensity in comparison to the film clip procedure. Welch's

independent samples t-tests were run on the Positive Affect Scale and Negative Affect Scale, separately. There was not a significant difference between the automatic story recall and film clip procedures on Positive Affect, $t(512.82) = 0.24$, $p = 0.81$, 95% CI [-1.47, 1.87], $d = 0.02$ (no effect). However, there was a significant difference between the automatic story recall and film clip procedures on Negative Affect, $t(513.66) = -2.44$, $p = 0.01$, 95% CI [-2.88, -0.31], $d = 0.21$ which is a small effect (Cohen, 1992). The hypothesis was partially supported; the ASR method resulted in greater mood intensity in comparison to the FC method with regards to negative affect only.

The fifth hypothesis was that there would be an effect of emotion elicitation on violence sensitivity. There was not a significant effect of emotion elicitation on violence sensitivity, $F(4, 512) = 2.24$, $p = 0.064$, $d = .14$. The hypothesis was not supported, such that emotion elicitation did not impact violence sensitivity.

The sixth hypothesis was that happiness and fear mood induction procedures would increase violence sensitivity relative to pre-elicitation levels. The seventh hypothesis was that anger and sadness mood induction procedures would decrease violence sensitivity relative to pre-elicitation levels. Paired t-tests were run on the five emotion groups separately. The only significant difference was in the happiness emotion elicitation group before (M = 1.949) and after elicitation (M= 1.971); Mdiff= -0.054, $t(98) = -2.55$, $p = 0.012$, 95% CI [-0.096, -0.012], $d = -0.52$ which was a medium effect size. The differences between pre-elicitation and post-elicitation violence sensitivity were not significant for the fear, Mdiff= -0.007, $t(109) = -0.527$, $p = 0.599$, 95% CI [-0.034, 0.020], d= -0.10; anger Mdiff= -0.004, $t(128) = -0.177$, $p = 0.860$, 95% CI [-0.051, -0.042], $d = -0.03$; sadness Mdiff= -0.019, $t(89) = -1.261$, p = -

.211, 95% CI [-0.050, 0.011], d = -0.27 ; and neutral Mdiff= 0.005, $t(88) = 0.390$, p = 0.697, 95% CI [-0.022, 0.033], d = .08 groups. The hypothesis was supported as violence sensitivity increased after elicitation for the happiness groups but were not significantly different for the other groups.

Additional Analyses

A median split was calculated to assess if there were differences between violence sensitive and violence tolerant individuals with regards to violence severity ratings, similar to Collyer and Melisi (2008) and Egan (2010). Figure 6 shows the mean of the median log ratings for the two groups before and after elicitation. Paired t-tests were run to assess group differences between violence-sensitive and violence-tolerant groups with regards to violence severity both pre-elicitation and post-elicitation. There was a significant difference between violence-sensitive and violent-tolerant groups at both pre-elicitation; Mdiff = -0.539, $t(516) = -25.460$, $p < 0.001$, 95% CI [-0.564, -0.483], d = -2.241 and post-elicitation; Mdiff = -0.523, t(516)= -27.084, < 0.001, 95% CI [-0.578, -0.499], d = 2.385; levels with regards to median violence severity ratings. The differences between the violence-sensitive and violent-tolerant groups had large effects according to Cohen (1992).

The effect sizes for the t-tests in this study were calculated using the following formula (Thalheimer & Cook, 2002):

$$d \approx \frac{2t}{\sqrt{\sqrt{\mathrm{n}-2}}}$$

The effect sizes for the F-test were calculated using an online calculator by Wilson (2014).

CHAPTER 7

DISCUSSION

This study aimed to assess the differences between emotion, aggression, and violence sensitivity. Trait aggression was found to be a mediator to the relationship between emotion and violence sensitivity. However, the results of this analysis must be viewed cautiously due to the non-normality of the data. Trait aggression was also negatively correlated to violence sensitivity, suggesting that the higher in trait aggression a person is the more tolerant to violence they are.

There were no differences found between the automatic story recall method and film clip procedure method with regards to violence sensitivity and positive affect score. However, positive emotions are more difficult to elicit, and mean differences hard to detect since individuals start at a higher positive affect overall. There was a significant difference in negative affect between the automatic story recall method and film clip procedure, meaning that the automatic story recall procedure elicited a greater intensity of negative emotions than the film clip procedure.

With regards to emotion elicitation, there were no significant differences between the five different emotion groups. This suggests that different emotions do not necessarily differentially affect perceptions towards violent behaviors. When comparing violence sensitivity before and after elicitation between emotion groups, happiness was the only emotion with a significant difference before and after. This suggests that the happiness emotion elicitation increased the violence sensitivity mean which is consistent with the original hypothesis. Finally, significant differences were

found between violence-sensitive and violence-tolerant groups consistent with previous findings by Collyer and Melisi (2008) and Egan (2010).

CHAPTER 8

SUMMARY AND FUTURE DIRECTIONS

While the relationship among emotions, aggression, and perceptions of violent behaviors were difficult to tease apart, this study provided a starting point for understanding how these three variables interact. Rather than assuming all individuals have a similar definition of violence, this study allowed a quantitative examination of a continuum of violence. This area of research has the potential to take account of individual differences in violence continuums, and so influence violence prevention strategies.

Finally, this study had several limitations that are important to note. The study utilized a convenience sample, so these findings cannot be directly generalized to other populations. Since there were a small number of individuals from diverse racial and ethnic populations who participated in this study, generalization cannot be made to those groups. Due to the non-normality of the data, results of this study may be skewed and therefore, must be examined with caution.

Future research could examine this concept of violence sensitivity with different racial, ethnic, and socioeconomic groups to assess if violence sensitivity responds to emotion elicitation in the same or different ways. The VSMES could also potentially be used to evaluate violence prevention efforts, to assess whether perceptions of violent behaviors have changed. This study suggested that explicit emotion elicitation experiences may not affect sensitivity to violence, and this provides useful guidance for teachers in the field of nonviolence education.

