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## The Influence of Framing Effects and Regret on Health Decision-Making

Sarah Falkof  
*Colby College*

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### Recommended Citation

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The Influence of Framing Effects and Regret on Health Decision-Making

Psychology Honors Research Thesis

Sarah Falkof

Colby College

May 8<sup>th</sup>, 2012

## Abstract

This study investigates methods for influencing decision-making regarding preventative vaccine shots. Specifically, the research assessed the influence of message framing on regret and future action likelihood. In Experiment 1, participants read information about an available vaccine shot that was either framed positively or negatively. Participants were told whether they decided to get the shot (action) or not get the shot (inaction) and rated their feelings of regret after being told they got sick, regardless of their decision. Results showed that participants who read the positively framed information experienced more regret overall than participants who read the information with the negative frame. Participants who did not get the shot also experienced more regret overall than those who did get the shot. When the frame was positive, participants who did not get the shot were significantly more likely to get a shot in the future than those who had gotten the shot. Experiment 2 examined the theory of inaction inertia and whether missing the first shot might decrease the likelihood of getting a similar shot in the future if the effectiveness of the second vaccine shot is lower than the first vaccine. Results showed that the likelihood of getting the second shot was significantly influenced by the effectiveness of the second vaccine, but was not influenced by the size of discrepancy between the effectiveness of the two vaccines. Results did not fully support the hypothesis for Experiment 2 and possible explanations are discussed.

## The Influence of Framing Effects and Regret on Health Decision-Making

### **Realm and Purpose of Study**

We are faced with situations each day in which we have to make decisions. From deciding what to eat to breakfast to what job offer to accept, these decisions vary on their capacity to influence our lives and personal well-being. Despite initial feelings toward a situation, the context in which we receive or learn information regarding a decision can strongly impact how we ultimately act. In fact, we may make different choices based on the same set of information depending on how it is presented. Substantial psychological research has investigated the different ways decision-making can be influenced and the complexities in the thought processes involved.

Some previous research has used life-like problems to assess specific theories on decision-making involving uncertainty. Research has used scenarios based on insurance, business, or consumer choices (e.g., Tversky & Kahneman, 1981; Tykocinski & Pittman, 1998). The present study focuses on decision-making in the health realm, specifically looking at the opportunity to receive a vaccine shot. Individuals often place high value on personal health decisions because they influence our longevity and everyday quality of life. Many factors can influence the actions we take to prevent or treat illnesses for ourselves and for others. The present study aims to address some of these factors in the two experiments conducted for this research.

When we make health decisions, we are often provided information to help guide us in making the best decision or understanding how to make a certain

lifestyle change. We receive this information from a variety of sources, such as health centers, doctors, public health departments, insurance companies, and other organizations. Research on how people make health choices is important for a variety of reasons. Understanding how individuals act can impact the way health administrators operate public health departments and hospitals and provide information to patients and members of the community. Insurance, drug, and health product companies often rely on health marketing research when designing advertising materials and presenting information to consumers. This research can also influence how health educators design programs and motivate individuals to make lifestyle and behavior changes.

With the subject of vaccinations, the present study examines two concepts related to decision-making: message framing and regret. According to Tversky and Kahneman (1981), a “decision frame” refers to one’s perception of the acts, outcomes, and contingencies associated with a particular choice (Tversky & Kahneman, 1981). Regret is a negative emotion that one feels when considering alternative outcomes to reality, specifically alternatives that would have prevented a negative outcome or made the outcome better (Hetts et al., 2000). Research has shown that when people make decisions, they often want to avoid experiencing this feeling of regret and will make a decision that they believe increases the chance of avoiding this feeling (Hetts et al., 2000, Tykocinski & Pittman, 1998). Significant research has studied the separate effects of framing and regret avoidance in regards to decision making. The purpose of the present study is to investigate the effect of

message framing on regret in addition to their combined role on the likelihood of future actions.

