

Do Fear Appeals Increase Persuasion? Influence of Loss- Versus Gain-Framed Diversity Messages

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Abstract

Diversity acceptance has become an important component and concern to higher education systems in preparing students to function effectively in real world settings. Persuasion by message framing may be the most current and effective way to encourage positive attitudes and behaviors regarding the topic of diversity. The purpose of this study is to measure the persuasive nature of fear appeals in response to gain- and loss-framed diversity messages. 99 undergraduate students at Westminster College were randomly induced with a happy, fearful, sad, or neutral mood, and then asked to read gain- or loss-framed messages pertaining to diversity. The Miami University Diversity Awareness Scale (MUDAS) was administered immediately after the framed messages. Following this scale, motivation was measured through the BIS/BAS Scale. A behavioral diversity activity follow-up survey was also conducted to see if students were more inclined to participate in diversity-related events after the study. Results showed that neutral mood participants were more susceptible to message framing than those who were induced with a specific emotion. Interestingly, these specific emotions appeared to neutralize the framing effects. It was also seen that motivation played an important role in participation in diversity-related activities after the study. The follow-up survey revealed strong evidence that individuals in the fearful condition were most inclined to participate in diversity-related activities compared to the other conditions. Persuasive messages are seen to arouse the emotion of fear, creating an unpleasant state that then causes the individual to become more motivated through the BIS/BAS. These findings help to support the idea that fear is a successful means to influencing the attitudes or behaviors of an individual into participating in more diverse activities to reduce or remove this state of being.

Keywords: Gain- framed message, Loss- framed message, Fear appeals

1. Introduction

Diversity acceptance has become an important component and concern to higher education systems in preparing students to function effectively in real world settings. Persuasion by message framing may be the most current and effective way to encourage positive attitudes and behaviors regarding the topic of diversity^{5, 15, 36, 31}. Persuasive communication often has a strong impact on attitudes and behavior. It is particularly effective when the message frame matches a targeted attitude. When the direction of the frame and attitude is matched with the correct message, persuasion can be extremely effective in changing a target attitude or behavior⁸. The impact of emotions on persuasion is essential to understanding this result. Research supports that recipients in a good mood are more persuaded by a message than those in a bad mood^{11, 18, 29}. This is because recipients in a good mood tend to report more favorable attitudes toward issues contained in a persuasive message due to their tendency to have less harsh criteria to meet and more positive associations to the message within this emotional state³. A person's specific mood paired with framed messages can influence high levels of persuasion in individuals.

By adding fear appeals to a message, persuasion can be even greater regardless of the message quality²⁴. When individuals are presented with a threatening message, they tend to be motivated to find a response to remove the threat. If fear is high, it should result in high persuasion¹⁰. Moreover, fear appeals should be tailored to create just

enough fear that the individual wants to be rid of the danger and not resort to a more extreme tactic, such as harming the source of fear.

The behavioral inhibition system (BIS) and behavioral activation system (BAS) are good predictors of effective mood and message pairings. These are motivational systems that help to determine and predict the behavior of the individual^{2, 30, 35}. These systems support the idea that attitudes are more influenced when individuals in a happy emotional state are presented with gain-framed messages, and individuals in a sad emotional state are presented with loss-framed messages^{16, 29}. The emotion of fear has not been widely studied in this context. Often, researchers have seen fear as sharing the same negative valence as other emotions such as sadness, anger, and disgust. In contrast to sadness, fear is directed toward what may happen, but sadness is about what has already happened^{11, 20}. Moreover, the element of fear in diversity message framing influences emotions and cognitive responses of individuals similarly to sad, but differently from happy.