TABLES

Table 1: Sample Frequencies (n = 517)			
		n	*Percentage*
Gender	Female	361	69.83
	Male	155	29.93
	Other	1	0.19
Age	18	315	60.93
	19	136	26.31
	20	51	9.86
	21	10	1.93
	22+	5	0.97
Race/Ethnicity	White	383	74.08
	Hispanic	48	9.28
	African-American	28	5.42
	Asian	21	4.06
	American Indian/Pacific Islander	4	0.77
	Other	33	6.38
Class Status	Freshman	349	67.50
	Sophomore	121	23.40
	Junior	35	6.77
	Senior	9	1.74
	Other	3	0.58
Political Affiliation	No Political Affiliation	233	45.07
	Democrat	123	23.79
	Republican	82	15.86
	Independent	79	15.28

Table 2: Emotion Elicitation Conditions			
Emotion Elicitation Method	*Emotion*	*n*	*Percentage*
Automatic Story Recall (ASR)	Happy	53	10.25
	Sad	40	7.74
	Fear	65	12.57
	Anger	63	12.19
	Neutral	25	4.84
	Total	246	47.58
Film Clip Procedure (FC)	Happy	46	8.90
	Sad	50	9.67
	Fear	45	8.70
	Anger	66	12.77
	Neutral	64	12.38
	Total	271	52.42
Overall Total		517	100.00

Table 3: Descriptive Statistics for Violence Severity Variables

Variable	*M*	*SD*	Skewness	Kurtosis
VS Pre-Test Mean (raw)	957661.95	12069538.60	17.97	357.17
VS Post-Test Mean (raw)	721745.24	7881477.03	14.36	233.07
VS Pre-Test Mean (log)	2.33	0.89	4.39	20.95
VS Post-Test Mean (log)	2.38	0.91	4.03	17.54
VS Pre-Test Median (raw)	117.85	80.51	5.56	38.74
VS Post-Test Median (raw)	123.89	92.98	6.89	60.97
VS Pre-Test Median (log)	2.02	0.20	-0.21	9.82
VS Post-Test Median (log)	2.04	0.22	-2.32	28.48

Note. VS Mean is the average of the individual mean violence severity ratings. VS Median is the average of the individual median violence severity ratings.

Table 4: Regression Analyses

Mediation Analysis Step 1 (Emotion Condition predicts Violence Severity Rating)

Variable	β	SE	*T*	*P*
Emotion	0.015	0.007	2.223	0.03*
Adjusted R^2 = 0.008				

Mediation Analysis Step 2 (Emotion Condition predicts Trait Aggression Score)

Variable	β	SE	*T*	*p*
Emotion	-0.552	0.286	-1.934	0.05*
Adjusted R^2 = 0.005				

Mediation Analysis Step 3 (Emotion and Trait Aggression predicts Violence Severity)

Variable	β	SE	*T*	*p*
Emotion	0.013	0.007	1.957	0.05*
AggSco	-0.003	0.001	-3.287	0.001*
Adjusted R^2 = 0.026				