### **Framing Effects**

In of the founding studies on the concept of framing, Tversky and Kahneman (1981) explain that framing is influenced by the formulation of the decision problem, as well as the personal characteristics, norms, and habits of the decision-maker. The *decision problem* is often described as choosing among alternative actions, while considering the probability of outcomes from each action. The *decision frame* is often defined as how we think about the actions and probabilities of outcomes from each action. It is possible to manipulate a decision-maker's perception of a problem by altering various characteristics of the decision frame, such as valence. A *positive* frame focuses on what may be gained from a decision. A *negative* frame focuses on what may be lost from a decision. The valence of a frame also influences our willingness to take risk. Positive frames often lead to *risk averse* decisions and negative frames often lead to *risk taking* decisions. People are more likely to take a risk to avoid a loss, than take a risk to achieve a gain of equal size. The following example from Tversky and Kahneman's research adequately demonstrates this concept.

*Imagine that you face the following pair of concurrent decisions. First examine both decisions, then indicate the options you prefer.*

*Decision (i). Choose between:*

- A. a sure gain of \$240 [84 percent]
- B. 25% chance to gain \$1000, and 75% chance to gain nothing [16 percent]

*Decision (ii). Choose between:*

- C. a sure loss of \$750 [13 percent]
- D. 75% chance to lose \$1000, and 25% chance to lose nothing [87% percent]

The percentages in the brackets represent the percentage of participants that chose each option for each decision. Decision (i) is framed positively and most participants chose the risk averse decision (option A) of the sure gain of \$240. Decision (ii) is framed negatively and most participants made a risk taking decision (option D) by choosing the option with a possibility of a greater loss of \$1000 because of the small chance to lose nothing (Tversky & Kahneman, 1981).

Ferguson and Gallagher (2007) have researched message framing with respect to vaccination decisions. They examined the role of frame valence, but also focused on the role of frame method and perceived risk. Their research assessed the influence of two frame methods, identified as attribute and goal. The following details provide an explanation and example of each type of frame method:

**Attribute frame** – focus on the quality of the objects being framed (e.g. food that is 95% fat-free of 5% fat)

**Goal frame** – focus on how acting or not acting is related to attaining (or not attaining) a desired outcome (e.g. by using [not using] sun protection of factor 15 or greater you reduce [increase] your risk of developing skin cancer)

Both frame valence and frame method or manipulated in order to assess perceived procedural risk and personal outcome effectiveness. They found that the more effective the vaccine was believed to be the more likely the participant intended to use it. They also found that perceived risk moderated the interaction of valence and method. The present study uses an explanation of the vaccination based on the one used in the attribute conditions with either positive or negative valence. With negative framed details in brackets, participants read:

*“Research shows that the flu jab is [not] effective in preventing the development of the flu virus in 70-90% [10-30%] of cases. It is [not] effective in preventing hospitalization for pneumonia and the flu for the elderly in nursing homes in 50-60% [40-50%] of*

*cases and it is [not] effective in preventing death in 80% [20%] of cases.” (Ferguson & Gallagher, 2007)*

For the research purposes of the present study, certain parts to the explanation above were altered or excluded.

## **Regret**

Regret is often experienced as a result to *counterfactual thinking* – the consideration of alternatives to reality (Hetts et al., 2000). Counterfactual thinking, however, does not always lead to negative affect. For example, if someone won a prize for being the one-hundredth caller on a radio show, they may imagine what would have happened if they had called a few minutes later or had lost phone charge. This type of counterfactual thinking is called *downward counterfactual thinking* because it involves imaging a worse outcome. In comparison, people also engage in *upward counterfactual thinking*, in which we imagine a scenario that would have resulted in a better outcome (Hetts et al., 2000; Tykocinski & Pittman, 1998). Situations that have negative outcomes are more likely to elicit upward counterfactual thinking, which leads to a negative affect we identify as regret. Imagining counterfactual thinking as a result of a negative outcome can motivate an individual to engage in future behaviors that minimize the chances of feeling this regret (Hetts et al., 2000). Hetts et al. refer to this concept as *anticipated counterfactual regret*. Their study found that when anticipated counterfactual regret was made more salient, participants were more likely to indicate behavioral intentions that minimized the chances of experiencing regret (Hetts et al., 2000).



