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## Use Your Condom-Sense: Looking at the Effects of Framing and Categorization on Condom-Use Messages Between Heterosexual and Homosexual Men

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Use Your Condom-Sense:  
Looking at the Effects of Framing and Categorization on Condom-Use Messages  
Between Heterosexual and Homosexual Men

Senior Project Submitted to  
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by  
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## Table of Contents

Abstract .....	1
Introduction.....	2
HIV/AIDS .....	2
Condoms and Male Populations in the United States .....	2
Effectiveness of Condom Campaigns .....	3
The Development of Prospect Theory .....	4
Expected Utility Theory.....	4
Prospect Theory .....	5
Framing Postulate of Prospect Theory.....	8
Detection Behaviors, Prevention Behaviors and Framing.....	8
Prospect Theory, Framing and Condom Use .....	9
Past Research on Condom-Messages.....	10
Perceived Sexual Risk in the Gay Community.....	12
The Present Study .....	12
Defining Sexual Orientation .....	13
Hypotheses .....	14

Method .....	15
Tools for Data Collection.....	15
Mechanical Turk (MTurk) and Turk Prime .....	15
Materials .....	17
Messaging Task. ....	17
Risk Task. ....	19
Participants.....	20
Recruitment Process.....	20
Design .....	23
Variables .....	23
Procedure .....	23
Informed Consent.....	23
Messaging Task .....	24
Risk Task .....	25
Debriefing .....	25
Results.....	26
Main Effect of Framing in Perceived Effectivity of Message Task .....	26
Main Effect of Categories Perceived Effectivity of Condom-Messages .....	27
Main Effect of Categories and Orientation.....	28
Interaction Between Frames and Categories.....	28

Interaction of Frames, Categories and Sexual Orientation of Participants? .....	29
Does Risk-Taking Differ Across Participants? .....	30
Exploratory Analyses .....	31
Discussion .....	33
Improvements in Data Collection and Mechanical Turk Drawbacks .....	35
Participants and Possible Obscuring Variables .....	36
Age .....	36
Race and Ethnicity .....	37
Sexual History .....	38
General Limitations .....	38
Implications for the Future .....	40
Conclusion .....	41
References .....	43







## Abstract

Condom-use has historically been associated as a low-risk, preventative health behavior (Kiene, Barta, Zelenski, & Cothran, 2005). Yet, condom-use is not without risk, as it is an interpersonal behavior that could be potentially relationship threatening (St.Lawrence, 1999; Fisher & Fisher, 1995). Because of the potential relationship risk of condom-use, it cannot be equated with risk-averse preventative health behaviors, such as sunscreen use or wearing a seatbelt. For these reasons, Prospect Theory (Kahneman & Tversky, 1981), provides a strong framework to understanding how to best frame condom-use messages in relation to specific circumstances. Prospect Theory predicts that potentially risky behaviors will be encouraged by framing messages as losses, and behaviors that are not risky should be encouraged by using messages framed as gains. Following Prospect Theory, messages encouraging condom-use for people at low-risk of contracting HIV or other STIs should be framed as gains, while for people at a higher risk of contracting HIV or other STIs should be loss framed. Additionally, due to the potential social risk in condom-use, messages mentioning sexual partners should be loss framed. This project seeks to learn more about the types of condom-use messages men find most persuasive, and how that might differ depending on their sexual orientation and other relevant concerns. Through an online survey, I investigated the mean rating of framed (gain/loss) and categorized (health/relationship) condom-messages of both heterosexual and homosexual men. The data analysis included 98 homosexual and 101 heterosexual participants recruited from Mechanical Turk. While I predicted that loss-framed messages would be rated as more effective by homosexual men than heterosexual men, the results of my research showed no difference. There was a main effect of gain-framed messages and a main effect of health-category messages.

*Keywords:* prospect theory, heterosexual, homosexual, framing, condom-use, risk-taking



## Introduction

### HIV/AIDS

In the '80s and '90s reports of widespread disease among homosexual men began to appear in the media. Following a New York Times article titled, "Rare Cancer Seen in 41 Homosexuals," (Altman, 1981, Jul. 3) terms like "gay cancer" started to circulate. The strange immune deficiency that doctors were seeing in homosexual men was human immunodeficiency virus (HIV), and it was all only the beginning of a much larger, worldwide epidemic (AIDS.gov, 2017).

HIV is a virus that weakens people's immune systems by attacking Helper T cells (CD4 cells). These cells help the body fight infections and diseases. Untreated, HIV will develop, progressing through three stages. The first is *acute infection*, in which the symptoms are similar to the flu. The name *acute infection* may be misleading, as high levels of virus produced, making the risk of transmitting HIV to others particularly high in this stage. The second stage, called *clinical latency stage*, is often asymptomatic, and it is when the virus slowly develops. Untreated, the clinical latency stage can last for 10 years, but with treatment patients can remain in this stage for decades. Acquired Immunodeficiency Syndrome (AIDS) is the most critical stage of HIV, and on average, untreated patients will only survive three years (Center for Disease Control and Prevention, 2017). HIV/AIDS is transmitted through bodily fluids and, the most common way of contracting HIV/AIDS is through sexual intercourse or sharing syringes with someone that has HIV (AIDS.gov, 2017).

### Condoms and Male Populations in the United States

In the United States, men who have sex with men (MSM) make up 82% of HIV diagnoses among males, and well over half of all HIV/AIDS diagnoses (AIDS.gov, 2017). This

is especially shocking, as most of these infections could have been prevented with the use of condoms and the recent introduction of pre-exposure prophylaxis (PrEP). Approved by the CDC in 2014 (CDC, 2017), PrEP is a daily pill that can be taken by people at high-risk of HIV/AIDS. The drug makes it difficult for the virus to become a permanent infection. Condoms (both external and internal) are the only form of contraception available to protect people from contracting and transmitting HIV/AIDS and other STIs. When used correctly and consistently, condoms are around 98% effective in preventing HIV/AIDS and unintended pregnancies, and they are widely available in the United States (AIDS.gov, 2017).

While condoms are easy to use and affordable, their use continues to be low in the United States, and researchers still struggle to find effective messages to market them (Kiene, Barta, Zelenski, & Cothran, 2005). A Center For Disease Control and Prevention report (2017) found that between 2011-2015, 33.7% of men aged 14-44 had used condoms during their last sexual intercourse. This shockingly low statistic highlights the need for effective condom campaigns.

### **Effectiveness of Condom Campaigns**

For campaigns to be successful, condoms need to be “accessible, available, and acceptable,” (CDC, 2017; WHO, 2011; Spencer, 1992). This means that there need to be good quality condoms at low prices available, and people need to feel that it is acceptable to use condoms within their communities. A meta-analysis of studies on the social marketing of condoms in developing countries showed that the proper marketing of condoms, increased sale and use of condoms (WHO, 2011). The meta-analysis defined social marketing campaigns as interventions in which a brand name was developed for condoms, they were marketed and sold through promotional campaigns. To be included, the studies had to have been conducted in a developing country, and had to have evaluated condom marketing interventions using either

within-subjects design or a mixed design. Half of the six studies included in the meta-analysis were criticized for the lack of a control group. Additionally, none of them randomly selected participants to different condom social marketing interventions (WHO, 2011). All studies based on self-reports comparing answers of condom use during the most recent sexual encounter. The meta-analysis found that condom sales increased and condom-use increased. The campaigns were more effective in encouraging condom-use with casual partners (WHO, 2011).

Inspired by the low condom-use and high HIV/AIDS rates in the United States, this project seeks to learn more about the types of condom-use messages men find most persuasive, and how the impact might differ depending on sexual orientation and other relevant concerns.

### **The Development of Prospect Theory**

Prospect Theory (Tversky & Kahneman, 1979) grew out of a critique of Expected Utility Theory. Amos Tversky and Daniel Kahneman, the economists behind Prospect Theory, saw limitations to Expected Utility Theory. Until then, Expected Utility Theory had been the standard model to describe decision-making under risk. In their paper, Tversky and Kahneman examined the ways in which people violated the Expected Utility Theory, and how Prospect Theory explained these behaviors.

### **Expected Utility Theory**

Expected Utility Theory (Neumann & Morgenstern, 1944) is an economic theory, that often relates to monetary choices but can be applied in various contexts. It theorizes that people are predictably risk-averse in most contexts, because they have diminishing marginal utility of wealth. That is to say that, as a person's wealth increases, the less utility they have for it, and the less valuable it is, the more risky behaviors increase. Moreover, as a person's wealth decreases, the more utility they have for wealth, leading to risk-aversion. This theory was used as a

framework to analyze risk. It states that a person is risk-averse when they prefer a certain outcome rather than an uncertain outcome. If they are risk-averse and also have diminishing marginal utility, when presented with two choices (one uncertain and another one certain) the person will consistently choose the certain outcome (Beggs, 2015). A person would be less risk-averse and more risk-taking if they have low utility for the two choices. Both the risk-averse and the risk-taking as related to expected utility create a concave utility model (see Figure 1) in which there is risk-aversion over gains only.

For example, consider if a student with no income was offered either \$50 for their work at a fair or a chance to spin a wheel for a 50% chance of winning \$100 (and a 50% chance of not winning any money). In this scenario, the expected value in both cases is \$50 ( $0.50 \times 100 = \$50$  or  $\$50 \times 100 = \$50$ ). The expected value is the mean of a random variable, so if this scenario occurred again and again, the mean amount of money made would be \$50, regardless of which of the two choices the student chooses. If the student were following Expected Utility Theory, they would choose the certain outcome (risk-averse) of the \$50, over the uncertain outcome of spinning the wheel.