*$p < .05$

FIGURES

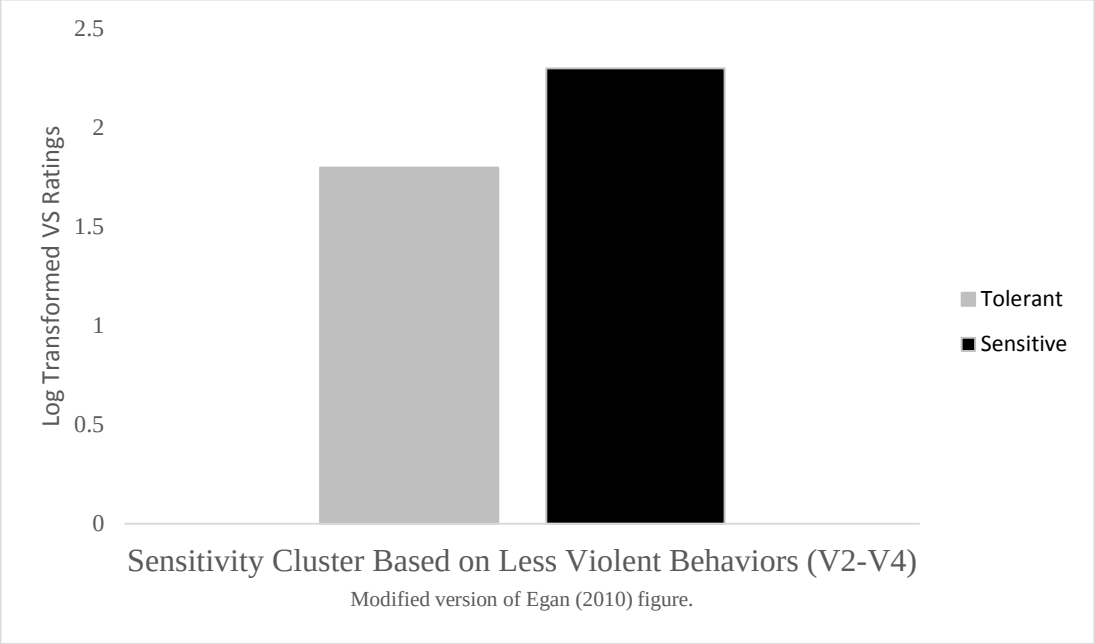

Figure 1: Egan (2010) Replication of Collyer & Melisi (2008) VSMES Results

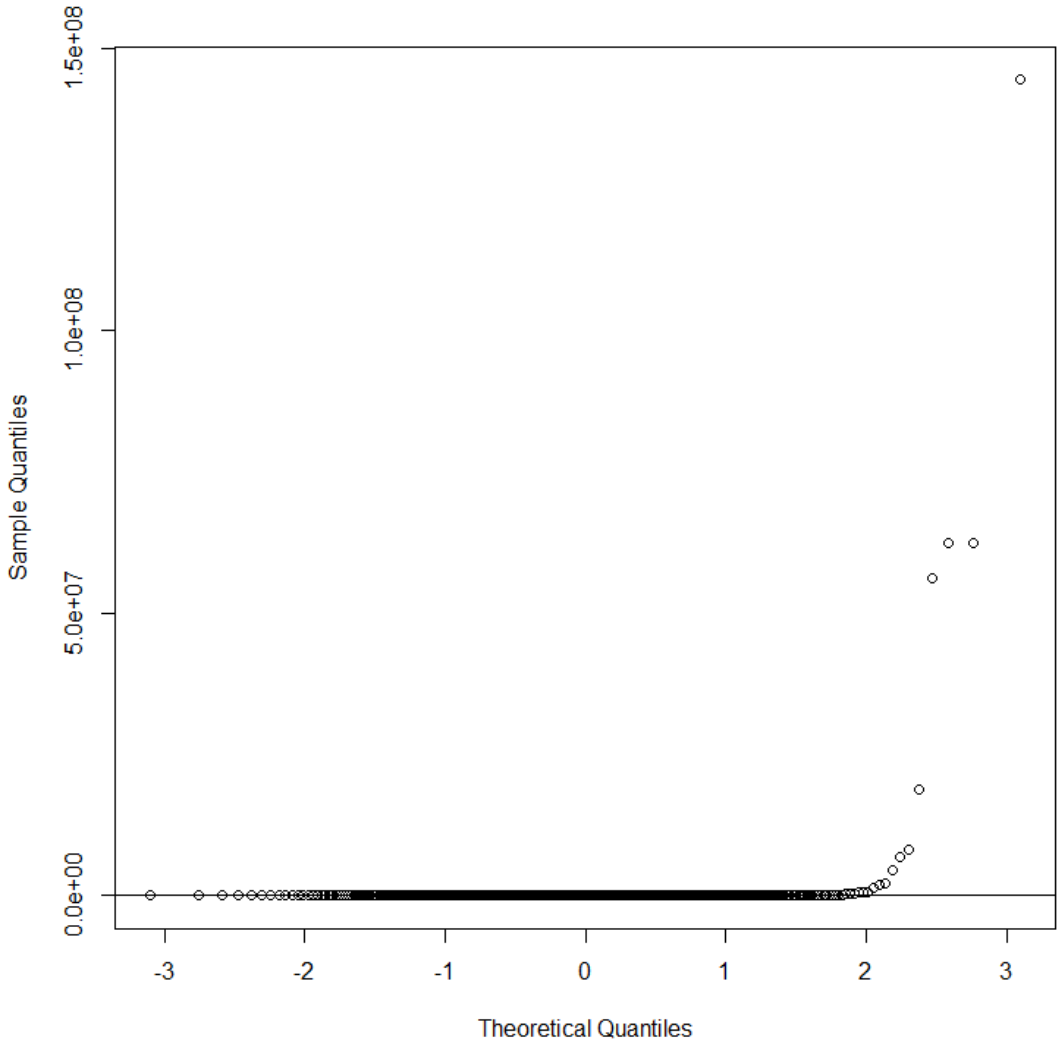

Figure 2: Q-Q Plot Violence Severity Average of Mean Ratings after Elicitation

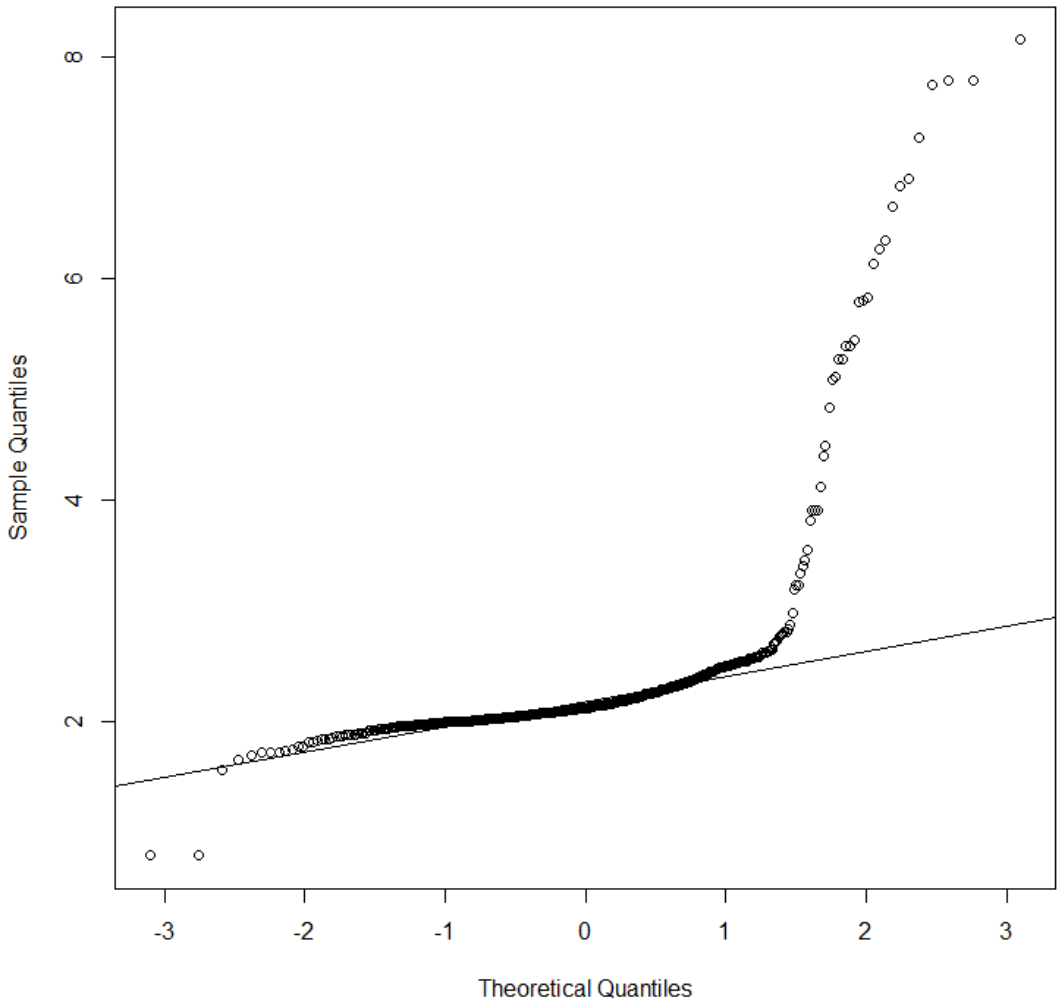

Figure 3: Q-Q Plot Violence Severity Average of Mean Ratings after Elicitation Log