1.1 Message Framing As An Effective Persuasion Strategy

“Message framing is the idea that persuasive appeals can be designed to focus on either advantages of pursuing some course of action or the disadvantages of failing to do so”³⁶p. 682. Message framing can be best understood by the classic experiments of Tversky and Kahneman (2004). These experimenters specialized in the study of judgment and decision making, most commonly in behavioral economics³². In a novel study, participants read a message about the outbreak of an unusual Asian disease expected to kill 600 people. One frame presented the message as “lives saved” with options A and B as outcomes to choose from. If option A was chosen, 200 people would be saved (72%), but if option B was chosen, there was a one-third probability that 600 people would be saved and a two-thirds probability that no people would be saved (28%). The other frame presented the message as “lives lost” with options C and D as outcomes to choose from. If option C was chosen, 400 people would die (22%), but if option D was chosen, there was a one-third probability that nobody would die and a two-thirds probability that 600 people would die (78%). Options A and C and options B and D posed the same outcomes. Interestingly, participants chose outcomes A and D the most often³². These results suggest that the way we look at a problem is very important. Decisions can easily be affected by the way the alternatives are presented.

Messages can be framed in terms of gains and losses. Individuals are *risk averse* when they are contemplating gains and want to hold on to one sure outcome. However, individuals are *risk seeking* in cases where they are contemplating losses in hope of some prospect of saving something³². Gain-framed messages are designed to focus on the advantages of pursuing a certain course of action, and loss-framed messages are designed to focus on the disadvantages of failing to pursue that same action³⁶. When these message frames are implemented with these goals in mind, persuasion can be quite strong.

1.2 Persuasion On Attitude Change

Persuasive communication has a strong impact on attitudes and behavior^{3, 14, 25}. Though persuasion has held a negative connotation since its initial use (often referred to in terms such as *brainwashing* and *mind control*), it is ultimately a perception of choice, not force²⁵. Persuasions is an “activity or process in which a communicator attempts to induce change in the belief, attitude, or behavior of another person through the transmission of a message in a context in which the persuadee has some degree of free choice”²⁵ p. 14. Often, persuasion is used in advertising, political campaigns, and social encounters as a powerful instrument for social control³. Persuasion can be enhanced when an individual’s regulatory focus is matched to the outcome focus of a message and any benefit or harm related to the message. Regulatory focus deals with self-regulation. Some individuals have a promotion focus, while others have a prevention focus³⁷. Promotion focus evolves from self-regulation in regards to a person’s ideals, wishes, or aspirations, and is involved with positive outcomes. Prevention focus is a person’s self-regulation in regards to duties, responsibilities, and obligations, and is involved with negative outcomes³⁷. Yi and Baumgartner (2009) revealed that persuasiveness of messages increases when a participant’s regulatory focus matched either a benefit or harm of the message outcome. Nevertheless, it is important to understand that framing appeals to either the promotion or prevention of the message content, which can add a new dimension to the subject of persuasion. It is also important to develop messages that will cater to an individual’s motivational systems to attain high persuasion.

1.3 BIS and BAS As A Tool To Measure Motivation

People contribute to what happens to them. Each day, individuals analyze situations that confront them, consider all courses of action for the situation, judge their abilities to carry out these actions, and estimate the results produced by these actions². Motivation plays a huge role in whether or not people will change their thinking or strategies after the situation has ended. The behavioral inhibition system (BIS) and behavioral activation system (BAS) determine motivation and guide behavior. All individuals possess both systems; however, specific situations and emotions determine which system will override the other. Furthermore, each individual has a tendency to choose one system over the other as the system that fits their behaviors most often²⁹.

Yan et al. (2012) chose to look at the differences of framing interactions within the BIS and BAS by process of gain- and loss-framed persuasive messages. The BIS is commonly involved with avoidance motivation and negative emotions that arise in response to punishment, non-reward, and novelty. The BAS is primarily seen with incentive-oriented motivation and positive emotions that arise in response to non-punishment, reward, and escape from punishment³⁰. As seen in previous research, gain-framed messages are more effective for reward-oriented people, but loss-framed messages are more effective with punishment sensitive people^{29, 30, 35}. These researchers concluded that the emotion of fear was linked to the BIS, as happiness was associated with the BAS. Also, a loss-framed message was most persuasive in fearful individuals, and a gain-framed message was most persuasive for happy participants³⁶. These findings strongly support earlier findings that the BIS and BAS, when paired with their proper message type, are able to motivate the persuasion of specific emotional states successfully.