### **Prospect Theory**

Yet, humans do not always act so rationally as Expected Utility Theory expects. When presented with two choices with the same outcome, people are generally more willing to take a risk to avoid losing something. In other terms, people are risk-taking over losses and risk-averse over gains, creating a Prospect Theory S-curve (see Figure 1 for S-curve). Risk-taking over losses is not predicted by Expected Utility Theory.

Prospect Theory explains this behavior. It describes how people make choices between different options, and how they go about estimating the likelihood of outcomes. This theory

proposes that people's decision is dependent both on the individuals and the circumstances they are in. Therefore, people's decision-making is not simply associated with their personality or way of being, but rather with the situation that they are in. So, while the Expected Utility Theory relies on people exhibiting a stable risk-averse trait, Prospect Theory considers an individual's level of risk-aversion as dependent on their present economic circumstance, which are called the reference point (see Figure 1 for reference point in S-curve). Consequently, the theory's outcomes are malleable, depending on the individual.

For example, I recently bought a \$10 scratch-off lottery ticket, which was 50% of my income for that week. This was a risk-taking behavior, and Expected Utility Theory would not have accurately predicted my behavior, instead assuming that I would not risk my limited income. In this way, Prospect Theory responds to why people violate Expected Utility Theory, and this is directly related to the reference point. In my case, my reference point was below the one depicted in Prospect Theory S-curves (see Figure 1 for Prospect Theory S-curve). In the lottery example, my reference point was within the loss territory because my income was low, and I was probably spending more than I was earning. So I behaved in a risk-taking way, and bought a ticket. My income was so insignificant, I would rather gamble it for a chance to make more money.

The decision-making process in the example above is predicted by Prospect Theory. It depicts how when presented with a one in 175 millionth of a chance to make 5 million dollars, for \$10, I took a risk. Prospect Theory proposes that people are generally risk-averse when presented with a potential loss, while they are risk-taking when presented with a potential gain (Tversky & Kahneman, 1981). In the examples above I was risk-taking, since I took a \$10 risk,



with almost no chance of making it back. But, since there was a potential for a gain, the risk seemed worth it.

Yet, according to Prospect Theory, people feel more unhappy with losses than they feel good with gains (Tversky & Kahneman, 1991), so when given a choice between two options, people will most likely choose one with a certain outcome and low-risk alternatives (Schneider et al., 2001). An example of this would be when I got health insurance, without certainty that I would need it. By doing so, I chose to pay a certain amount of money, since I feared the uncertain monetary loss of a health emergency. This was a risk-averse behavior, which the Expected Utility Theory would have predicted.

One can think of Prospect Theory as an extension of Expected Utility Theory (see Figure 1 for visual comparison). It problematizes the rationality of Expected Utility Theory and adds circumstantial aspects of decision-making.

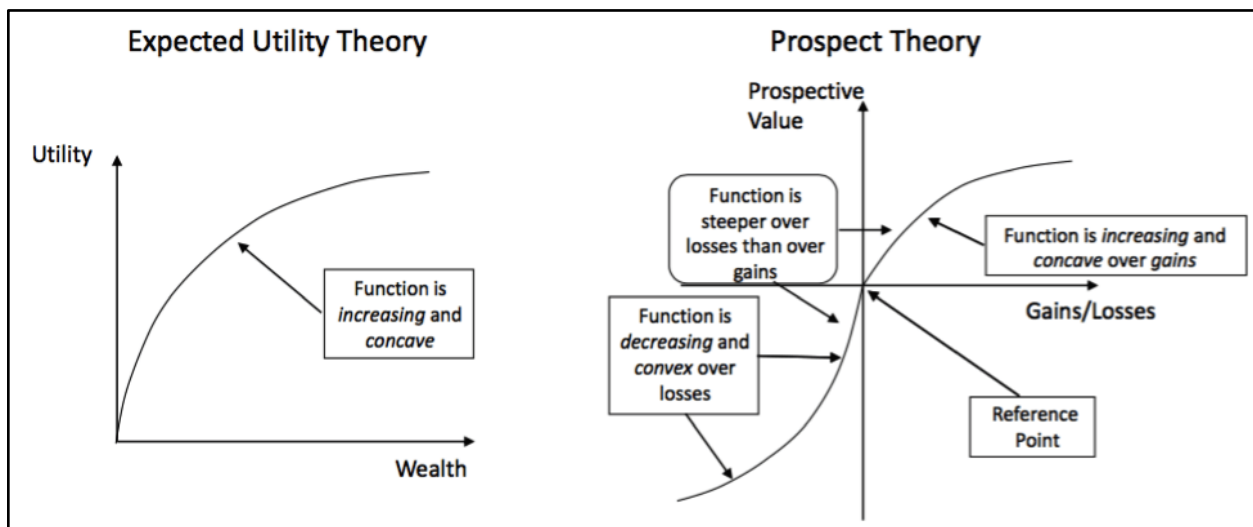


Figure X. Expected Utility Theory and Prospect Theory models. In Expected Utility Theory, utility is measured as a function of absolute wealth. In Prospect theory, values of gains and losses are relative to the reference point. It is steeper over losses than gains due to risk aversion. Adapted from *The Market Mogul*, by G. Parravicini, from <https://themarketmogul.com/plato-kahneman-taleb-evolution-economic-forecast/>. Copyright [2016].

**Framing Postulate of Prospect Theory.** Any message can be gain-framed or loss-framed, just as messages can be framed positively or negatively. Prospect Theory predicts that behaviors that may result in a risk will be encouraged by framing messages as losses, and behaviors that are not risky should be encouraged by using messages framed as gains. Following this idea, messages that encourage behaviors with uncertain outcomes are more effective if they are framed as losses, and messages that encourage behavior with certain outcomes are more effective when framed as a gain. Examples of the effects of framing on certain and uncertain outcomes can be seen in the framing of messages on health detection and health prevention behaviors.

**Detection Behaviors, Prevention Behaviors and Framing.** Studies examining health behaviors subdivided them into detection and prevention behaviors (Latmier, Katulak, Mowad & Salovey, 2005). Studies in the past have labeled “detection behaviors” as risk-taking while “preventative behavior” or “health promotion behaviors” as risk-averse, (Millar & Millar, 1993; Latmier et al., 2005; Kiene et al., 2005). An example of a detection behavior would be getting tested for STIs, while a preventative behavior would be always practicing safer sex by wearing condoms. While both are health behaviors, each have different outcomes. Getting tested for HIV has an uncertain outcome (one could test positive or negative) and using condoms consistently will have a almost certain outcome (not contracting an STI). Because of the different outcomes, messages encouraging detection and prevention behaviors are more effective when framed differently from each other.

Research on the preventative behavior of using sunscreen (Rothman & Salovey, 1993) found that beach goers that read a gain-framed brochure on the benefits of using sunscreen were more likely to redeem a sunscreen coupon given to them, than beach goers that read loss-framed

sunscreen brochures. Furthermore, participants that read the gain-framed brochures were more likely to use the sunscreen they redeemed than participants in the loss-frame group that redeemed their coupon for sunscreen (Rothman et al., 1993). This study is in accordance with Prospect Theory, as using sunscreen is a preventative health behavior (certain outcome), and gain-framed messages were more effective on participants (see Table 1 for example framed messages)

Another health behavior study consistent with Prospect Theory, found that framing messages as losses has an impact on promoting detection behavior. In the study by Apanovitch et al., (2003), researchers found that loss-framed messages were more effective than gain-framed messages among participants who believed that they were at a higher risk for contracting HIV (see Table 1 for example framed messages).

Frame	Preventative Health Behavior	Detection Health Behavior
Gain	If you use sunscreen with SPF 15 or higher, you increase your chances of keeping your skin health and you life long (Rothman et al., 1993).	There are many benefits, or good things, you may experience if you get tested for HIV. If you decide to get HIV tested you may feel the peace of mind that comes with knowing about your health (Apanovitch et al., 2003).
Loss	If you don't use sunscreen of SPF 15 or higher, you decrease your chances of keeping your skin health and you life long (Rothman et al., 1993).	There are many problems, or bad things, you may experience if you don't get tested for HIV. If you decide not to get HIV tested, you may feel more anxious because you may wonder if you're ill (Apanovitch et al., 2003).

*Table 1* Examples of framed messages used in preventative health behavior and detection health behavior studies (Rothman et al., 1993; Apanovitch et al., 2003).

**Prospect Theory, Framing and Condom Use.** Following Prospect Theory, messages encouraging preventative health behaviors are more effective when they are gain-framed. On the other hand, detection behaviors are more effective when loss-framed (Rothman et al., 1993; Kiene et al., 2005). And, while condom-use is a risk-averse, preventative health behavior, it

cannot be simply viewed as such. When condom-use is considered a preventative health behavior, other behavioral dimensions are being overlooked. Indeed, condom-use is an interpersonal behavior that could be potentially relationship- threatening.

Asking a sexual partner to use a condom during sexual activity could be viewed as a risky behavior, since it may be potentially upsetting to the partner (St. Lawrence, 1999). It may be perceived as a sign of suspicion, infidelity, or mistrust (Fisher & Fisher, 1995). Because of this risk, condom-use cannot be equated with other risk-averse preventative health behaviors, such as wearing a seatbelt or a life vest.

Today, a quick internet search can show that major health organizations mainly use Gain-Health/Relationship messages when encouraging condom-use. For instance, Planned Parenthood encourages condom-use through gain-frame health/relationship messages by writing in its website, “Condoms are easy to get and easy to use. They help prevent both pregnancy and STDs. And condoms can even make sex better — seriously,”. The CDC also uses gain-framed health-categorized messages: “When used the right way every time, condoms are highly effective in preventing HIV and other sexually transmitted diseases (STDs). If condoms are paired with other option like PrEP or ART, they provide even more protection.” (CDC, 2017) Both the CDC and Planned Parenthood use framed and categorized messages that equate condom-use to other preventative health behaviors. This could be problematic, as loss-framed messages may be more effective for some people.