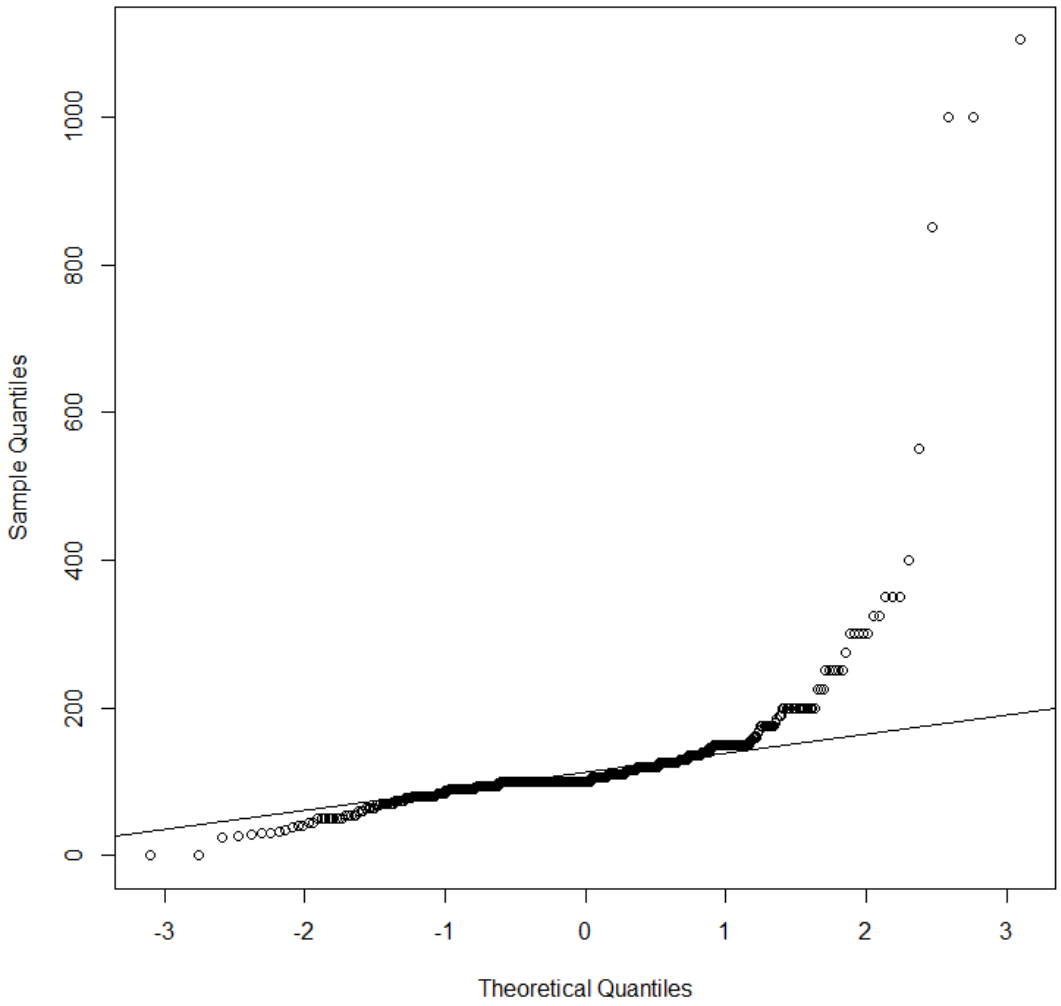

Figure 4: Q-Q Plot Violence Severity Average of Median Ratings after Elicitation

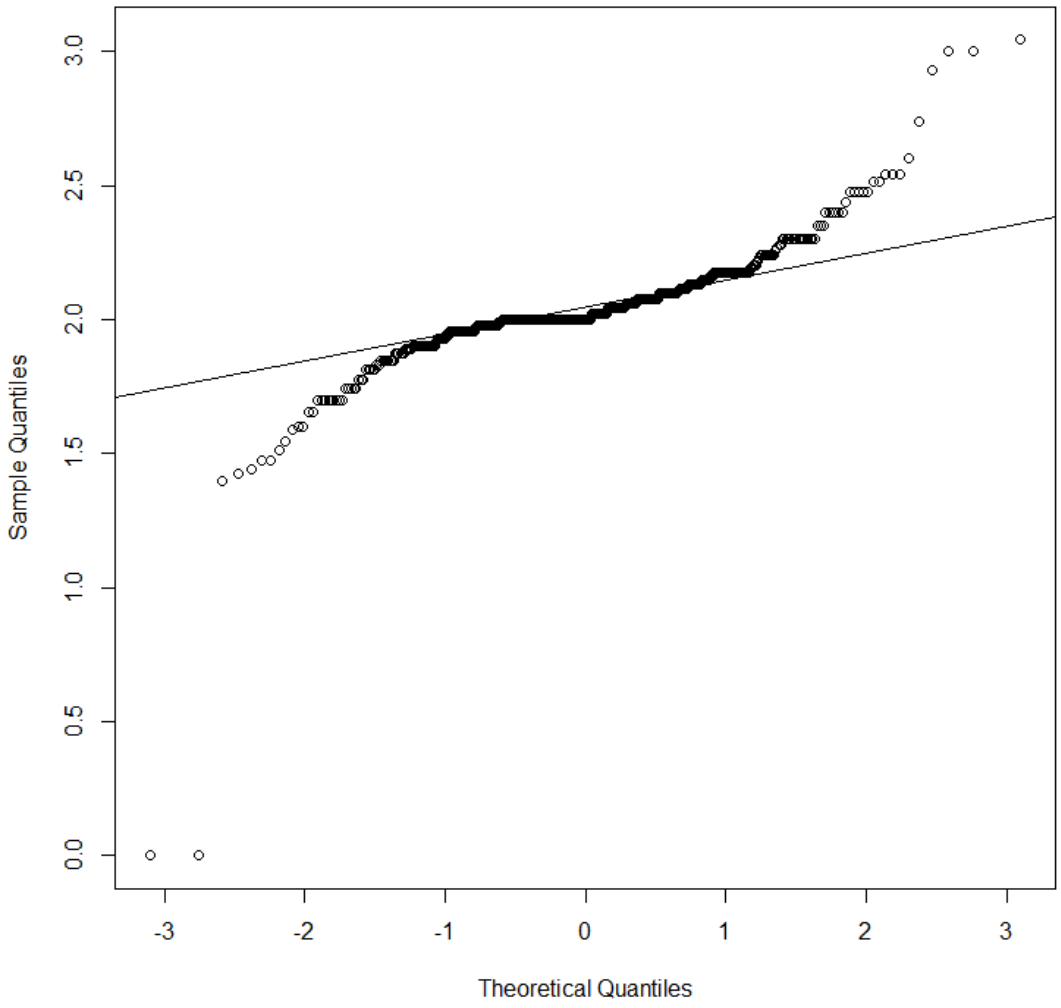

Figure 5: Q-Q Plot Violence Severity Average of Median Ratings after Elicitation

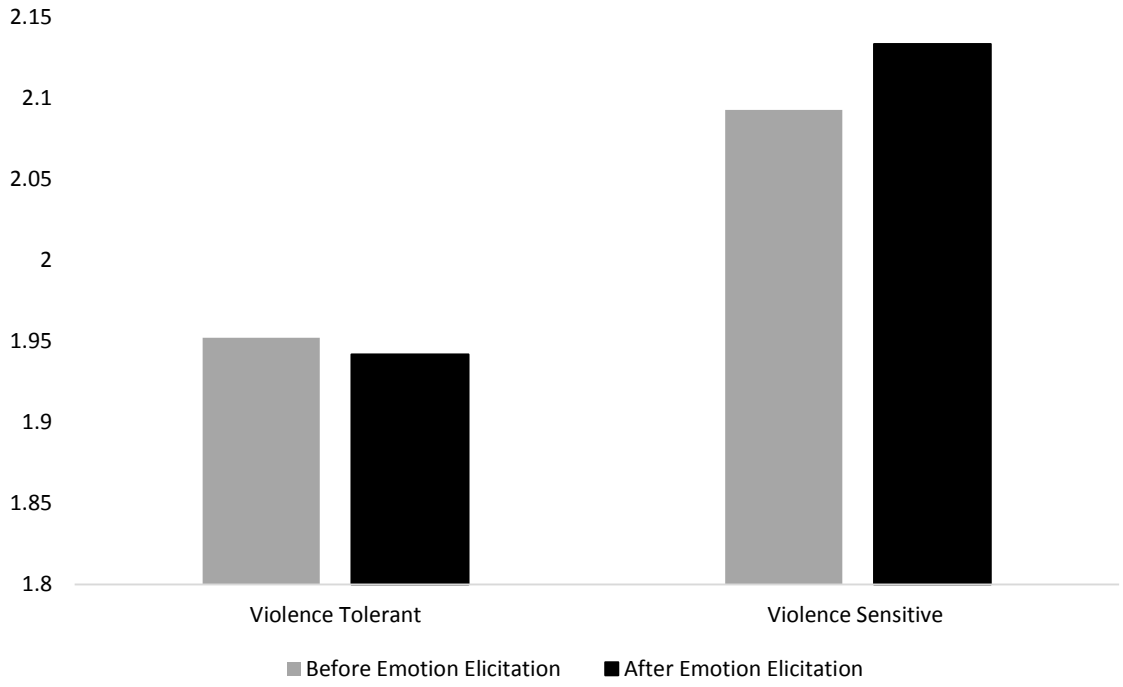

Figure 6. Log Transformed Violence Severity Means of Median Ratings) Before & After Elicitation