The purpose of first experiment of the present study was to investigate how manipulating framing and action (deciding to get, or not get, a shot) affect regret after a negative outcome. Furthermore, the experiment assessed how framing and the experienced regret conjunctly influenced the likelihood to make a similar decision in the future. The experiment scenario involved a fictional virus, the Renzine virus, and the option of getting the Renzine Vaccine. The information about the vaccine was framed positively for half of the participants and negatively for the other half. Participants were told that they decided to get the shot or decided not to get the shot. The negative outcome was getting sick and regardless of participants' pre-determined decision, all participants hypothetically became ill. With this scenario, three hypotheses were made. *Hypothesis 1*: When the Renzine vaccine effectiveness is framed positively, those who did not get the shot will experience the most regret after the negative outcome than those who did get the shot. *Hypothesis 2*: When the Renzine vaccine effectiveness is framed negatively, there will be less regret overall, but those who did not get the shot will experience more regret than those who did get the shot. The first two hypotheses are based on the idea that the vaccine effectiveness will be perceived as higher in the positive frame than in the negative frame. Thus, when the vaccine shot seems better (although statistically the same), participants will feel worse about missing it. *Hypothesis 3*: Participants who experience more regret overall will be more likely to get the shot in the future in a similar situation. It was predicted that a feeling of high regret from missing the previous vaccine shot might influence participants to be more likely to get the shot in the future in order to avoid experiencing high feelings of regret again.

## Experiment 1

### Method

#### Participants

60 Colby students participated in the study. Many of the students received course credit or extra credit for respective Psychology courses. There were 15 participants in each of the four conditions. Participants completed the experiment in group sessions ranging from one to eight participants at a time. After completing the experiment, all participants were debriefed on the purpose of the procedure and informed that the virus was fictional.

#### Materials and Procedure

Each participant received a packet that included each part to the experiment. All participants read the same instructional page that told participants to answer each question on each page and not to change answers on previously completed pages. After reading the instructions, participants read identical information about the recent spreading of the Renzine virus and the symptoms that occur if one becomes ill with the virus. The symptoms listed were very similar to flu symptoms, such as fever and sore throat. Participants then read that the health center had purchased a number of vaccinations for the Renzine Virus and it was up to students whether they wanted to receive the vaccine shot or not. Participants then read the following information about the vaccine framed either positively or negatively (negative frame in parenthesis):

*Research shows that the Renzine vaccine shot is [not] effective in preventing the development of the Renzine Virus in approximately 80% [20%] of cases. In cases in which people are vaccinated, yet become ill, it is still [not] effective in preventing contagiousness in 60% [40%] of cases.*

The actual effectiveness of the vaccine shot was the same in both conditions, but the framing effect changes the perception of the vaccine as creating gains or not causes losses.

Participants rated their likeliness to get the vaccine and their confidence in this decision. On the following page, participants were told that they either ended up deciding to get the shot or not get the shot. All the participants, regardless of their randomly pre-determined decision, read that they got sick a month later with the Renzine illness. They were told what symptoms they experienced and that they had to miss a few classes and social activities.

Next, participants answered 6 questions measuring their regret about their decision, their happiness with their decision, the likelihood of a different outcome occurring if they had made a different decision, their likelihood to get a vaccine shot in a similar situation in the future, and whether or not they had received an actual flu vaccine shot within the past six months. A 7-point scale was used with each rating.

After all participants in each session completed the questionnaire, the experimenter collected all of the packets. The experimenter then read the debriefing script explaining the purpose of the study and informing participants that all of the mentioned viruses are fictional for the purpose of the study.

## **Results**

The data analysis focused on participants' ratings of regret and future decision likelihood. In order to examine the influence of message framing and

regret, a 2 x 2 (Message Frame [positive, negative] x Action [action, inaction]) analysis of variance (ANOVA) was conducted.