### **Past Research on Condom-Messages**

Kiene, Barta, Zelenski, and Cothran (2005) sought to create effective messages that would encourage people to use condoms while also considering the dimensionality of condom-use as a behavior. They noted that past studies viewed condom-use as a low-risk, preventative

health behavior, even when condom-use is not as simple as other preventative health behaviors. For this reason, they divided framed (gain and loss) messages encouraging condom-use into two categories: health and relationship. The health category focused on disease prevention, while the relationship category focused on talking to a partner about condom-use.

Given the potential social risk involved in condom use, Kiene et al. (2005) hypothesized that gain-framed health-categorized messages would be rated as more convincing than loss-framed relationship-categorized messages. They further hypothesized that loss-framed relationship-threat messages would be more convincing than gain-framed relationship-categorized messages. The researchers also considered that condom-use was a male-driven behavior and that women had low self-efficacy regarding their ability to convince partners to use condoms (Wendt & Solomon, 1995). This resulted in their hypothesis that gain-framed health-categorized messages would be more convincing for women than for men, taking into consideration the importance of the differences of message recipients.

Their results indicated that heterosexual men were not influenced by message category, while heterosexual women rated loss-framed relationship-categorized messages and gain-framed health-categorized messages as higher than their other-framed counterparts.

The results of this study can be viewed as a critique on researchers who might view condom-use simply as a preventative health behavior. Condom-use is an interpersonal behavior, and the individual circumstances affect their response to condom-messages. The study found gender differences in condom-message effectivity, but there are other circumstances which may also impact the effectivity of framed and categorized condom messages. These include differences in relationship status, sexual history, race/ethnicity and secondary forms of birth control (for cis women in heterosexual couples). While this study found significant differences

between men and women, it only comprised heterosexual participants, another unexplored difference.

### **Perceived Sexual Risk in the Gay Community**

MSM are at higher risk of contracting HIV than any other group in the United States (CDC, 2017). Yet, a large scale study on MSM found that of 5,649 participants, 10% of them tested positive for HIV, and most (77%) were unaware of their infection. Furthermore, prior to their diagnosis, 59% of the participants that were unaware of their positive HIV status, perceived that they had low risk of infection (Duncan et al., 2015). Although MSM have the highest risk of contracting HIV, the perception of risk is low. Self-perception of contagion risk is important since it encourages both preventive and detective health behaviors (Kowalewski, Henson & Longshore, 1997; Poppen & Reisen, 1997).

Contrastingly, a study on STI testing patterns over time found that gay and bisexual males were more likely to report being tested for sexually transmitted infections (STIs) than heterosexual males and lesbian and bisexual females (Solorio, Norweeta, Weiss & Batterham, 2006). Since self-perception of risk encourages detection health behaviors, it could be argued that identifying with the gay community increases self-perception of sexual health risk.

These differences in risk perception between MSM, heterosexual and homosexual men, would be considered as differences in reference points in the Prospect Theory S-curve. As a result, different frames would be more effective than others.

### **The Present Study**

The 2005 Kiene et al. study revealed different effects of framing and categorization of condom-use messages within heterosexual men and women. Given that the male homosexual community has the highest rates of HIV/AIDS (CDC, 2017) and that the HIV/AIDS crisis had a

large socio-historical impact on the gay community (Lelutiu-Weinberger et al., 2013), it would not be surprising if they interpreted condom-use messages differently than other groups.

**Defining Sexual Orientation.** In order to study the differences in framing and category effects between heterosexual men and homosexual men, it is necessary to define what is a heterosexual and a homosexual man. However, defining a sexual orientation is quite difficult.

All humans are essentially very similar in a genetic level (Witherspoon, Wooding, Rogers, Marchani, Watkins, Batze & Jorde, 2007). To my knowledge, no reliable scientific study has found genetic differences between people that identify as heterosexual or homosexual. While a study claimed to have found a genetic difference between identical twins with different sexual orientations (Ngun, 2015), it had low statistical power. Additionally, a much larger study was done by the company 23andme. This was the best-powered genomewide association study (GWAS) on sexual orientation and it did not find any genetic differences associated with sexual orientation (Drabant et al., 2012).

Since current evidence does not support the myth of a “gay gene” or a “straight gene”, defining heterosexuality and homosexuality can be done based on three factors: desire, behavior and identity. In the classic by Edward Laumann, John Gagnon, Robert Michael, and Stuart Michaels (1994), the researchers established that sexual behavior did not necessarily coincide with sexual identity or sexual desire. While a person may desire another person of their same sex, it does not mean that they act on their desire, or that they identify as homosexual. In the same vein, while a person may identify as homosexual, it does not mean that they have sexual relationships with people of their same sex.

For the purposes of this study, self-identification as heterosexual or homosexual was the best way to assign participants to one group or the other. IN other words, participants self-selected.

**Hypotheses.** Using Prospect Theory as a framework, I predict that messages encouraging condom use that are framed as gains will be interpreted by participants as more effective than those framed as losses, regardless of category of message or sexual orientation of participants.

I also predict that health-categorized messages will be rated by participants as more effective than relationship-categorized messages. While framing is useful for encouraging healthier behaviors, it is important to consider individual socio-historical backgrounds (Lelutiu-Weinberger et al., 2013). When it comes to condom use, categorizing messages may be as important as framing them, since condom-use can be seen both as a low-risk behavior and as one with certain amount of social risk involved (St. Lawrence., 1999; Fisher & Fisher, 1995).

Following my other predictions, I hypothesize that participants will find gain-framed and health-categorized condom-messages more effective than any other combination of frame and category, while relationship-categorized messages will be perceived as more effective when framed as a loss.

I also predict that homosexual men will find loss-framed health-categorized messages more effective than heterosexual men, because homosexual men are at higher risk of contracting an STI than heterosexual men. In addition, I predict that both heterosexual men and homosexual men will both rate loss-framed, relationship-categorized messages as more effective than gain-framed, relationship-categorized messages.

***Risk-Taking Behavior.*** In order to establish that my results are due to homosexual and heterosexual differences in reference points for sexual risk perception, and not to differences *in*



general risk-taking, the population samples need to have the same risk-taking disposition. While there is no clear picture of participants' reference points within specific domains, one might wonder whether any differences in rated efficacy of messages might be due to different risk-taking dispositions between the populations. This Risk-Taking check is used to rule out Expected Utility Theory, should there be a significant difference between the groups in risk-taking. Since Expected Utility Theory theorizes that all people have the same risk-taking disposition, potential variations between heterosexual and homosexual participants could be due to differences in reference points, as per Prospect Theory.

The studies of Highhouse, Nye, Zhang & Rada (2016) and Figner & Weber (2011) found no evidence for a general risk-taking disposition, but rather domain-specific risk-taking. While some people may be more risk-taking than others within a specific domain (such as in the financial realm, or when making ethical decisions), people are not usually risk-takers across all situations. This led to the hypothesis that there would be no difference between heterosexual and homosexual participants in a standard measure of domain specific risk-taking.

## **Method**

### **Tools for Data Collection**

**Mechanical Turk (MTurk) and Turk Prime.** Mechanical Turk (MTurk) is an Amazon online platform to post jobs (HITs) for people (Workers) to complete. "HITs" can either be internal or external. Internal HITs are completed within MTurk, while external HITs offer a link to an external platform, in which Workers can complete the requested task.

MTurk allows for quick data collection and in recent years, it has become very popular in the research community, especially in the social sciences (Buhrmester, Kwang & Gosling, 2011). A study of MTurk participants showed that they are more demographically diverse than

American college student samples, and slightly more demographically diverse than other internet samples (Buhrmester et al., 2011; Dupuis, Endicott-Popovsky & Crossler, 2013). In the 2011 Buhrmester et al. study, MTurk participants were older ( $M=31.8$ ,  $SD= 11.5$ ) than the American college students sample, and more racially diverse (36% non white).

Moreover, the Buhrmester et al., (2011) study, found that MTurk Workers were internally motivated, rather than financially motivated. The rate of participation was affected by compensation amount, but low paying, longer tasks still attracted Workers, but at a slower rate. The quality of MTurk data collected was not affected by how much participants were compensated, and the data of the demographic and personality surveys completed by Workers was as reliable as data collected through other standard methods (Buhrmester et al, 2011). This was supported by the finding that test-retest reliabilities were very high ( $r = .80-.94$ ; mean  $r = .88$ ). The drawback of having longer tasks with low compensation is the speed at which the data will be collected. These results were consistent with other non-survey tasks (Mason & Watts, 2009).

While MTurk has its benefits, it also has its disadvantages, just like any form of data collection. In terms of participant confidentiality, for instance, Amazon collects information which could link participants to the data they provide. In order to keep participants' information confidential, specific steps were taken. Mechanical Turk (mTurk) collects personal identifiable information and automatically links Worker IDs (a number that is linkable to the participant's public Amazon account) to responses if done through an Internal HIT.

To avoid this, we used Turk Prime's "anonymizing" feature, which encrypted Worker IDs before releasing the data to the researcher. Furthermore, following suggestions from the University of California, Berkeley's Committee for Protection of Human Subjects' ("CPHS

Guidelines”, 2017), the present study used an External HIT (hosted by SurveyGizmo). In this way, participants’ responses were kept separate from Amazon records.

To assure confidentiality, I did not have access to participants’ Worker IDs, so each participant was automatically given a static completion code at the end of the study. After participants fed the code into MTurk, Turk Prime automatically paid them within 2 hours.