APPENDIX A

Survey Given to Participants via SurveyMonkey

Informed Consent

Participants will be shown this page upon entering the survey. Consent of the participant will be indicated by completion of the survey. Participants are allowed to exit the survey at any time.

INFORMED CONSENT FORM - Anonymous Research

The University of Rhode Island
Department of: Psychology
Address: 10 Chafee Road, Suite 8
Title of Project: Personal Perspectives and Experiences with Violence

PRINT AND KEEP THIS FORM FOR YOURSELF

Dear Participant:

You have been invited to participate in the research project described below. This research project is being conducted by a researcher at the University of Rhode Island to fulfill the requirements for a master's degree in Psychology. If you have any questions, please feel free to call **Justine Egan** or **Charles Collyer, Ph.D.**, the people mainly responsible for this study.

The purpose of this study is to better understand individual differences in attitudes toward violence. Responses to the questions will be anonymous. The data will be encrypted and only Charles Collyer and Justine Egan will have access to the data.

YOU MUST BE AT LEAST 18 YEARS OLD to participate in this research project.

If you decide to take part in this study, your participation will involve filling out an online survey pertaining to violence-related beliefs and experiences.

The possible risks or discomforts of the study are minimal. Please note that there may be use of strong language throughout the survey.

Although there are no direct benefits of the study, your answers will help increase knowledge regarding how people vary in their attitudes toward violence.

Your part in this study is anonymous. That means that your answers to all questions are private. No one else can know if you participated in this study or find out what your answers were. Scientific reports will be based on group data and will not identify you or any individual as being in this project.

The decision to participate in this research project is up to you. The decision to participate in this research project is up to you. You do not have to participate and you can exit the survey at any time if you are uncomfortable with answering any question.

Participation in this study is not expected to be harmful or injurious to you. However, if this study causes you any injury, you should write or call **Charles Collyer, Ph.D.** at the University of Rhode Island at 401-874-4227 or 401-258-9834.

If you have other concerns about this study or if you have questions about your rights as a research participant, you may contact the University of Rhode Island's Vice President for Research, Dr. Peter Alfonso, 70 Lower College Road, Suite 2, URI, Kingston, RI, (401) 874-4328.

You are at least 18 years old. You have read the consent form and your questions have been answered to your satisfaction. Filling out the survey implies your consent to participate in this study.

Thank you,
Charles E. Collyer, Ph.D., Professor of Psychology, URI
Justine Egan, Behavioral Science Master's Student, URI

Survey

The following survey was be given to participants. The differential procedures for each induction condition are detailed throughout.

Demographic Questions

Please answer the following questions about yourself.

1. Gender
___Male
___Female
___Other _____ (please specify)

2. Age____

3. Race (check as many that apply)
__White
__Hispanic
__African-American
__Asian
__American Indian/Alaskan Native
__Native Hawaiian/Other Pacific Islander
__Other_____ (please specify)

4. You are classified (according to your number of credits) as a:

__Freshman
__Sophomore
__Junior
__Senior
__Other _____ (please specify)

5. What is your political affiliation?
___Republican
___Independent
___Democrat
___No political affiliation
___Other_____ (please specify)

6. What is your major?
_____

Buss Perry Aggression Questionnaire – Short Form (BPAQ-SF) (before elicitation)

Please rate the following items on a scale from 1 (very unlike me) to 5 (very like me).

1. Given enough provocation, I may hit another person.

very unlike me___ somewhat unlike me___ neutral___ somewhat like me___ very like me___

1 2 3 4 5

2. I often find myself disagreeing with people.

very unlike me___ somewhat unlike me___ neutral___ somewhat like me___ very like me___

1 2 3 4 5

3. At times I feel I have gotten a raw deal out of life.

very unlike me___ somewhat unlike me___ neutral___ somewhat like me___ very like me___

1 2 3 4 5

4. There are people who have pushed me so far that we have come to blows.

very unlike me___ somewhat unlike me___ neutral___ somewhat like me___ very like me___

1 2 3 4 5

5. I can't help getting into arguments when people disagree with me.

very unlike me___ somewhat unlike me___ neutral___ somewhat like me___ very like me___

1 2 3 4 5

6. Sometimes I fly off the handle for no good reason.

very unlike me___ somewhat unlike me___ neutral___ somewhat like me___ very like me___

1 2 3 4 5

7. Other people always seem to get the breaks.

very unlike me___ somewhat unlike me___ neutral___ somewhat like me___ very like me___

1 2 3 4 5

8. I have threatened people I know.

very unlike me___ somewhat unlike me___ neutral___ somewhat like me___ very like me___

1 2 3 4 5

9. My friends say that I'm somewhat argumentative.

very unlike me___ somewhat unlike me___ neutral___ somewhat like me___ very like me___

1 2 3 4 5

10. I have trouble controlling my temper.

very unlike me___ somewhat unlike me___ neutral___ somewhat like me___ very like me___

1 2 3 4 5

11. I wonder why sometimes I feel so bitter about things.

very unlike me___ somewhat unlike me___ neutral___ somewhat like me___ very like me___

1 2 3 4 5

12. I sometimes feel like a powder keg ready to explode.

very unlike me___ somewhat unlike me___ neutral___ somewhat like me___ very like me___

1 2 3 4 5

Positive and Negative Affect Schedule – Short Form (PANAS-SF) (before elicitation manipulation check)

The scale consists of a number of words that describe different feelings and emotions. Read each item and then list the number from the scale below next to each word. **Indicate to what extent you feel this way right now, that is, at the present moment on a scale from (1) Very Slightly or Not At All to (5) Extremely.**

1	2	3	4	5
Very Slightly or Not At All	A Little	Moderately	Quite a Bit	Extremely

1. Interested_____
2. Upset_____
3. Strong_____
4. Scared_____
5. Proud_____
6. Irritable_____
7. Inspired_____
8. Nervous_____
9. Attentive_____
10. Afraid_____
11. Excited_____
12. Enthusiastic_____
13. Alert_____
14. Determined_____
15. Active_____
16. Distressed_____
17. Guilty_____
18. Hostile_____
19. Ashamed_____
20. Jittery_____

Violence Sensitivity Magnitude Estimation Scale (VSMES) (before elicitation)

We would like to know your opinions on various behaviors. Please rate each act by thinking about this question: "How violent is this?" Use "Grabbing" as a reference point, and label it 100. You should rate each act in relation to this point, with no numerical restrictions. For example, if "grabbing" is 100 you could rate "bullying" as higher (example: 120) or lower (example: 80) than "grabbing". Please enter ratings into the text boxes* below.