### *Regret*

All participants rated how much they regretted their decision to get the vaccine or not to get the vaccine on a 7-point scale (1=little regret, 7=extreme regret). The analysis revealed a main effect for message frame,  $F(1,56)=5.04, p=.03$  (Table 1). Participants who read the positively framed information experienced significantly more regret ( $M=4.67$ ) than participants who read the negatively framed information ( $M=3.73$ ), (Figure 1). There was also a main effect for action,  $F(1,56)=47.54, p=.00$  (Table 1). Participants who were told that they decided to get the shot experienced less regret ( $M=2.77$ ) than participants who were told they decided not to get the shot ( $M=5.63$ ), (Figure 1). The analysis did not reveal any significant interactions.

### *Future Action Likelihood*

All participants rated how likely they would be to get a vaccine for a different illness if they were faced with a similar opportunity in the future. This rating also used a 7-point scale (1= Extremely unlikely, 7=Extremely likely). The analysis revealed an interaction between message frame and action,  $F(1,56)=5.42, p=.02$  (Table 2). There was a significant difference between positive message frame groups. Participants who read a positive message frame and decided not to get the Renzine vaccine shot were more likely ( $M=6.07$ ) to get a similar vaccine shot in the future than those who decided not to get the Renzine vaccine shot ( $M=4.67$ ) (Figure 2). There was not a significant difference between negative message frame. These

results indicated that message framing and previous decisions affect experienced regret, which may influence future decision making in the same domain.

### *Additional Results*

There was a significant negative correlation between action and regret,  $r(58) = -.66, p < .01$  and a positive correlation between action and happiness,  $r(58) = .50, p < .01$ . There were a main effect for frame on happiness with decision,  $F(1,56) = 4.85, p = .03$ . Participants who read negative frame experienced more happiness ( $M = 3.53$ ) than participants who read the positive frame ( $M = 2.77$ ). There was also a main effect for action on happiness with decision,  $F(1,55) = 19.90, p = .00$ . Participants in the inaction condition were less happy ( $M = 2.34$ ) with their decision than those in the action condition ( $M = 3.93$ ). There was a main effect for action on the likelihood of a different outcome occurring if a different decision had been made,  $F(1,56) = 33.07, p = .00$ . Those who were in the inaction condition reported higher likelihood of a different outcome ( $M = 4.90$ ) than those in the action condition ( $M = 2.77$ ).

### **Discussion**

First, it is important to note that an analysis using *actual shot likelihood* (rated before participants were told of their action/inaction) and *actual flu vaccination* (measurement if participants had received a flu shot within the past 6 months) as covariates to the other dependent measures presented no significant effects on the results for regret or future action likelihood. Thus, whether a participant had previously received a flu shot before beginning the experiment or

whether a participant would have made a different decision about the Renzine vaccine opportunity than they were told, did not influence the results of this study.

The overall analysis suggests that when participants are told they decided to miss an opportunity to get a vaccine shot, they will experience more regret than if they had decided to get the shot. Based on previous research on counterfactual thinking and regret, these results were expected and provide evidence for *Hypothesis 1* and *Hypothesis 2*. Those who missed the opportunity were also unhappier with the fact they had decided not to act. It is likely that participants, who did not act, engaged in upward counterfactual thinking and imagined the possibility of a better outcome (not getting sick) if they had decided to get the vaccine shot. The inability to actually change this outcome, however, resulted in the feeling of regret.

There was also a difference in experienced regret based on the message frame. Overall, participants who read information with a positive frame experienced more regret than participants who read information with a negative frame. These results also support *Hypothesis 1* and *Hypothesis 2*. This result most likely occurred because the positively framed information focused on the protection that could potentially be gained from the vaccine. Thus, the vaccine seemed more effective, despite the effectiveness being statistically the same as the negatively framed information.