Turk Prime is an extension of MTurk, created by researchers for researchers. It simplifies the MTurk process and allows for participants to remain anonymous to the researcher, which is an MTurk shortcoming (“Turk Prime”, 2017; “CPHS Guidelines”, 2017).<sup>1</sup>

## **Materials**

**Messaging Task.** As in the Kiene et al. (2005) study, participants were asked to make normative judgments, as an indirect approach to assessing participants’ own attitudes. This was to avoid socially desirable responding. According to the error-choice method (Ajzen, 2002), it was unlikely that participants would have an objective basis for estimating how efficient these messages are for others; therefore their responses are likely to correspond with their personal attitudes. Furthermore, according to the the False-Consensus Effect (FCE), people overestimate how much others have the same beliefs as them, and often believe that others have the same beliefs as their own (Ross, Greene & House, 1977).

The 32 messages within the Messaging Task adopted for the purposes of the present study (see Table 2 for examples and Appendix A for entire Messaging Task) were taken from the Kiene et al. (2005) study. However, the language of some of the messages was slightly modified . Messages including references to “STDs” were updated to “STIs.”. Sexually

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<sup>1</sup> The use of Turk Prime in this study was mostly driven by cost-consciousness, as it is a way to bypass an additional new 40% fee that MTurk recently implemented for studies with more than 10 participants. Through an option called microbatch, Turk Prime releases studies in groups of 9, various times, until the number of participants requested is reached. This reduces the fee by 50%.

transmitted diseases, or STDs, is an outdated term for infections that are transmitted through sexual contact. Since often, these are infections and not diseases, the term currently used is sexually transmitted infections, or STIs (Planned Parenthood, 2017). Messages mentioning pregnancy were removed so that all messages applied to both homosexual and heterosexual cis gender men.

The Messaging Task consisted of 32 framed and categorized statements (see Appendix A for full set of messages used), crossed between variables (frame and category) (see Table 2 for examples). Each message was displayed individually on the screen (see Figure 2 for an example taken from screen grab of Messaging Task).

Table 2

*Examples of Framed and Categorized Messages in Messaging task*

Category	Gain	Loss
Health	By using a condom or other barrier during oral sex, you reduce your risk of contracting an STI or HIV.	By not using a condom or other barrier during oral sex, you increase your risk of contracting an STI or HIV.
Health	Many sexually transmitted infections don't have symptoms, so using condoms is the best way to reduce the chance of getting an STI or HIV from a partner who doesn't know he/she is infected.	Many sexually transmitted infections don't have symptoms, so if you don't use condoms you can get an STI or HIV from a partner who doesn't know that he/she is infected.
Relationship	Even if you don't think your partner is the kind of person that would have an STI or HIV, if you ask him/her to use condoms, then you are reducing your risk.	Even if you don't think your partner is the kind of person that would have an STI or HIV, if you don't ask him/her to use condoms, then you are increasing your risk.
Relationship	Asking your steady partner to use condoms protects you from STIs and HIV in case he/she has sex with someone else and you don't know it.	Not asking your steady partner to use condoms puts you at risk for STIs and HIV if he/she has sex with someone else and you don't know it.

Table 2. Crossing of variables in the Messaging Task. Here are concrete examples of the framed and categorize messages given to participants. For the complete content of the task, please see Appendix A.

**Looking at Condom Message Persuasiveness**

**Task C**

4. If you tell your partner that you won't have sex without a condom, then you will be protecting yourself from STIs and HIV

1 (not effective at all)      2      3      4 (neutral)      5      6      7 (extremely effective)

6%

Figure 2. Screen example of Messaging Task. For participants this task was known simply as “Task C.” See Appendix A for full task content

**Risk Task.** In this study, the Risk Task used (See Appendix B for full scale) was the 30 item Domain-Specific Risk-Taking Scale (DOSPERT) (Weber, Blais, & Betz, 2006). It evaluates self-reported likelihood of risk-behavior in five domains of life: ethical, financial, health/safety, social, and recreational risks. Studies looking at the self-reports of the likelihood of risk-taking using this same scale have been found responses to correlate with real-world risk taking (Hanoch et al., 2005; Zuniga & Bouzas, 2005).

The Risk Task, like the Messaging Task, is also evaluated on a 1-7 Likert-type scale, although unlike the Messaging Task, each point is anchored with a textual statement (see Figure 3 for an example screen of the Risk Task). Both tasks were randomized across participants. The computer presented the questions one at a time to participants.

## Looking at Condom Message Persuasiveness

### Task D

4. Revealing a friend's secret to someone else.

1 (extremely unlikely)	2 (moderately unlikely)	3 (somewhat unlikely)	4 (not sure)	5 (somewhat likely)	6 (moderately likely)	7 (extremely likely)
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Back

Next

6%

*Figure 3.* Screen example of Risk Task. For participants this task was known as “Task D.” See Appendix B for full task.

### Participants

A total of 127 self-identifying sexually active homosexual single men and another 158 self-identifying sexually active heterosexual single men, all over the age of 18 completed part or all of the study components.

After excluding men from the data collected due to ineligibility, the data of 98 homosexual and 101 heterosexual men was used in the data analysis.

### Recruitment Process

Prior to recruiting participants, this study was approved by the Institutional Review Board at Bard College in Annandale-on-Hudson, New York. (See Appendix C for application and approval).

The men were reached through two “External HIT” posts (see Appendix D) on MTurk through the use of Turk Prime, one for men who identify as homosexual/gay, and another for

men who identify as heterosexual/straight. Participants were recruited through MTurk due to the convenience of recruitment. MTurk allowed for this study to have a more racially and age diverse sampling pool than a regular American college student sample. Moreover, doing the research through MTurk and Turk Prime allowed for enhanced participant confidentiality.

The content in the surveys were the same, but there were two pipelines for participation, for homosexual or heterosexual men, respectively. This HIT advertised the experiment and included the requirements for participation, duration of the tasks and compensation (see Appendix D). Participants were offered 20 cents as compensation for completing 10-20 minute survey on SurveyGizmo. Participants were asked to provide informed consent on the first survey screen hosted by SurveyGizmo (see Appendix E for complete consent form ). After consenting, there was a second check of sexual orientation, in which they once again self-identified as either heterosexual or homosexual by clicking on a multiple choice answer.

To be eligible for the study, participants had to indicate that they were single and sexually active. For the purposes of this study we defined “sexually active” as having had sex in the last 3 months, and “single” as not being in a committed romantic relationship that participants identify as serious.

Participants were also filtered through MTurk, so that all would be in the United States when completing the tasks, allowing for a more homogeneous sample.

The submissions from participants who did not reach the complete page were considered as incomplete and therefore their data was not used (see Figure 3 for more details).

Initially, this study aimed to collect the data of 100 heterosexual and 100 homosexual men. This sample size was chosen to get close to the Kiene et al.,(2005) sample size. After initially releasing 100 jobs for heterosexual men between October 5-9 2017 and 100 jobs for

homosexual men between October 5-19, 2017, I found that the data of 33 heterosexual and 22 homosexual men did not meet the criteria for inclusion (see Figure 3 for details on exclusion).

This led to the release of a second round of data collection, using the same exact methodology than for the first round. The second round collected the data of 27 homosexual men between October 19-23, 2017, and 58 heterosexual men for 3 hours on October 19, 2017. Of the data collected, 24 heterosexual men and 7 homosexual men did not meet the requirement criteria (see Figure 4 for details on exclusions).

In the end, the data of 98 homosexual and 101 heterosexual men was used (see Figure 4). A third round of data collection for homosexual sample was not done due to time constraints.

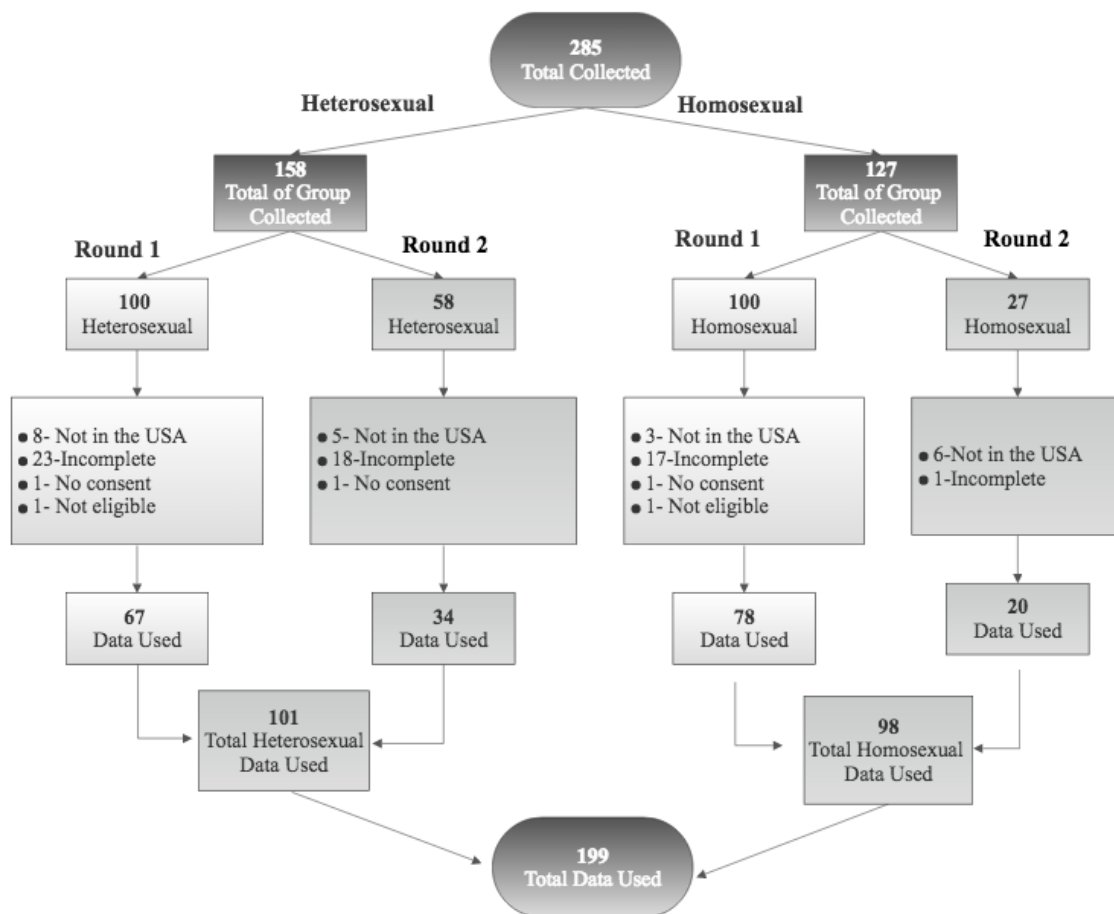


Figure 4. This figure depicts the exclusion of participants from the data analysis from Round 1 and Round 2.