<----------> (Grabbing = 100)

Murder____
Slapping____
Manipulation____
Vandalism____
Rudeness____
Staring____
Screaming____
Stabbing____
Profanity____
Execution____
Bullying____
Hitting____
Kidnapping____
Robbery____

Gossip____

**Note: Textboxes will be present on the SurveyMonkey page for participants.*

PLEASE TAKE THE NEXT MINUTE AND CLEAR YOUR MIND OF ANY THOUGHTS OR DISTRACTIONS.

Emotion Elicitation

Before elicitation, each condition will see a blank page for 40 seconds and will be asked to clear their minds.

Automatic Story Recall Emotion Elicitation Procedure

Participants will be asked to recall two events (with the exception of the neutral group) which in which they felt the specified emotion. Refer to the following detailed instructions.

Anger

Please recall a time in your life in which you felt angry. Try to remember how you felt in at least that exact moment. Please describe the event in two complete sentences.

Please recall a time in your life (different from the previous one) in which you felt angry. Try to remember how you felt in that exact moment. Please describe the event in at least two complete sentences.

Fear

Please recall a time in your life in which you felt fear. Try to remember how you felt in that exact moment. Please describe the event in at least two complete sentences.

Please recall another time in your life (different from the previous one) in which you felt fear. Try to remember how you felt in that exact moment. Please describe the event in at least two complete sentences.

Sadness

Please recall a time in your life in which you felt sadness. Try to remember how you felt in that exact moment. Please describe the event in two complete sentences.

Please recall another time in your life (different from the previous one) in which you felt sadness. Try to remember how you felt in that exact moment. Please describe the event in two complete sentences.

Happiness

Please recall a time in your life in which you felt happy. Try to remember how you felt in that exact moment. Please describe the event in two complete sentences.

Please recall another time in your life (different from the previous one) in which you felt happy. Try to remember how you felt in that exact moment. Please describe the event in two complete sentences.

Neutral
Please describe a typical day for yourself in four complete sentences.

Film Clip Emotion Elicitation Procedure

Participants will be asked to watch two different film clips according to the specified emotion. Refer to the following detailed instructions.

Anger
Please watch the following film clips and keep in mind how you feel while watching the clips.

Film: Crash (2004)
Video Clip: http://www.youtube.com/watch?v=EtvbEtPIGiA
Video Length: 3min 5sec

Film: Gandhi (1982)
Video Clip: http://www.youtube.com/watch?v=SNmJqRV7LOA
Video Length: 3min 35sec

Fear
Please watch the following film clips and keep in mind how you feel while watching the clips.

Film: Halloween (1978)
Video Clip:
http://www.youtube.com/watch?feature=endscreen&v=vmbvdeG49MI&NR=1
Video Length: 5min 35sec

Film: Silence of the Lambs (1991)
Video Clip: http://www.youtube.com/watch?v=Sl5fM24mfRk
Video Length: 2min 2sec

Sadness
Please watch the following film clips and keep in mind how you feel while watching the clips.

Film: The Killing Fields (1984)
Video Clip: http://www.youtube.com/watch?v=nFQY1H7TVV8
Video Length: 2min 35sec

Film: Crash (2004)
Video Clip: http://www.youtube.com/watch?v=L-iyxIincCI

Video Length: 2min 45sec

Happiness
Please watch the following film clips and keep in mind how you feel while watching the clips.

Film: When Harry Met Sally (1989)
Video Clip: http://www.youtube.com/watch?v=F-bsf2x-aeE
Video Length: 2min 35sec

Film: Bridesmaids (2011)
Video Clip: http://www.youtube.com/watch?v=c0yDQvRQQ4E
Video Length: 3min 33sec

Neutral
Please watch the following film clip.

Film: Killer Jellyfish
Video Clip: http://www.youtube.com/watch?v=e0xZgygu1vg
Video Length: 5min 32sec

Violence Sensitivity Magnitude Estimation Scale (VSMES) (after elicitation)

Again we would like to know your opinions on various behaviors. As you did before, please rate each act by thinking about this question: "How violent is this?" This time use "Pushing" as a reference point, and label it 100. You should rate each act in relation to this point, with no numerical restrictions. For example, if "pushing" is 100 you could rate "fighting" as higher (example: 120) or lower (example: 80) than "pushing". Please enter ratings into the text boxes below.

<----------> (Pushing = 100)

Dragging___
Murder____
Verbal Rage___
Stealing____
Rape____
Fighting___
Yelling___
Sabotage____
Execution____
Throwing Things____
Exploitation____
Insults____
Shooting____
Cursing____

Competition____

Positive and Negative Affect Schedule – Short Form (PANAS-SF) (after elicitation manipulation check)

The scale consists of a number of words that describe different feelings and emotions. Read each item and then list the number from the scale below next to each word. **Indicate to what extent you feel this way right now, that is, at the present moment on a scale from (1) Very Slightly or Not At All to (5) Extremely.**

1	2	3	4	5
Very Slightly or Not At All	A Little	Moderately	Quite a Bit	Extremely

1. Interested_____
2. Upset_____
3. Strong_____
4. Scared_____
5. Proud_____
6. Irritable_____
7. Inspired_____
8. Nervous_____
9. Attentive_____
10. Afraid_____
11. Excited_____
12. Enthusiastic_____
13. Alert_____
14. Determined_____
15. Active_____
16. Distressed_____
17. Guilty_____
18. Hostile_____
19. Ashamed_____
20. Jittery_____

Buss Perry Aggression Questionnaire – Short Form (BPAQ-SF) (after elicitation)
Please rate the following items on a scale from 1 (very unlike me) to 5 (very like me).