1.4 Basic Emotion Helps To Explain Persuasion Of Message Framing

Emotions are essential to the success of message framing and persuasion. Emotional feelings can be activated by a number of processes. They can be experienced or felt, but cannot always be expressed or presented within the conscious mind. *Basic emotions* are those emotions that are fundamental to human mentality and adaptive behavior²⁰. Positive basic emotions include interest and happiness, and negative basic emotions include sadness, anger, disgust, and fear. The present research focused on the emotions of happiness, sadness, and fear. Happiness and sadness are studied most often in this kind of research, while fear has little background and mixed results in this area. Differences between each one must be established with the help of appraisals. Izard (2009) does not use the concept of appraisals to support her work; however, they are important to understanding the present research in more detail.

Appraisal theory suggests that emotions can arise from assessing the meaning of a situation relative to one's goals¹³. These goals may be abstract, simple, immediate, or long-term. If the environment does not match the goal, negative emotions arise; but if there is a connection between the two, positive emotions will be present³⁷. Happiness results from the perception of progress, and fosters movement toward a specific goal. In regards to sadness, it results from the perception of loss. This creates a sense of failure to meet a specific goal. Fear, however, is present from the perception of danger because the individual may feel a high probability of harm¹³. When the communicator is able to effectively appeal to the emotions, the effect of the message will increase persuasion¹¹. Though sadness and fear are both negative emotions, they are quite different overall. In terms of message framing, because sadness and fear are both negative emotions, the receiver of the message will be more persuaded by the same loss-framed messages since previous research supports the ideas that fear is also associated with the BIS.

1.5 Fear And Message Framing Used As A Successful Means To Induce Attitude Change

Much support has revealed that fear appeals are a successful means to induce an individual to accept a message and follow an action recommendation^{8, 9, 10, 12, 15, 25, 33}. According to Neuman and Levi (2003), a fear appeal in regards to persuasion is an "attempt to influence the attitudes or the behavior of a person by presenting him with the threatening consequences of a refusal to accept a suggested attitude or behavior" (p. 29). The emotion of fear operates as a drive. Persuasive messages can arouse this drive, creating an unpleasant state that then causes the individual to become motivated to reduce or remove that state²⁵. Gerend and Maner (2011) studied fear in the context of health-related decision making. Undergraduate students were randomly assigned to a mood induction task of either fear or anger, and then asked to read a gain- or loss-framed message promoting fruit and vegetable consumption followed by an action recommendation. Participants in the fearful condition reported eating more servings of fruits and vegetables after exposure to the loss-framed message¹⁵. Evidence shows that fearful

individuals tend to make more pessimistic decisions due to high perception of risk, low certainty, and lack of personal control²⁶. Fear also promotes avoidance of any other negative events that may arise, often by following the suggested action recommendation¹⁵. By inducing fear into participants and following the gain- or loss-framed messages with a recommendation of further action, participants should be persuaded to partake in more diversity-related activities on campus.

1.6 Diversity In A College Setting

Possibly the best description of prejudice comes from classical theorist Gordon Allport (1954). He defined prejudice as, “a feeling, favorable or unfavorable, toward a person or thing, prior to, or not based on, actual experience” (p. 6). This shows that prejudiced feelings are not always negative. Often, individuals form prejudiced attitudes as a way to categorize and keep organization within their daily lives. Unfortunately, this regularly causes prejudgment of individuals or groups. In many instances, the individuals or groups are different (or diverse) from the majority, creating an in-group/out-group bias. Research shows that in-group attitudes of out-group members could be improved by actively participating in community-based activities supporting interpersonal communication^{5, 22}. Specifically, college can play a huge role in breaking preconceived prejudiced attitudes towards diverse groups of students. Early adulthood is an important stage in students’ lives to form social and personal identities. This could translate to diverse experiences having a lasting impression on students’ attitudes⁵. Challenging students’ beliefs through diversity experiences, activities, and messages can be an effective way to influence attitude change. There is good evidence to support that by inducing change in an individual’s belief system, it can create more change in behavior and in a broad range of other behaviors¹⁷. By incorporating data directly from Westminster College to create framed messages, the experiment was more personal to participants and are predicted to be more effective in changing students’ attitudes of diversity into a more positive and proactive experience³⁴.