The effect of the interaction between frame and action on future decision likelihood was one of the most interesting results from this experiment. In conditions using the positive frame, there was a significant difference in the

likelihood to get the vaccine in the future. Those who decided not to act were more likely to get the vaccine shot in future than those who had acted. This group also experienced the most regret. Thus, one explanation for this result is that by passing on a seemingly highly effective vaccine caused in an increase in regret which resulted in a greater motivation to get the vaccine next time in order to avoid the same feeling of regret in the future. Since this interaction occurred only within the positive frame conditions in which inaction resulted in higher future action likelihood, the present study decided to examine more closely future decision making after a previously missed opportunity. The second experiment used only positive message frames to describe a vaccine for a similar, fictional virus. All participants missed the first opportunity (similar to the inaction condition in Experiment 1) and were presented with another scenario involving a second virus and opportunity to make a decision about getting a vaccine shot. This experiment investigated whether *inaction inertia* would occur when participants in certain conditions were asked to make a second decision about a vaccine shot.

Inaction inertia is a concept on which Tykocinski and Pittman (1998) have conducted multiple studies in relation to other domains. Inaction Inertia occurs when forgoing an attractive action opportunity decreases the likelihood of a second, less attractive opportunity in the same domain. The likelihood to act on the second opportunity depends on the individual's perceived worth of the new opportunity. This perceived worth can be influenced by the size of discrepancy presented between the first value of the first and second opportunity. The second opportunity may still provide a positive gain, but if smaller than the first opportunity, its

perceived value may seem less and perhaps not even worth the action (Tykocinski & Pittman, 1998).

One example from Tykocinski and Pittman's (1998) research on inaction inertia provided participants with the scenario of being in a grocery when they hear about a sale that day at another store that sells suits for 50% [10%] price reduction. The participants are told they actually need a suit for an upcoming wedding in two days [a month from now], but are told that by the time they wait in the long check-out line and make it to the other store, the sale is over. There will be a sale the next day for 5% off.

In this scenario, the difference between the size of the original price reduction and the next day price reduction was altered. The avoidance cost, the amount of time left to make the desired purchase was also manipulated (low or high based on the time until wedding). Participants were asked how likely they would be to go to the store the next day for this sale and indicated their response on an 11-point scale. Similar to results in their other studies, Tykocinski and Pittman (1998) found that both avoidance cost and difference size influenced participants' likelihood to go back to the store. Participants in the high avoidance cost condition reported being more likely to take advantage of the second sale than did participants in the low avoidance cost condition. The difference size, which is most relevant to the present study, found that participants in the small-difference condition reported being more likely to go to the store the next day than did participants in the large-difference condition. Based on these findings, it was



suggested that a *larger discrepancy* in opportunity values *increases* the likelihood of inaction inertia, while increasing avoidance cost may *decrease* it.

In the present study, the avoidance cost was held constant, but fairly low because the scenario involves an opportunity to get a shot next week only. The difference size, in this case, the difference between the effectiveness of the two vaccines was varied. Based on previous findings on inaction inertia, the main hypothesis for Experiment 2 was that participants, who previously missed an opportunity to get a vaccine shot and then got sick, might pass on the second opportunity if there is a large decrease in the vaccine effectiveness compared to a small decrease from the first vaccine. After passing on the first opportunity, participants' regret was measured. Therefore, the study was also interested in how the amount of experienced regret from missing the first vaccine might play a role in decision-making with the second vaccine opportunity.

## **Experiment 2**

### **Method**

#### **Participants**

Participants included 90 Colby students who received credit for Psychology courses. There were six experimental conditions and the number of participants in each condition ranged from 12-17.

Participants completed the experiment in group sessions ranging from one to eight participants at a time. After completing the experiment, all participants were debriefed on the purpose of the procedure and informed that the virus was fictional.

#### **Materials and Procedure**

Similarly to Experiment 1, each participant received a packet that included each part to the experiment. All participants read the same instructional page that told participants to answer each question on each page and not to change answers on previously completed pages. After reading the instructions, participants read identical information about the recent spreading of the Krozine virus and the symptoms that occur if one becomes ill with the virus. The symptoms listed were very similar to flu symptoms, such as fever and sore throat. Participants then read that the health center had purchased a number of vaccinations for the Krozine Virus and was offering the vaccine shot Monday – Friday of the following week. It was up to students whether they wanted to receive the vaccine shot or not. Participants then read the following information about the vaccine shot effectiveness (the percentage inside the bracket shows the manipulation in the other condition):