## Design

### Variables

The variables that this study looked at were Sexual Orientation, (heterosexual/homosexual--between participants), Frames (gain/loss--within participants) and Categories (relationship/health--within participants), resulting in a mixed 2x2x2 design (see Table 3). Additionally, the order in which the Risk and Messaging Tasks were presented to participants was randomized across participants through SurveyGizmo. Exclusions disrupted a perfect balance across the orders. After exclusions, 96 participants completed the Messaging Task first, and 103 participants completed the Risk Task first. From the heterosexual sample, 54 participants completed the Messaging Task first, and 47 did the Risk Task first. From the homosexual sample, 42 participants did the Messaging Task before the Risk Task, and 56 did the Risk Task before the Messaging Task.

Table 3  
*Crossing of Frames and Categories*

Frames and Categories Crossed	
Loss/Relationship	Gain/Health
Gain/Relationship	Loss/Health

*Table 3.* Crossing of the levels of each variable within the Messaging Task. Each condom-message represented a crossing between a category and a frame.

## Procedure

### Informed Consent

Once on the SurveyGizmo survey page, the men interested in participating read a consent page, which informed them of their rights as participants (see Appendix E). They were informed that some of the questions in one of the questionnaires were of a sexual nature.

After consenting, they completed an eligibility checklist. Provided that they were deemed eligible, participants were directed to complete the survey in SurveyGizmo, which consisted of the two tasks. If they were not eligible, they were thanked for their time, and asked to exit the survey.

The only questions that required an answer were the consent form and their eligibility marker. Participants that declined consent were asked to close out of the SurveyGizmo page. If, after declining to consent, they continued taking the survey, their data was recorded but not included in the data analysis. All the rest of the questions were optional, but only data from participants that completed all questions were analyzed. Participants had 2 hours to complete the entire study without any other specific time instructions. Across everyone who started the tasks, it took them 10 minutes and 38 seconds to complete both tasks ( $N=285$ ,  $SD= 0.07$ ). For participants included in the data analysis, the average time to complete was 8 minutes and 38 seconds (homosexual  $M= 6$  minutes and 7 seconds; heterosexual  $M= 10$  minutes) and, for individuals whose data was not included in the analysis, the average time on the tasks was 1 minute and 10 seconds. There was major mean difference in the time to complete the tasks between participants that were included in the data analysis and participants in the excluded data set. This could be due to individuals answering only the required questions and skipping through the tasks.

### **Messaging Task**

In the Messaging Task (see Appendix A for full task content), they rated condom-use statements on an anchored Likert-like scale from 1-7 (1-not at all to 7-very much so) by selecting the radio button corresponding to their effectiveness. Each statement was presented individually (one question per page) and the sequence of the messages was randomized across all

participants. There was a progress bar at the bottom of the page, indicating the percentage of the full survey completed.

### **Risk Task**

In the Risk Task, participants filled out a Domain-Specific Risk-Taking Scale, DOSPERT scale, (Risk Task) (from Blais, & Weber, 2006), which is a validated domain specific risk taking scale (see Appendix B for full scale content). Participants answered likelihood of risk-behavior on an anchored Likert-like scale from 1-7 (1-not at all to 7-very much so) by selecting the radio button corresponding to their likelihood of behaving in specified way. Each statement was presented individually (one question per page) and the sequence of the messages was randomized across all participants. There was a progress bar at the bottom of the page, indicating the percentage of the full survey completed.

### **Debriefing**

Once participants completed all the questions, they were given a debriefing statement (see Appendix F for debriefing form), in which they were thanked for their time. A simple description on past framing effects was included. It also clarified the goal of the study, which was to see the differences in preferences of persuasive messages between men who identify as homosexual/gay and men who identify as heterosexual/straight. Participants were also told that when they were asked to rate how effective other men of their same sexual orientation would find the messages in the Messaging Task, the experiment was aiming to see what their personal preference would be.

The form also included links to certain sexual health resources they may choose to explore after the study, as well as the telephone number of the STD Hotline of the American Sexual Health Association. My email, my advisor's email, and the Bard IRB email address were

also included in case participants had further questions. No participants emailed with questions or comments.

In the debriefing statement, participants also received a code, which they could then give to MTurk to get automatically paid within 12 hours.

## Results

For this study, an alpha of  $p < .05$  was chosen, and data were first subjected to a mixed-design analysis of variance (ANOVA), with planned and post-hoc comparisons conducted using t-tests. After analyzing the results using the planned approach, a couple of alternative statistical models were constructed that included additional (nuisance) factors. In line with expectations, the inclusion of either task order (randomization), nor the round (wave) of recruiting meaningfully affected the nature of the results or the conclusions drawn from them. As such, the results reported were obtained from the original model without either nuisance factor included.

### Main Effect of Framing in Perceived Effectivity of Message Task

According to Prospect Theory, gain-frame messages should be more effective than loss-framed messages. This was supported by the data (Group gain-framed effectiveness  $M = 5.06$ ,  $SD = 0.97$ ; Group loss-frame effectiveness  $M = 4.82$ ,  $SD = 0.97$ ) and the relevant main effect of framing,  $F(1,195) = 4.70$ ,  $p = 0.03$  (see Figure 5.)

As predicted, there was no interaction between orientation and framing,  $F(1,195) = .87$ ,  $p = .35$ . See Figure 5.

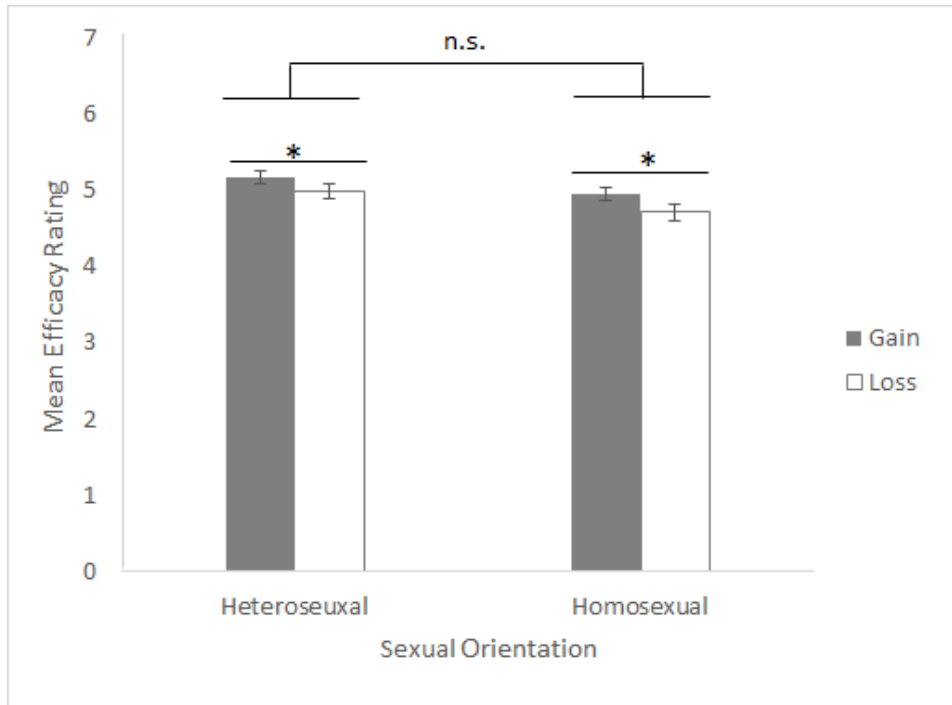


Figure 5. Framing on Mean Rating of Messages in Messaging Task. This figure depicts how gain framed condom-messages were rated as significantly more effective than loss framed messages, regardless of the sexual orientation of participants (4 being neutral and 5 being somewhat effective). Error bars show standard error, \* indicates  $p < .05$  and n.s., stands for “not significant”.

### Main Effect of Categories Perceived Effectivity of Condom-Messages

Following the prediction that there would be a significant difference between health and relationship categorized messages, participants rated health messages ( $M = 5.00$ ,  $SD = .99$ ) as more effective than relationship categorized messages ( $M = 4.88$ ,  $SD = 0.96$ ), yielding a significant main effect of category,  $F(1,195) = 7.20$ ,  $p = 0.01$ . This did not interact with either framing,  $F(1,195) = .007$ ,  $p = .93$ , or orientation,  $F(1,195) = .021$ ,  $p = .89$ . (see Figure 6).