I hypothesized that participants in a happy emotional state combined with gain-framed messages would be more persuaded than happy participants given loss-framed messages. Also, participants in a fearful or sad emotional state combined with loss-framed messages would be more persuaded than fearful or sad participants given gain-framed messages. Lastly, participants in a neutral emotional state would show some persuasion to gain-framed messages, but not loss-framed messages.

I also hypothesized that gain-framed messages received by participants in a happy emotional state motivated through the BAS would be more effective than those not motivated through this system. Moreover, loss-framed messages received by participants in a fearful or sad emotional state motivated through the BIS would be more effective than those not motivated through this system. Finally, I hypothesized that participants in a fearful emotional state would be the most active in participating in diversity-related activities after the survey.

2. Method

2.1 Design

The study is a 2 (Diversity Message Frame: gain, loss) x 4 (Mood Induction: happy, fearful, sad, neutral) between subjects design. Participants were randomly assigned to each condition counterbalancing for gender. Attitudes and actions towards diversity were measured through the Miami University Diversity Awareness Scale (MUDAS)²³ BIS/BAS Scale⁷, and a behavioral diversity activity follow-up survey.

2.2 Participants

Ninety-nine male and female undergraduate students from a small, liberal arts college (43 men, $M_{\text{age}} = 19.91$ years, ages 18-25 and 56 women, $M_{\text{age}} = 20.29$ years, ages 18-23) volunteered to read positively- or negatively-framed diversity messages that also contained recommendations for future diversity interactions. One male participant did not list his age. Out of the participants, 85 identified as White, 9 as Black, and 5 as other. Credit was awarded to students who participated from the Introduction to Psychology course. The study was approved by the institution’s IRB and followed all APA guidelines.

2.3 Materials and apparatus

2.3.1 *gain- and loss- framed messages.*

Participants took the experiment on Dell OPTIPLEX GX620 model computers with a screen display of 19" using the E-Prime program²⁸. The program displayed either gain- or loss-framed messages pertaining to diversity on the screen. Gain-framed messages were found in The Diversity Climate survey conducted at Westminster College during the Fall 2012 semester³⁴. The messages were personal, anonymous statements given by the students on the subject of the school's diversity. For example, *Gain*: "A respectable institution will have greater diversity partly as a result of good academics." *Loss*: "An institution will not be respectable unless it has greater diversity partly as a result of good academics." The loss-framed messages were revised from gain-framed messages to keep the content consistent. The size and font of the messages were 14 pt. Calibri. Each message was displayed individually in the center of the screen and participants viewed the next message by pressing the Enter button on the keyboard.

2.3.2 *diversity attitudes*

The Miami University Diversity Awareness Scale (MUDAS)²³ was used to measure levels of attitude change. It is a 37-question instrument answered on a 5-point Likert scale (1 = *Disagrees* and 5 = *Agrees*) including two validation items. An example question includes, "A conscious effort should be made to teach cultural expectations in schools and/or classrooms." Thirteen of the questions were reverse coded during analysis. Inter-rater reliability shows that the items in the survey were measuring each subscale strongly (Cronbach's $\alpha = .86$)²³.

2.3.3 *BIS/BAS*

BIS/BAS Scale⁷ was a 20-question measure answered on a 4-point Likert scale (1 = *Strongly Disagrees* and 4 = *Strongly Agrees*). There is no neutral response. An example question includes, "Even if something bad is about to happen to me, I rarely experience fear or nervousness." Two of the questions were reverse coded during analysis. Reliability of the test yielding BIS (Cronbach's $\alpha = .74$), BAS Reward Responsiveness (Cronbach's $\alpha = .73$), BAS Drive (Cronbach's $\alpha = .76$) and BAS Fun Seeking (Cronbach's $\alpha = .66$)⁷.