1. Given enough provocation, I may hit another person.

very unlike me___ somewhat unlike me___ neutral___ somewhat like me___ very like me___

1	2	3	4	5

2. I often find myself disagreeing with people.

very unlike me___ somewhat unlike me___ neutral___ somewhat like me___ very like me___

1 2 3 4 5

3. At times I feel I have gotten a raw deal out of life.

very unlike me___ somewhat unlike me___ neutral___ somewhat like me___ very like me___

1 2 3 4 5

4. There are people who have pushed me so far that we have come to blows.

very unlike me___ somewhat unlike me___ neutral___ somewhat like me___ very like me___

1 2 3 4 5

5. I can't help getting into arguments when people disagree with me.

very unlike me___ somewhat unlike me___ neutral___ somewhat like me___ very like me___

1 2 3 4 5

6. Sometimes I fly off the handle for no good reason.

very unlike me___ somewhat unlike me___ neutral___ somewhat like me___ very like me___

1 2 3 4 5

7. Other people always seem to get the breaks.

very unlike me___ somewhat unlike me___ neutral___ somewhat like me___ very like me___

1 2 3 4 5

8. I have threatened people I know.

very unlike me___ somewhat unlike me___ neutral___ somewhat like me___ very like me___

1 2 3 4 5

9. My friends say that I'm somewhat argumentative.

very unlike me___ somewhat unlike me___ neutral___ somewhat like me___ very like me___

1 2 3 4 5

10. I have trouble controlling my temper.

very unlike me___ somewhat unlike me___ neutral___ somewhat like me___ very like me___

1 2 3 4 5

11. I wonder why sometimes I feel so bitter about things.

very unlike me___ somewhat unlike me___ neutral___ somewhat like me___ very like me___

1 2 3 4 5

12. I sometimes feel like a powder keg ready to explode.

very unlike me___ somewhat unlike me___ neutral___ somewhat like me___ very like me___

1 2 3 4 5

Happiness Emotion Elicitation given to those in the Anger, Fear, and Sadness Mood Induction conditions

Applies to Film Clip Elicitation Procedure ONLY
This question assessed any previous exposure to the film clips shown.

Happiness Film Clip Elicitation:

Have you seen any of the film clips shown previously, meaning before taking the survey (please select all that apply?

Bridesmaids
When Harry Met Sally
None of the above

Fear Film Clip Elicitation:

Have you seen any of the film clips shown previously, meaning before taking the survey (please select all that apply?

Halloween
Silence of the Lambs
Bridesmaids
When Harry Met Sally
None of the above

Sadness Film Clip Elicitation:

Have you seen any of the film clips shown previously, meaning before taking the survey (please select all that apply)?

Crash
The Killing Fields
Bridesmaids
When Harry Met Sally
None of the above

Anger Film Clip Elicitation:

Have you seen any of the film clips shown previously, meaning before taking the survey (please select all that apply?

Crash
Gandhi
Bridesmaids
When Harry Met Sally
None of the above

Neutral Film Clip Elicitation:

Have you seen the film clip shown previously, meaning before taking the survey?

Yes

No

Debriefing

This research focuses on thoughts and feelings related to violence. You answered some questions designed to measure aggression, attributes which vary from person to person. You also answered some questions about your involvement in violent behaviors. Some participants watched film clips or recalled events designed to put them in a positive mood. Other participants watched film clips or recalled events designed to put them in a tense mood. Finally, other participants watched a neutral film clip or were asked to describe a typical day. You rated some behaviors on their degree of violence in order to measure shifts in sensitivity to violence. Those in the negative mood conditions ended with a positive mood experience. If you have any questions, please contact either of the investigators: Dr. Charles Collyer (collyer@uri.edu, 401-258-9834) or Ms. Justine Egan (justine_egan@my.uri.edu). If you have concerns about this research and would prefer to talk with a University representative, please contact the Vice President for Research and Economic Development, Dr. Peter Alfonso (peteralfonso@uri.edu, 401-874-4576).

Thank you for your participation in this research study.

If you are completing this study for extra credit, please print off the page, sign it, and give it to your T.A. or professor.

Student signature_____

BIBLIOGRAPHY

Aldenderfer, M.S., & Blashfield, R.K. (1984). *Cluster Analysis.* Newbury Park, CA:Sage.

Baron, R.M., & Kenny, D.A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology, Vol 51(6),* 1173-1182. Doi:10.1037/0022-3514.51.6.1173.

Brewer, D., Doughtie, E.B., & Lubin, B. (1980). Induction of Mood and Mood Shift. *Journal of Clinical Psychology, 36(1),* 215-226. DOI:10.1002/1097-4679(1980001)36.1<215;;AID-JCLP2279360127>3.0.CO;2-6.

Brell, A. (2007). Beliefs of violence-sensitive and violence-tolerant people. Senior Honors Thesis, University of Rhode Island.

Bryant, F.B., & Smith, B.D. (2001). Refining the architecture of aggression: A measurement model for the Buss-Perry Aggression Questionnaire. *Journal of Research in Personality, 35,* 138-167. DOI:10.1006/jrpe.2000.2302.

Buss, A.H., & Perry, M. (1992). The aggression questionnaire. *Journal of Personality and Social Psychology, 63(3),* 452-459. DOI:10.1037/0002-3514.63.3.452.

Clark, D. M. (1983). On the induction of depressed mood in the laboratory: Evaluation and comparison of Uie Velten and musical procedures. *Advanced Behavior Research and Therapy, 5,* 27-9. DOI:10.1016/0146-6402(83)90014-0.

Clark, D. M., & Teasdale, J. D. (1985). Constraints of the effects of mood on memory. *Journal of Personality and Social Psychology, 48,* 1595-1608. DOI:10.1037/0002-3514.48.6.1595.

Cohen, J. (1992). A power primer. *Quantitative Methods in Psychology, 112(1),* 155-159. No doi provided.

Collyer, C.E., Gallo, F.J., Corey, J., Waters D., & Boney-McCoy, S. (2007). Typology of violence derived from ratings of severity and provocation. *Perceptual and Motor Skills, 104,* 637-653. DOI:102466/pms.104.2.637-653.

Collyer, C.E., & Melisi, J. (2008). Sensitive and tolerant individuals differ in their magnitude estimates of extremely violent behaviors. *Perceptual and Motor Skills, 106,* 759-762. DOI:10.2466/pms.106.3.759.762.

Collyer, C.E., Johnson, K.L., Bueno de Mesquita, P., Palazzo, L.A., & Jordan, D.

(2010). Sensitivity to violence measured by ratings of severity increases after nonviolence training. *Perceptual and Motor Skills, 110(1),*48-60. DOI:10.2466/pms.110.1.48-60.

Collyer, C.E., Brell, A., Moster, A., & Furey, J. (2011). Individual differences in sensitivity to violence. *Perceptual and Motor Skills, 113(3),* 703-714. DOI:10.2466/07.17.21.PMS.113.6.703-714.

Corey, Jonathan (2008). A concurrent validation of the violence sensitivity scale. (Doctoral Dissertation). Retrieved from ProQuest Dissertations and Theses. UMI Number: 3446847.

Crawford, J.R., & Henry, J.D. (2004). The Positive and Negative Affect Schedule (PANAS): Construct validity, measurement properties and normative data in a larger non-clinical sample. *British Journal of Clinical Psychology, 43*, 245-265.