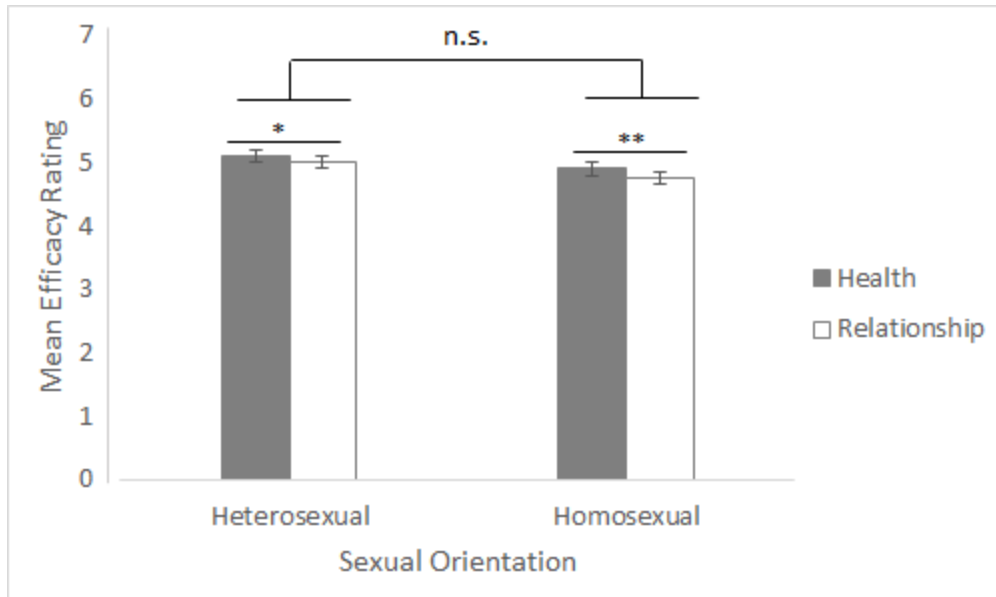


Figure 6. Categories on Mean Rating of Messages in Messaging Task. Health categorized messages regardless of frame or orientation of participants, were evaluated as more effective than relationship categorized messages (4 being neutral and 5 being somewhat effective). Error bars show standard error, \* indicates  $p < .05$ , \*\* indicates  $p < .01$  and n.s., stands for “not significant”.

### Main Effect of Categories and Orientation

I predicted that homosexual men would find health messages more persuasive than heterosexual men, due to ingroup identification and the history between the homosexual community and HIV/AIDS. However, there was no significant difference between heterosexual and homosexual participants in category perceived effectivity,  $F(1,195) = .021$ ,  $p = .885$ . There was no main effect of category on sexual orientation. See Figure 6.

### Interaction Between Frames and Categories

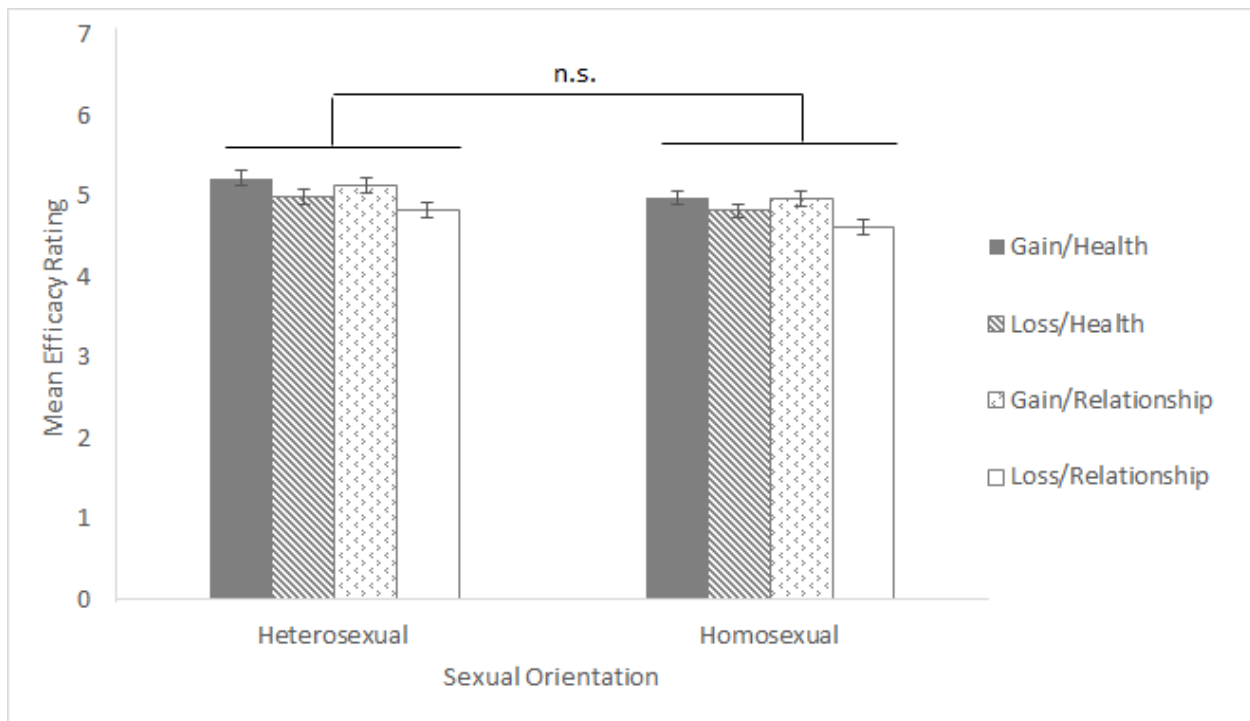
Moreover, I predicted that there would be an interaction between frames and categories, since past literature (Kiene et al., 2005) had viewed that loss-framed relationship-categorized messages and gain-framed health-categorized messages were found to be rated as most effective. However, this was not supported by the present data. Certain combinations of frames and categories did not result in more effective messages. There was no interaction between frame and category,  $F(1,195) = .007$ ,  $p = .93$ . While no significant interaction was observed, looking at the

mean ratings of Gain/Health messages, ( $M = 5.104$ ,  $SD = 1.04$ ) show that they were rated numerically higher than any other combination (see Figure 7 for means of framed and categorized messages).

Furthermore, while I, as did Kiene et al. (2005), hypothesised that loss/relationship condom-messages would be rated as higher than gain/relationship, the data did not support this,  $F(1,195) = .007$ ,  $p = .93$  and, while not significant, gain/relationship messages ( $M = 5.023$ ,  $SD = .99$ ) were on average rated numerically higher than loss/relationship messages ( $M = 4.734$ ,  $SD = 1.02$ ) across participants (see Figure 7 for means of framed and categorized messages).

### Interaction of Frames, Categories and Sexual Orientation of Participants?

While this study predicted a three way interaction, in which gain framed and health categorized messages would be perceived as more effective by homosexual participants than heterosexual participants, there was no three-way interaction of frames, category and sexual orientation,  $F(1,195) = .415$ ,  $p = .520$  (See Figure 7).



*Figure 7. Frames, Categories and Sexual Orientation in Messaging Task. There was no interaction of Frames, Categories and Sexual Orientation. Error bars show standard error and n.s., stands for “not significant”.*

### **Does Risk-Taking Differ Across Participants?**

To see if these results could have been affected by participants different general risk-taking behaviors, a Risk task was administered. Ten heterosexual men and 10 homosexual men did not answer all the Risk-task questions; therefore, their data were not included in the analysis specifically related to this question.

I hypothesized that both heterosexual and homosexual men would have statistically similar ratings of their likelihood of engaging in risky behaviors, as reflected by their Risk Task scores. An independent-samples *t*-test reject the null hypothesis that there is no significant difference between heterosexual and homosexual men in risk taking behavior,  $t(176) = .12, p = .86$ ). Heterosexual men and homosexual men had on average similar DOSPERT scale scores (heterosexual,  $N = 91, M = 110.00, SD = 25.92$ ; homosexual,  $N = 88, M = 109.50, SD = 26.93$ ). This indicates that, for this study, the risk-taking behaviors of both groups did not affect the results of the study (See Figure 8 for mean Risk Task score comparison). Additionally, an ANCOVA supported that Risk Scores did not have an effect on the ratings of messages between heterosexual and homosexual participants,  $F(1,193) = 2.97, p = 0.09$ ,

The mean Risk Task scores of the participants in this study ( $M = 109.83, SD = 26.35$ ), were more risk-averse than ones in an English adult (22-35) population in a Canadian study ( $M = 121.33$ ) (Blais & Weber, 2006). This could indicate that the participants in this study were generally more risk-averse than other populations.



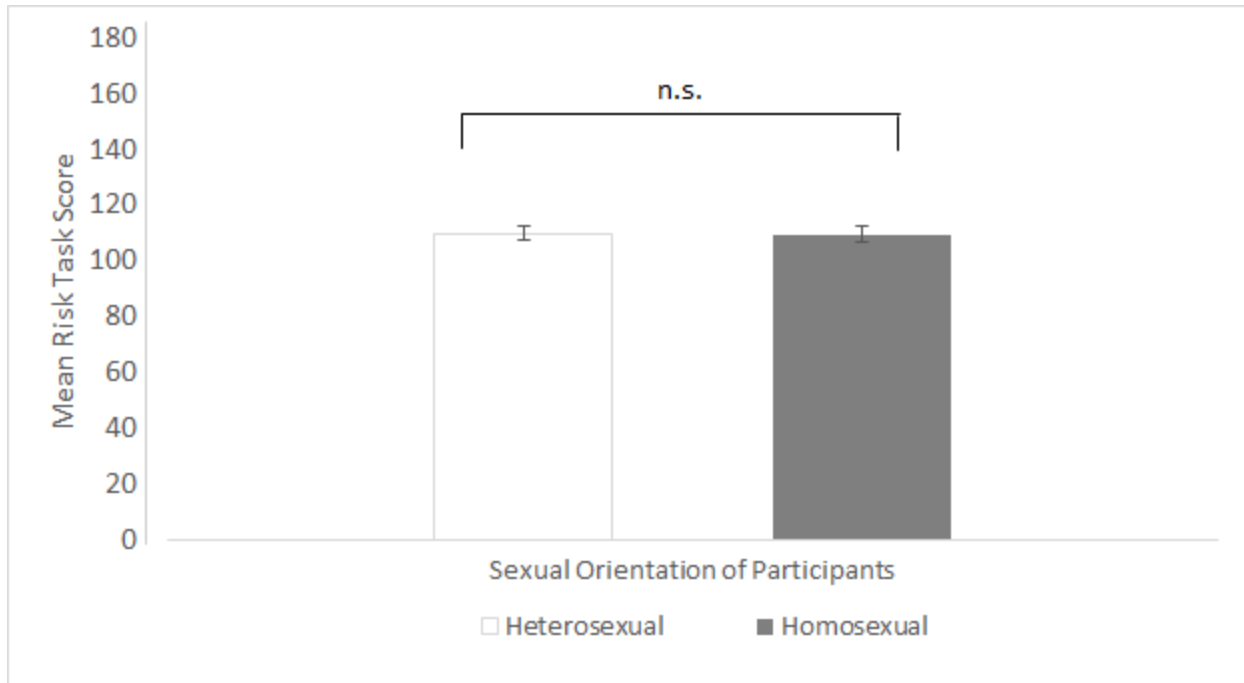


Figure 8. Comparison of Mean Risk Task Scores Between Heterosexual and Homosexual Participants. Error bars show standard error and “n.s.” stands for not significant.