2.3.4 *behavioral diversity activity follow-up survey.*

A follow-up survey of each participant was conducted by using an on-line survey instrument. The survey was created by the experimenter to see if persuasion of engaging in diversity related activities on campus persisted after the experiment ended. It included 16 questions. The format of the survey included check boxes to show what type of diversity events the participants attended since the experiment. For example, "Cultural Dinners in Duff (Please check one). Yes, I attended this event. No, I didn't go to this event, but I wanted to go. I had no interest in going to this event." During data analysis, a score of three was given to those who attended the event; a score of two was given to those who did not attend, but wanted to; and a score of one as given to those who had no interest in attending.

3 Procedure

The experiment lasted approximately 15-20 minutes. Upon arriving at the computer lab, participants received an informed consent form describing the study and asking for their voluntary participation. Participants were randomly assigned to each of the four mood induction conditions (happy, fearful, sad, and neutral). All participants experienced mood induction for three to five minutes, and they wrote on paper about a life event that occurred in the past six months pertaining to one of the four types of emotion they were assigned^{3, 4, 6, 11, 12, 18}. Next, participants were randomly assigned to the gain- or loss-framed message conditions. Participants viewed each message as long as they wanted. After participants read the messages, they were given a recommendation to engage in diversity-related activities following the experiment.

Participants completed an attitude change measure (MUDAS Scale²³), and a motivation measure (BIS/BAS Scale⁷). Mood repair took place for all participants after computer testing, because negative emotions were induced

for some of the individuals. Participants were given three to five minutes to write on paper about an activity they planned to do over winter break. Lastly, participants finished with the debriefing process and were allowed to ask any questions concerning the experiment.

Prior to leaving the study, participants were asked if the researcher could notify them after the experiment to answer a short on-line survey. No participant objected. Two weeks after the experiment, participants were notified via e-mail to complete the survey. Participants were notified a total of three times. The survey was not completely anonymous, because the data was matched to their initial data from the experiment; however participants were guaranteed confidentiality between the experimenter and the participant. Ninety participants returned the survey. The remaining nine did not respond.

4. Results

Analysis focused on the effects of message framing and emotion on attitude change using the MUDAS, motivation of the participants using the BIS/BAS Scale, and participation levels on a behavioral diversity follow-up survey. The MUDAS was reliable (Cronbach's $\alpha = .88$). The BIS/BAS Scale also showed high reliability (Cronbach's $\alpha = .74$). The reliability of the BIS Scale separately was Cronbach's $\alpha = .76$, and the BAS was Cronbach's $\alpha = .87$. Because the scales were reliable, creating averages for each scale was appropriate.

A 4 (Mood Induction: happy, fearful, sad, neutral) x 2 (Message Frame: gain, loss) x 2 (Sex: male, female) between subjects ANOVA was conducted to test the interaction between message framing and emotion on diversity attitudes. The interaction between message framing and emotion on the overall MUDAS was non-significant, $p = .75$. Interestingly, however, gain-framed messages did lead to a more positive attitude in neutral mood participants. Also, neutral mood participants ($M = 4.21$, $SE = .12$) were more susceptible to message framing than those in the happy ($M = 3.36$, $SE = .13$), sad ($M = 3.31$, $SE = .13$), and fearful conditions ($M = 3.68$, $SE = .11$).

Emotion did show significant effects on two of its five subscales, intercultural interactions and discipline practices. The intercultural interactions scale consisted of seven questions related to the awareness of culture in everyday life. For example, "I consider cultural issues in my daily life." Separate ANOVA's were conducted with each of these subscales as dependent variables. The main effect of emotion on the intercultural interactions subscale was significant, $F(3, 83) = 4.02$, $p = .01$, $\eta^2 = .12$. The fearful ($M = 3.69$, $SE = .08$) and neutral participants ($M = 3.68$, $SE = .09$) produced the highest positive attitudes toward intercultural ideas in society compared to the happy ($M = 3.36$, $SE = .09$) and sad participants ($M = 3.37$, $SE = .09$). Therefore, fearful and neutral participants were more inclined to have positive attitudes towards these ideas. All multiple comparisons were significantly different with a 95% confidence interval rating.