*Research shows that the Krozine vaccine shot is effective in preventing the development of the Krozine Virus in approximately 90% [65%] of cases.*

On the following page, all participants read:

*The next week, you ended up **not** getting the vaccine shot.*

*Unfortunately, the Krozine Virus continued to spread around campus. A few weeks later you contracted the virus and became ill. You felt sick for over two weeks with symptoms, such as a fever, constant headache, fatigue, body aches, and a sore throat. You had to miss multiple classes, extracurricular activities, and a few social gatherings with friends because of these symptoms.*

Participants then answered three questions for the first set of measurements. Each question used a 7-point scale. The questions measured regret about decision not to get the shot (1=little regret, 7=extreme regret), happiness about decision (1=extremely unhappy, 7=Extremely Happy), and likeliness of a different outcome occurring if they had made a different decision (1=Extremely Unlikely, 7=Extremely Likely).

On the following page, all participants read about the Blengitis, another illness spreading around New England. Symptoms of this illness were based on symptoms of Laryngitis, an inflammatory illness of the throat. Participants had the same opportunity to get a shot next week. This decision will be referred to as the “second vaccine opportunity”. The effectiveness for this vaccine was also varied:

*Research on Blengitis shows that the Blengitis vaccine shot is effective in preventing the development of the virus in approximately 55% [80, 90%] of cases.*

Participants then answered a question with a 7-point scale on how likely they are to get the Blengitis vaccine shot (1=I definitely won't get the shot, 7= I will definitely get the shot). Participants also indicated their confidence in this answer (1= Extremely unconfident, 7= Extremely confident) and had space to write comments about the factors that they considered in deciding whether to get the Blengitis vaccine shot.

## **Results**

### *First Set of Measurements: Regret, Happiness, And Different Outcome*

Although the effectiveness of the first vaccine opportunity was the only independent variable that could influence regret after the negative outcome, a 2 x 3 (First Vaccine Opportunity [65% effectiveness, 90% effectiveness] x Second Vaccine Opportunity [55%effectiveness, 80% effectiveness, 90% effectiveness]) analysis of variance (ANOVA) was conducted. The analysis did not find any significant difference in regret between the 65% effectiveness condition (M=5.43) and the 90% effectiveness condition (M=5.88).

A similar ANOVA analysis did reveal a main effect for the likelihood of a different outcome to occur if a different decision had been made,  $F(1,84)=10.17$ ,  $p<.01$ . Participants in the 90% effectiveness condition rated the different outcome likeliness as higher ( $M=5.66$ ) than in the 65% effectiveness condition ( $M=5.04$ ).

*Second Set of Measurements: Likelihood of Getting Second Vaccine Shot, Confidence*

The same 2 x 3 ANOVA analysis was conducted to investigate the influence of size of difference in effectiveness between the two vaccine opportunities. A main effect for the second opportunity vaccine effectiveness was found,  $F(1,84)=13.65$ ,  $p=.00$ . The likelihood of getting the second vaccine increased with effectiveness respectively. 55% effectiveness condition ( $M=4.72$ ) was least likely, then 80% effectiveness condition ( $M=6.06$ ), and 90% effectiveness condition ( $M=6.46$ ) was the highest. The analysis, however, did not reveal a significant interaction between the two vaccine opportunities as predicted.

### **Discussion**

The results from Experiment 2 did not quite support this study's main hypothesis on the occurrence of inaction inertia. This study predicted that when the decrease in effectiveness between the two vaccines was large (e.g. condition in which the effectiveness decreased from 90% to 55%) inaction inertia would be more likely to occur than when the difference in effectiveness was small or increased. The results suggested that the second vaccine effectiveness was the only factor that significantly affected this second opportunity action likelihood. It was also predicted that regret from the negative outcome would be significantly higher for the conditions that were provided a more effective (90%) vaccine than the less

effective (65%) vaccine. Both conditions, however, indicated relatively similar high levels of regret.