**Exploratory Analyses.** The results of this study left some unanswered questions. In order to address some of them, exploratory analyses were run, to see if the data could give deeper insight into framing and categorizing effects.

**Risk Task Health Subscale.** Since the results were inconclusive when it came to finding differences between heterosexual and homosexual participants and the way they rated condom-messages with different frames and categories, I wanted to see if both sampled groups had different domain-specific risk-taking when it came to health risks. Of the entire 30 question Risk Task, there were 6 questions relating specifically to health behaviors. A t-test for independent means with the mean of all health domain DOSPERT questions, showed that there was no significant difference between homosexual, ( $M= 3.61$ ,  $SD=1.25$ ) and heterosexual, ( $M= 3.73$ ,  $SD=1.28$ ) participants,  $t(196) = .65$ ,  $p = .511$ .

Furthermore, after conducting an independent sample t-test, there was no significant difference between heterosexual, ( $M = 4.19$ ,  $SD = 1.90$ ) and homosexual, ( $M = 4.20$ ,  $SD = 2.02$ ) men in their self reported likelihood of having unprotected sex,  $t(196) = .62$ ,  $p = .98$ . As before, this highlights that general risk-taking behavior likely did not heavily affect the results. Since risk-taking is often domain-specific, within the health domain and when asked about unprotected sex, both groups did not differ,  $F(1,193) = 2.05$ ,  $p = 0.15$ .

***Frames, Risk Takers, and the Risk Averse.*** Another aspect of the study I wanted to explore was to see if participants with higher risk scores (risk-takers) rated loss-framed messages as more effective than gain-framed messages, and if participants with lower risk scores (risk-averse) rated gain-framed messages as more effective than loss-framed messages. This exploratory analysis was motivated by the concept of a reference point explored in Prospect Theory. Prospect Theory would predict that risk-takers would prefer loss-framed messages, as they would promote risk-taking behaviors. On the other hand, the risk-averse would prefer gain-framed messages, since in Prospect Theory, gains result in loss-aversion.

To do so, I divided the data into two groups. These were people that had higher DOSPERT scale scores, between 116 (the median) and 180 (the maximum), and people with lower DOSPERT scale scores, between 30 (the lowest score) and 115 (evaluated as more risk averse). Once divided, there were 75 risk-takers, and 105 risk-averse participants. Differences in risk-taking scores showed no interactions between frames, categories and sexual orientation,  $F(1,176) = .005$ ,  $p = 0.94$ . There was also no main effect of risk-taking on framing,  $F(1,175) = 0.58$ ,  $p = 0.55$  or on category  $F(1,176) = .023$ ,  $p = 0.88$ .

## Discussion

This study was designed to see if heterosexual men and homosexual men interpret the efficacy of framed and categorized condom-use messages differently from each other.

The results of this study supported Prospect Theory, in that both heterosexual and homosexual men evaluated gain-frame condom-use messages as more effective than loss-framed messages.

While I predicted that heterosexual and homosexual men would interpret the messages in the Messaging Task differently than heterosexual men, there was no evidence in this study to support it. In fact, the responses of both samples were very similar.

Categories did not result in statistically significant answers between the groups, which went against the predictions of this study. While, on average, participants rated health-categorized messages as more effective (as predicted), sexual orientation did not have an impact on the results. I also predicted that homosexual men would find loss-framed health categorized messages more effective than heterosexual men, which was not the case.

Additionally, I predicted that relationship-categorized messages would be perceived as more effective when framed as a loss, but this was not supported by the data. There was no interaction between different crossings of the independent variables (frame and category).

While this study was unable to find differences between heterosexual and homosexual men and the efficacy interpretation of messages, this does not mean that people creating messages encouraging condom use for specific populations should ignore frames and messages.

Past research on framed and categorized messages show differences in efficacy ratings between populations. In Kiene et al.'s (2005) study, researchers observed that for straight men, health and relationship categories did not have an effect on framed messages, but straight women

rated loss-framed, relationship-categorized messages as more effective than gain-frame relationship-categorized messages, and gain-frame higher than the loss-frame for health messages. And while women felt messages framed as losses that involved relationship interaction (loss-framed, relationship-categorized) were more effective than messages that were gain-frame and relationship categorized, they still reported having more control over sexual encounters than men did.

If control over a sexual situation is what makes straight women rate loss-framed, relationship-categorized messages as being more effective than gain-frame relationship-categorized messages, and the gain-frame higher than the loss-frame for health messages, then similar effects might be seen in homosexual populations as well.

One study in homosexual populations saw that homosexual men held more favorable attitudes and greater intended condom-use than the heterosexual men (Treffke, Tiggemann & Ross, 1999). Additionally, another study found that self-efficacy predicted less risky sex for MSM but not for heterosexual men (Widman, Golin, Grodensky, & Suchindran, 2014). Since positive attitudes towards condoms also predict higher self-efficacy for condom-use and feeling more control over sexual encounters (Baele, Dusseldorp & Meas, 2001), this could lead to homosexual men having similar responses to women's answers in the Kiene et al., 2005 study. This would result in loss-framed relationship-categorized messages and gain-frame health-categorized messages being the most effective for this group.

On the other hand, another study (Apanovitch, McCarthy & Salovey, 2003) reported that health messages framed as gains were more effective in encouraging HIV testing for women that did not feel that they were at risk of being HIV positive. This effect may also be found in homosexual populations. Since it is possible that homosexual men feel that they are at a higher

risk of contracting HIV (Solorio et al., 2006), loss-framed messages may be the best approach to framing messages encouraging condom-use.

I also predicted that there would be no significant differences between heterosexual and homosexual men in general self-reported risk-taking likelihood. The results of this study supported past findings on risk-taking (Figner & Weber, 2011; Highhouse et al, 2016), as both samples were not significantly different. This test was administered to evaluate if participants had different reference points in general risk-taking. Had they had differences in scores, it would have discarded the Expected Utility Theory as a possible explanation for the results. Yet, since there was no difference between heterosexual and homosexual men in general risk-taking scores, according to Prospect Theory, any differences between the populations would have been due to differences in reference points.

The literature points to contrasting directions that advertisers, sexual educators and advocacy groups could take to make make condom-use messages more effective for homosexual men. And, while Kiene et al.'s (2005) study explains the results gathered from the heterosexual sample in this present study, it did not consider homosexual sexual interactions. This study was not able to determine which messages are most effective in practice, but improvements in the methodology could lead to answers.

### **Improvements in Data Collection and Mechanical Turk Drawbacks**

Future researchers could consider data collection improvements for this study, including the use of Mechanical Turk to collect data. While there are clear benefits to collecting data through this platform, there are also some drawbacks. Since participants are completing surveys for pay, it is possible that they said they were eligible for the study, when they actually did not meet the criteria. Although studies have found that MTurk Workers are mostly internally

motivated rather than financially, some of them use MTurk as an income supplement (Ross, Irani, Silberman, Zaldivar & Tomlinson, 2010). Future research could consider other forms of participant recruitment, such as visiting LGBTQ+ (Lesbian, Gay, Bisexual, Trans, Queer and more) centers or using members of local college QSA (Queer Straight Alliance) clubs.

Furthermore, while automatic payment allowed for certain potentially identifying participants information from being held back from the researcher, it also resulted in incomplete data. In this survey, participants were able to skip questions, future research could consider adding a reminder each time a participant skips a question (in case they skipped it by accident). If participants do not wish to answer one, they could still receive the final secret code to get paid.

These improvements in the data collection would allow for the samples to be more accurate, and for the results to be cleaner.

### **Participants and Possible Obscuring Variables**

In this experiment, participants were not required to give any identifiable information beyond confirming that they met the basic eligibility requirements, specifically whether they identified as heterosexual or homosexual, if they were single and sexually active and were located in the United States at the time of completing tasks. Not asking for further demographic information allowed for researchers to enhance participant confidentiality but also limited the exploration of possible obscuring variables.

**Age.** A possible obscuring variable of this study could be age. Future research may consider asking participants for their age. This would be particularly interesting since a study by Lelutiu-Weinberger et al., (2013) found that participants who identified with the gay community associated with less sexual risk (overall or under the influence of drugs/alcohol) for younger men, but not for older men. This study highlighted that socio-historical perspective can help to

identify different predictors of HIV risk across generations of homosexual men. In the current study, it could be the case that older participants that lived through the HIV/AIDS crisis would be more likely to view health-categorized messages as more effective than relationship-categorized messages because health categorized ones mention STIs, and health-loss messages would be more effective for older generations of homosexual men, since they perceived themselves as being at a higher sexual risk than younger homosexual men.