The main effect for sex was also significant, $F(1, 83) = 34.44$, $p < .001$, $\eta^2 = .29$. Women ($M = 3.79$, $SD = .37$) showed higher levels of acceptance to this subscale than men ($M = 3.27$, $SD = .57$). Thus, women appeared to be more positive to diversity than men. Finally, an interaction was significant between sex and emotion, $F(3, 83) = 2.91$, $p = .03$, $\eta^2 = .09$ (see Figure 1). Women in the happy ($M = 3.78$, $SE = .12$), fearful ($M = 3.92$, $SE = .12$), and sad conditions ($M = 3.73$, $SE = .12$) showed much more positive attitudes towards this subscale than men in the happy ($M = 2.93$, $SE = .14$), fearful ($M = 3.45$, $SE = .12$), and sad conditions ($M = 3.01$, $SE = .14$). This shows that women are significantly more positive in attitudes toward intercultural concerns and opportunities than men in all emotion conditions except neutral.

As stated, there was a main effect of emotion on the discipline practices subscale, $F(3, 83) = 3.39$, $p = .02$, $\eta^2 = .10$. Likewise, the discipline practices scale consisted of six questions relating to culture within the school system. An example question includes, "Professors should receive training in working with students that have diverse needs." Sad participants ($M = 3.87$, $SE = .11$) produced the lowest positive attitudes toward diverse discipline practices in schools, and fearful participants ($M = 4.33$, $SE = .10$) produced the highest positive attitudes toward these ideas. Furthermore, fearful participants were more inclined to have positive attitudes toward diversity discipline practices than sad participants. There was also a main effect of sex, $F(1, 83) = 16.31$, $p < .001$, $\eta^2 = .16$ (see Figure 2). Women ($M = 4.55$, $SE = .14$) appeared to make more positive choices when they were happy when compared with men ($M = 3.75$, $SE = .16$) in this condition. Moreover, women produced the highest positive attitudes towards discipline practices involving diversity in schools.

A 4 (Mood Induction: happy, fearful, sad, neutral) x 2 (Message Frame: gain, loss) x 2 (Sex: male, female) between subjects ANOVA was conducted to see if there was an interaction between message framing and mood induction on participant motivation. The interaction was non-significant for BIS, $p = .82$, and BAS, $p = .35$. Sex did show a main effect for three of its four subscales: BIS, BAS reward responsive, and BAS fun seeking. The main

effect for the BIS was significant, $F(1, 83) = 25.45, p < .001, \eta^2 = .23$. Women motivated through this system ($M = 3.30, SE = .07$) showed higher attitudes than men ($M = 2.76, SE = .08$). Thus, women appeared to be more guided by avoidance motivation than men. The main effect for the BAS reward responsive scale was also significant, $F(1, 83) = 8.62, p < .001, \eta^2 = .09$. Women ($M = 3.70, SE = .06$) motivated through this system were more sensitive to reward than men ($M = 3.41, SE = .07$). This shows that women had a higher motivation toward responding to rewards, or incentives, than men. Finally, there was a main effect for sex in the BAS fun seeking subscale, $F(1, 83) = 4.57, p = .03, \eta^2 = .05$. Again, women ($M = 3.05, SE = .08$) motivated through this system were more sensitive to fun seeking than men ($M = 2.78, SE = .09$). Women had higher motivation toward fun seeking as an incentive than men.

An interaction between sex and emotion was revealed for the BIS subscale, $F(3, 83) = 3.96, p = .04, \eta^2 = .03$. Women in the fearful condition ($M = 3.41, SE = .14$) compared to men in the fearful condition ($M = 2.69, SE = .15$) showed higher levels of motivation toward this system. This shows that women were more motivated through the avoidance motivation system.