One possible explanation of these results is that since most participants experienced a similar level of regret after “getting sick” with the Krozine virus, that when making the second decision, the more general feeling of regret was more salient than the effectiveness of the first vaccine. This overall high feeling of regret (instead of the predicted difference) perhaps decreased the influence from the result of first decision and made the information presented for the second decision more important. When reading the second set of information regarding the Blengitis virus and vaccine, this set of information was more carefully considered than the first set of information. In other words, the size of the difference in effectiveness was not as important as the information at hand in making the second decision.

All participants made the decision about the Blengitis vaccine after “getting sick” from the Krozine virus. Looking back at the methods for this study, it would have been helpful to have a control group that did not “get sick” or experience any regret prior to making a decision about the Blengitis vaccine. These comparison results may have been able to provide some insight as to whether this previous negative experience had an impact on the decision-making thought processes that occurred for participants when faced with the Blengitis vaccine opportunity. In fact, many participants’ comments mentioned a desire to not want to regret their decision again or possibly get sick again. Thus, results from a control group may

also help investigate the impact of avoiding anticipated regret on the second vaccine decision.

### **General Discussion**

Both of the studies involved influencing how we make decisions about getting a vaccine shot. Getting a shot, no matter what the circumstance, is a pretty uncomformable, and sometimes painful, procedure. Regardless of these feelings, millions of people each day decide to get a shot, whether its for a health test, treatment, preventative drug, or other related reason. Some people, despite being aware of possible benefits, still decide to avoid getting a shot. Understanding what motivates people to decide to get a shot or not get a shot, has been the main topic of interest for this study. Although this study only examines one aspect of this larger issue, these findings can provide useful information regarding the presentation of vaccine information.

The findings support that when framing information, using positive frames that focus on the gains of a preventative treatment may be most persuasive. It is possible that individuals may understand the effectiveness of a treatment more easily when it focuses on the possible gains instead of what is *not* capable of doing (even if statistically portraying the same information). When the information is more easily understood, the individual may feel more comfortable acting on the opportunity. In addition, targeting feelings of regret, specifically anticipated regret, can also be a persuasive mechanism. Eliciting thoughts of potential negative outcomes or imagining experiencing a negative feeling may also lead to more positive actions.

When evaluating the findings from Experiment 2, it may also be important to consider the impact of the domain. In previous research on inaction inertia, studies used scenarios relating to consumer choices for products such as clothing, gym membership, vacations, and homes (Tykocinski & Pittman, 1981). Although some of these scenarios involve thinking about saving money or avoiding possible inconveniences, none have addressed issues related to personal health. For many individuals, one's well-being is often an issue taken very seriously. Not only does it affect how we feel, it can impact our daily activities, normal functioning, and ultimately longevity. In fact, some participant comments from Experiment 2 emphasized the desire to not get sick again and miss more classes as the main reason for action on the second vaccine opportunity. In conclusion, decision-making in the health domain may be more difficult to influence or may require more drastic manipulations. Therefore, it is important to continue research on health decision-making as it contributes to our understanding of health care marketing and how to best present health information to individuals.

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Table 1

*Mean Ratings of Regret (Experiment 1)*

Frame	<u>Action</u>		<u>Inaction</u>	
	Mean	SD	Mean	SD
Positive	3.23	.42	6.07	.42
Negative	2.27	.42	5.20	.42