Crocker, P.R.E. (1997). A confirmatory factor analysis of the Positive Affect Negative Affect Schedule (PANAS) with a youth sport sample. *Journal of Sport & Exercise Psychology, 19(1),* 91-97.

Damasio, A.R., Grabowski, T.J., Bechara, A., Damasio, H., Ponto, L.L.B., Parvizi, J., & Hichwa, R.D. (2000). Subcortical and cortical brain activity during the feeling of self-generated emotions. *Nature Neuroscience, 3(10),* 1049-1056.

Diamond, P.M., & Magaletta, P.R. (2006). The Short-Form Buss-Perry Aggression Questionnaire (BPAQ-SF): A validation study with federal offenders. *Assessment, 13(3),* 227-240. DOI:10.1177/1073191106287666.

Egan, J.N. (2010). Are violence-tolerant individuals more susceptible to involvement in violent/risky behaviors? Senior Honors Thesis, University of Rhode Island.

Egan, J.N., & Collyer, C.E. (2012, October). *Violence Sensitivity and Affect.* Poster presented at the annual meeting of the New England Psychological Association. Worchester, MA.

Ekkekakis, P. (2013). The measurement of affect, mood, and emotion: A guide for health-behavioral research. Cambridge CB2 8RU, UK: Cambridge University Press.

Gençöz, T., & Dergisi, T.P. (2000). Positive and Negative Affect Schedule: A study of validity and reliability. *15(46),* 19-28. *Türk Psikologlar Derneği, 15(46),* 19-28.

Gross, J.J., & Levenson, R.W. (1995). Emotion elicitation using films. *Cognition and Emotion, 9(1),* 87-108. DOI:10.1080/02699939508408966.

Harrison, B.J., Pujol, J., Ortiz, H., Fornito, A., Pantelis, C., & Yücel, M. (2008). Modulation of brain-resting state networks by sad mood induction. *PLoS ONE, 3(3),* e1794, 1-12. DOI:10.1371/journal.pone.0001794.

Hewig, J., Hagemann, D., Seifert, J., Gollwitzer, M., Naumann, E., & Bartussek, D. (2005). A revised film set for the induction of basic emotions. *Cognition and Emotion, 19(7),* 1095-1109. DOI:10.1080/02699930541000084.

Kenealy, P.M. (1986). The Velten mood induction procedure: A methodological review. *Motivation and Emotion, 10(4),* 315-335. DOI:10.1007/BF00992107.

Martin, M. (1990). On the induction of mood. *Clinical Psychology Review,* 10, 669-697. DOI:10.1016/0272-7358(90)90075-L.

Mayer, J., Allen, J.P., & Beauregard, K. (1995). Mood inductions for four specific moods: A procedure employing guided imagery vignettes with music. *Journal of Mental Imagery, 19(1&2),* 133-150.

Melvin, G.A., & Molloy, G.N. (2000) Some psychometric properties of the Positive and Negative Affect Schedule among Australian youth. *Psychological Reports, 86(3Pt2),* 1209-1212. DOI: 10.2466/pr0.2000.86.3c.1209

Phan, K.L., Wager, T., Taylor, S.F., & Liberzon, I. (2002). Functional neuroanatomy of emotion: A meta-analysis of emotion activation studies in PET and fMRI. *NeuroImage, 16,* 331-348. DOI:10.1006/nimg.2002.1087.

Polivy, J., & Doyle, C. (1980). Laboratory induction of mood states through the reading of self-referent mood statements: Affective changes or demand characteristics? *Journal of Abnormal Psychology, 89(2),* 286-290. DOI:10.1037/0021-843X.89.2.286.

Raney, A., & Depalma, A. (2006). The effect of viewing varying levels and contexts of violent sports programing on enjoyment, mood, and perceived violence. *Mass Communication and Society, 9(3),* 321-338. DOI: 10.1207/s15327825mcs0903_4.

Rottenberg, J., Ray, R.D., & Gross, J.J. (2007). Emotion elicitation using films. In J. Coan and J. Allen (Eds.) *Handbook of emotion elicitation and assessment* (pp. 106-123). New York, NY: Oxford University Press.

Salas, C.E., Radovic, D., &Turnbull, O.H. (2012). Inside-out: Comparing internally generated and externally generated basic emotions. *Emotion, 12(3),* 568-578. DOI: 10.1037/a0025811.

Schmukle, S.C., Egloff, B., & Burns, L.R. (2002). The relationship between positive

and negative affect in the Positive and Negative Affect Schedule, *36(5),* 463-475. DOI: 10.1016/S0092-6566(02)00007-7.

Stevens, S.S. (1957). On the psychophysical law. *The Psychological Review, 64(3),* 153-182. DOI:10.1037/h0046162.

Stevens, S.S. (1961). To honor Fechner and repeal his law. *Science, 133,* 80-86. DOI:10.1126/science.133.3446.80.

Stevens. S.S. (1962). The surprising simplicity of sensory metrics. *American Psychologist, 17(1),* 29-39. DOI:10.1037/h0045795.

Thalheimer, W. & Cook, S. (2002). How to calculate effect sizes from published research: A simplified methodology. *Work-Learning Research.*

Turnbull, O.H., Evans, C.E.Y., & Owen, V. (2005). Negative emotions and anosognosia. *Cortex: A Journal Devoted to the Study of the Nervous System and Behavior, 40(1),* 67-75. DOI:10.1016/S0010-9452(08)70179-6.

Velten Jr., E. (1968). A laboratory task for induction of mood states. *Behavior Research and Therapy, 6,* 473-482. DOI:10.1016/0005-7967(68)90028-4.

Verheyen, C., & Goritz, A.S. (2009). Plain texts as an online mood-induction procedure. *Social Psychology, 40(1),* 6-15. DOI:10.1027/1864-9335.40.1.6.

Watson, D., Clark, L. A., & Tellegan, A. (1988). Development and validation of brief measures of positive and negative affect The PANAS scales. *Journal of Personality and Social Psychology, 54(6),* 1063–1070. DOI:10.1037/0022-3514.54.6.1063.

Westermann, R., Spies, K., Stahl, G., & Hesse, F.W. (1996). Relative effectiveness and validity of mood induction procedures: A meta-analysis. *European Journal of Social Psychology, 26,* 557-580. DOI:10.1002/(SICI)1099-0992(199607)26:4<557::AIDEJSP769>3.0.CO;2-4.

Wilson, D.B. Practical Meta-Analysis Effect Size Calculator, George Mason University. Retrieved on November 1, 2014 from http://www.campbellcollaboration.org/escalc/html/EffectSizeCalculator-SMD4.php.

Zevon, M.A., & Tellegan, A. (1982). The structure of mood change: An idiographic/nomothetic analysis. *Journal of Personality and Social Psychology, 43(1),* 111-122. DOI:10.1037/0022-3514.43.1.111