Finally, an interaction between sex and emotion was revealed for the BAS fun seeking subscale, $F(3, 83) = 3.22, p = .02, \eta^2 = .10$. Women in the happy condition ($M = 3.10, SE = .16$) compared to men in the happy condition ($M = 2.68, SE = .19$) show higher levels of motivation toward this system. Also, women in the sad condition ($M = 3.26, SE = .16$) compared to men in the sad condition ($M = 2.45, SE = .19$) showed higher levels of motivation toward this system. This reveals that women in these conditions were more motivated through the incentive-oriented system in regards to fun seeking.

A 4 (Mood Induction: happy, fearful, sad, neutral) \times 2 (Message Frame: gain, loss) \times 2 (Sex: male, female) between subjects ANOVA was conducted to see if there was an interaction between message framing and mood induction on the behavioral survey. The interaction was non-significant, $p = .62$. A main effect was seen for emotion, $F(3, 74) = 5.71, p < .001, \eta^2 = .18$. Fearful participants ($M = 31.30, SE = 1.26$) showed significantly higher participation in diversity-related activities than happy ($M = 23.56, SE = 1.45$), sad ($M = 26.24, SE = 1.32$), and neutral participants ($M = 27.33, SE = 1.26$). Thus, the fear appeal in the loss-framed messages had an effect on participation in diversity-related activities. A main effect of sex was also noticed throughout the behavioral diversity follow-up survey, $F(1, 74) = 11.09, p < .001, \eta^2 = .13$. Women ($M = 29.32, SE = .79$) showed higher levels of participation in all conditions than men ($M = 24.90, SE = 1.06$). This reveals that women attended more activities than men did.

Finally, an interaction between message framing and sex was revealed, $F(1, 74) = 4.40, p = .03, \eta^2 = .05$. Women in the loss-frame condition ($M = 30.96, SD = 5.07$) compared to the gain-frame condition ($M = 27.75, SD = 6.70$) showed much higher participation than men in the same condition ($M = 26.00, SD = 7.64$) compared to the gain-frame condition ($M = 25.75, SD = 5.44$). Thus, women may be more susceptible to message framing in the loss condition than men.

A linear regression was used to assess the BIS/BAS scale and the behavioral diversity survey, with participant motivation as a predictor. The regression was significant, $F(4, 89) = 2.67, p = .03$. Significance was seen for two of the subscales within the measure (BAS Reward Responsive and BAS Drive). After controlling for outside factors, adjusted R square = .07. The BAS Reward Responsive scale ($\beta = .41, p < .001$) and the BAS Drive scale ($\beta = -.36, p = .01$) showed a high relationship between motivation and participation in the follow-up survey. Therefore, participants motivated through the BAS were more active in participation in diversity-related activities after the study.

5. Discussion

These findings indicate important relationships between message framing and emotion on attitude change. Surprisingly, positive framing produced more positive attitudes in the neutral mood condition. When participants were induced with happy, fearful, or sad emotion, the framing effect was lost. Still further, message framing paired with mood induction did not affect the motivational systems of the BIS and BAS. However, women showed higher motivation in all conditions except one for each system. Interestingly, female participants showed higher levels of motivation in the happy and sad conditions for BAS, and higher motivation in the fearful condition for BIS. The behavioral diversity activity follow-up survey posed the most interesting results. Participants in the fearful mood condition attended the most diversity-related activities two weeks after the initial study. Women also participated in more activities than did men.

5.1 Message Framing And Attitude Change In The Context Of Diversity

Message framing with respect to diversity is a novel area of study. I found no research to test this relationship. Two factors may help to explain the lack of framing effect on diversity attitudes: social desirability and the chosen MUDAS measure. According to Krumpal (2011), social desirability “refers to the untruthfully reporting of an attitude or behavior that clearly violates existing social norms and thus deemed unacceptable by society” (p. 2027). Individuals may change their responses to conform to these norms and, in turn, be viewed more positively than what their true attitudes or behaviors reveal. Question sensitivity is not the issue, but sensitivity of the answer is. Participants often use social desirability as a coping mechanism to avoid embarrassment or unwanted attention²¹. Because diversity is such a controversial subject, a self-report survey may not be the best way to measure attitudes or behaviors related to it.