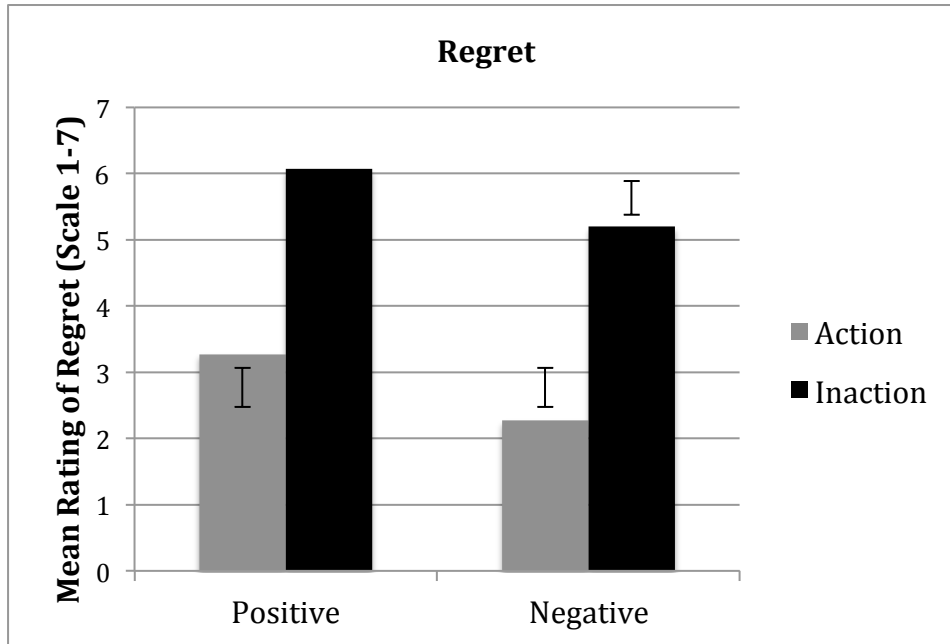
*Note.* Participants used a seven point scale to indicated feelings of regret about deciding to get or not get the vaccine shot (1=little regret, 7=extreme regret).

Table 2

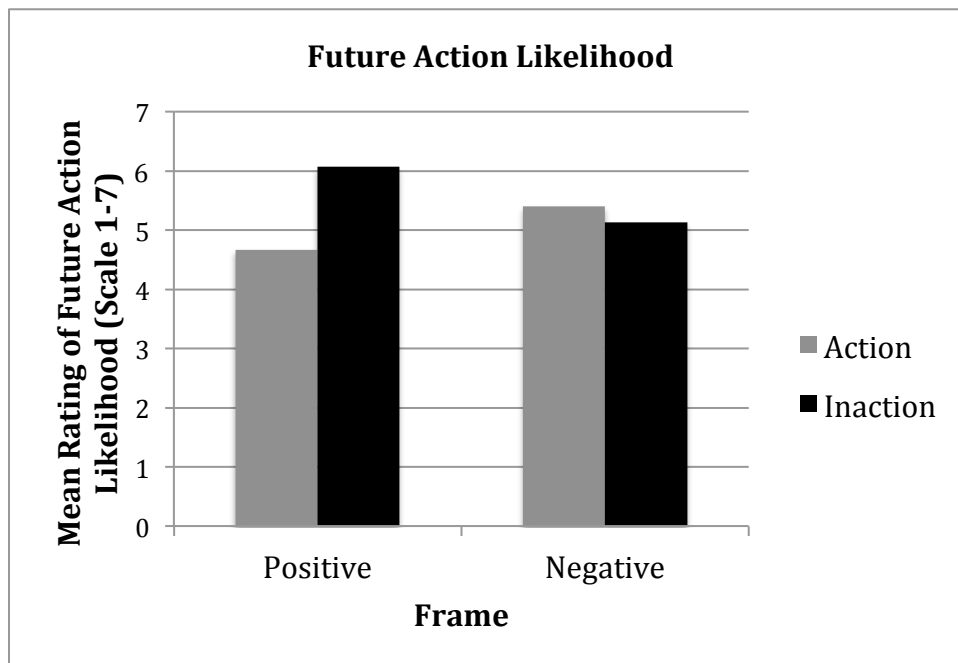
*Mean Ratings for Future Action Likelihood (Experiment 1)*

Frame	<u>Action</u>		<u>Inaction</u>	
	Mean	SD	Mean	SD
Positive	4.67	.36	6.07	.36
Negative	5.40	.36	5.13	.36

*Note.* Participants used a seven point scale to indicated how likely they were to get a vaccine shot if faced with a similar opportunity in the future (1=Extremely Unlikely, 7=Extremely Likely).



*Figure 1.* Mean ratings of regret as a function of frame and for both action and inaction conditions. (n=60)



*Figure 2.* Mean ratings of future action likelihood as a function of frame and for both action and inaction conditions. (n=60)