Second, the MUDAS measure may not be sensitive to framing. Loss- and gain-framed messages may not have affected participants’ attitudes when answering the survey. Mosley-Howard et al. (2011) have only used the instrument by itself, not including other variables or manipulations. Therefore, a measure geared toward mood susceptibility, like an IAT, may be more effective.

5.2 Neutral Mood And Its Susceptibility To Framing

Results of the study were most interesting for participants in a neutral mood, as prior research may be able to support these unexpected findings. Research shows that individuals in a positive mood are less likely to elaborate on messages or arguments presented to them, revealing that the individuals’ immediate situation is non-problematic³. Individuals in a negative mood process messages or arguments in a more detailed manner to try to rid a potentially problematic occurrence. Negative mood individuals are projected to display greater attitude change than their opposites, unless the mood induced is too strong. Messages are likely to be more effective when presented to an audience in a neutral or slightly negative mood³. An individual’s induced mood could possibly be the determinate of a person’s response, rather than the framing itself. Participants in the neutral mood did not rely on their mood for a basis of judgment¹⁹. Thus, individuals were able to see the framed messages without any prior effect of mood induction.

Limitations of the method of mood induction did exist. Due to the constraints of APA ethics, only minimal emotion induction could be administered. Participants were only asked to write about an event specific to that mood from the past six months. If participants were truly placed into the specific emotions of the study, they may have supported the hypothesis consistent with DeSteno et al. (2004) that persuasion would increase when individuals were induced by specific emotion. Furthermore, the appropriate degree of mood induction would need to be assessed.

5.3 BIS/BAS Motivation As A Situational Mechanism

Throughout the study, BIS and BAS motivation seemed to vary between sex and appear to be situational. There is still room to speculate that Carver and White (1994) were correct in stating that the BIS is more prevalent when negative emotions are present, as seen in the fearful condition with women. Results also showed evidence that positive emotions were more motivated through the BAS, as seen in the happy condition with women. There is not enough data to assume that these predictions are definite, but they do show a pattern related to the previous research.

Limitations include not being able to identify when the two systems are solely operating alone and what extent this actually makes a difference. Being able to decide which system overrides the other would be helpful not only in better understanding the underlying ideas of persuasion and how to make it most effective, but also to realize the context of BIS/BAS itself.

5.4 Fear Appeals And Recommendation Acceptance

Participation in diversity-related activities was very high for individuals in the fearful condition. This supported the study’s hypothesis. Fear often arises in response to a feeling of some harm and motivates change to reduce that harm, which were supported in previous research by Shen and Dillard (2007). Their research also shows that regardless of the framing type, an individual will be highly open to change when that threat is relevant to them and has potential to be reduced^{9, 29}. A classic study by Rogers and Mewborn (1976) also shed some light on this

phenomenon. Their research supports the defensive avoidance hypothesis. The stronger a fear appeal, the greater the chance the individual will accept the recommendation of action²⁷. Overall, fear appeals appear to be an effective means of promoting attitude change or persuasion among individuals.

5.5 Future Research

Future research related to this study is nearly unlimited. First, research should try to inhibit social desirability. With a different testing technique, like an IAT, responders will be less likely to be able to change their positions to fit societal norms. By having participants read framed messages, and then take this test, truer results may appear. Next, it would be interesting to test participants' activity involvement prior to the study. This would allow the researcher to make pre- and post-test comparisons as to how the framing has affected the individual in to responding to the recommendation and mood induction. Another tactic would be to implement a different kind of mood induction, but still staying within the APA guidelines. It may be possible for mood to have a greater effect on attitude change and persuasion if the prompt were more specific and evoked more meaning to the individual personally. Lastly, new research should look to new ways to measure and understand diversity-related attitudes. The pairing of framing and mood may have not been the most effective way to discover attitudes about such a sensitive subject. Moreover, future research is very possible in the area of persuasion and message framing.

6. References

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