Moreover, age is a good determinant of risk-taking. Research show that adolescents and young adults are more likely to take risks than adults when it comes to risks in which affective processes are involved (Fingar & Weber, 2011; Bell, 2014; Gardner & Steinberg, 2005). These risks include ones that increase over the times the risks are taken, like unprotected sex (Fingar & Weber, 2011), since the more number of unprotected sex partners one has, the higher the likelihood of getting an STI (CDC, 2016). The mean Risk Task scores of the participants in this study ( $M=109$ ,  $SD=26.35$ ), were more risk-averse than ones in an English adult (22-35) population in a Canadian study ( $M=121.33$ ) (Blais & Weber, 2006). This could indicate that the participants in this study were generally more risk-averse.

**Race and Ethnicity.** In the United States, marginalized communities are more vulnerable to STIs, specifically HIV. Men who have sex with men--regardless of race--are the most vulnerable, while overall, regardless of sexual orientation or gender, African-Americans are at the highest risk of contracting HIV, followed by Latinos (CDC, 2012; Rountree & Peebles, 2014). In the United States, 40% of all people living with HIV are African-American, although African-Americans represent only 13.6% of the population (MMWR, 2011). Stigma, fear, discrimination, and homophobia are all factors that place African-Americans and Latinos at risk of infection (MMWR, 2011; Anderson & Simmons, 2010).

Since some racial and ethnic communities are more at risk for contracting HIV, it would be helpful to ask for other demographic questions. Asking for the racial and ethnic identity of participants would have allowed researchers to see if they act as an obscuring variable in the data collected.

Had this data been collected, it would be possible that loss-framed, health-categorized messages would be rated as more effective by African-American and Latino homosexual men, since they are at highest risk of contracting HIV (Apanovitch et al., 2003). Additionally, heterosexual African-American and Latino men may have similar results to homosexual African-American and Latino men, since both heterosexual and homosexual African-American and Latino men are the most at risk. On the other hand, white heterosexual men might find gain-framed, health-categorized messages more effective.

**Sexual History.** Asking for past sexual history might have produced valuable information to help clarify the pattern of results. History of STIs and number of past partners could have impacted the results of this study. Participants with a history of STIs could have higher risk-perception of the risk that they are in for contracting another STI or HIV (Ward & Rönn, 2010). This could result in different framed and categorized messages being more effective.

On a similar note, number of past partners could have also indicated which participants were at higher risk of contracting STIs or HIV, since multiple partners increases risk of infection (Tieu et al., 2014).

### **General Limitations**

This study did have possible obscuring variables, such as age and race/ethnicity. Another limitation of this study is that, while it did look at how effective individuals rated condom-use



messages for men of their same orientation, it did not see if effectivity of messages led to behavioral changes. Future research might consider making the frames and categories of messages between-subjects variable, to see if different condom-messages influence behavioral intention of condom-use, since it significantly predicted condom-use (Asare, 2015; Ajzen, 1991). Past research measured behavioral condom-use changes based on self-reports of condom-use during last sex before and after exposure to condom interventions (WHO, 2011). This method allows researchers to see if their independent variables result in behavioral changes, but it does not account for socially desirable responding.

Another limitation is that participants were asked to make normative social judgments, as a way to indirectly measure their personal perceptions. While past studies have used indirect measures as a way to see participants' individual attitudes (Kiene et al, 2005; Ajzen, 2002), it is difficult to quantify how accurately it reflected participants' own attitudes. The False-Consensus Effect (FCE) is a social bias that leads individuals to overestimate the degree to which others share their own beliefs (Ross, Greene & House, 1977), which supported the assumption that, when asked about others' opinions, participants would answer what they personally believed, but there was no way of seeing the extent to which participants in this particular study were following the FCE in making their effectiveness ratings.

Additionally, the difficulty in defining sexual orientation was a limitation in this study. While participants were classified on the basis of their self-report whether they identify as either heterosexual or homosexual, no other options were provided, and their desires and behaviors were not known. Future studies may consider only looking at self-identifying heterosexual men that also only desire women and only have sex with women, as well as self-identifying homosexual men that only desire men and only have sex with men.

### **Implications for the Future**

Although no significant differences were found between heterosexual and homosexual men in the rated effectivity of framed and categorized condom-use messages, this study does point to the importance of not confusing condom-use as simply a preventative health behavior (such as wearing a helmet, or life vest). Condom-use is an interpersonal behavior, that has both benefits (protection against HIV) and costs (risky interpersonal communication). This is clearly evident in the data presented, as health-messages were rated as more effective than relationship-messages. Sexual educators, and public health workers should keep this in mind when delivering and creating messages encouraging condom-use. Using gain-frame health-categorized messages is a good way for messages to be perceived as effective across sexual orientations.

To determine if targeted messages to heterosexual and homosexual communities should be frame and categorized differently than the current gain-frame, health-category messages that are used by major health organizations (Planned Parenthood, 2017; CDC, 2017), more research needs to be done. A meta-analysis study looking at studies comparing prevention versus detection behavior messages considered studies that measured the effects of framing on health messages through changes in attitude towards the behavior, behavioral intention, or actual behavior. gain-framed health messages were more effective than loss-framed health messages in encouraging prevention behavior (Gallagher & Updegraff, 2012). Yet, as discussed, Loss-Health messages could be more effective for populations that are at high risk of contracting STIs and HIV, such as older homosexual men, African-Americans and Latinos.

Most of the domestic funding for the prevention of HIV and STIs is given to the CDC's National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP). In the budget request for the fiscal year 2018, it received \$640.1 million, which is 19% lower than the

previous year (KFF, 2017). And, although huge efforts to reduce STIs and HIV/AIDS are constantly being implemented, condom-use rates continue to be low both in the United States and abroad. In the United States, between 2011 and 2015, 33.7% of men aged 14-44 had used condoms during their last sexual intercourse. Abroad, rates widely vary between 79% to 8% (World Bank, 2017; United Nations, 2015). Policy makers and sex educators need to consider that there is no one answer for which frame and category should be used in messages encouraging condom-use.

### **Conclusion**

This study set out to determine how to best tailor condom-use message for heterosexual and homosexual men. Main effects of framed and categories were seen across participants, but no differences between heterosexual and homosexual participants were found. Gain-framed messages and health-categorized messages were rated as the most effective messages, regardless the sexual orientation of participants. While the results of this study were inconclusive, future research should expand on this model.

With improvements, such as asking participants for age, race, and sexual history, clearer results may aid in the customization of messages encouraging condom-use. This could be particularly beneficial for communities that are at risk of contracting STIs and HIV. The results of this study equated condom-use to prevention-health behaviors since, gain frames were generally more effective. However past research (Kiene et al., 2005; Apanovitch et al., 2003) have pointed out the problematic outcomes of doing so. Their studies highlight that differently framed and categorized messages have different effects on how efficient the messages are, depending on the risk-levels of the populations.

While the results of this study support that condom-use is in fact a preventative health behavior, it is important to consider that it is also a risky-social behavior, and sexual health campaigns should consider this when making targeted messages encouraging condom-use to at-risk populations.

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# FRAMING AND CATEGORIZATION ON CONDOM MESSAGES

## Appendix A

### Messaging Task Content

Content	Gain	Loss
Health	By using a condom or other barrier during oral sex, you reduce your risk of contracting an STI or HIV.	By not using a condom or other barrier during oral sex, you increase your risk of contracting an STI or HIV.
Health	Many sexually transmitted infections don't have symptoms, so using condoms is the best way to reduce the chance of getting an STI or HIV from a partner who doesn't know he/she is infected.	Many sexually transmitted infections don't have symptoms, so if you don't use condoms you can get an STI or HIV from a partner who doesn't know that he/she is infected.
Relationship	Even if you don't think your partner is the kind of person that would have an STI or HIV, if you ask him/her to use condoms, then you are reducing your risk.	Even if you don't think your partner is the kind of person that would have an STI or HIV, if you don't ask him/her to use condoms, then you are increasing your risk.
Relationship	Asking your steady partner to use condoms protects you from STIs and HIV in case he/she has sex with someone else and you don't know it.	Not asking your steady partner to use condoms puts you at risk for STIs and HIV if he/she has sex with someone else and you don't know it.
Health	Because sexual partners aren't always honest about their sexual history, using condoms will protect you from STIs and HIV.	Because sexual partners aren't always honest about their sexual history, failing to use condoms will put you at risk for STIs and HIV.
Health	If you plan to use condoms every time you have sex you will be more likely to protect yourself.	If you don't plan to use condoms every time you have sex, you will be less likely to protect yourself.
Relationship	Even though you may think that condoms lessen the sensation, you can actually make sex last longer by using condoms	Condoms may decrease sensitivity a bit, but if you don't use one you miss out on being able to make the sex last longer.
Relationship	Knowing how to convince a partner to use a condom helps protect both of you from STIs and HIV.	Not knowing how to convince a partner to use a condom fails to protect both of you from STIs and HIV.
Health	If you ask your partners to get tested for HIV and other STIs before you have sex, you can reduce the risk that you'll get infected.	If you don't ask your partners to get tested for HIV and other STIs before you have sex, you are more likely to become infected.
Health	If you always carry condoms with you, then it is easier to make sure that you have one when you need it.	If you don't carry condoms with you then you might not have one when you need it.
Relationship	If you practice putting on a condom (or know how to put one on your partner) before you ever have sex, it will be easier for you to use a condom correctly when you do have sex.	If you don't practice putting on a condom (or knowing how to put one on your partner) before you ever have sex, it will be more difficult to use a condom correctly when you do have sex.

## FRAMING AND CATEGORIZATION ON CONDOM MESSAGES

Relationship	If you tell your partner that you won't have sex without a condom, then you will be protecting yourself from STIs and HIV	If you don't tell your partner that you won't have sex without a condom, then you will not be protecting yourself from STIs and HIV
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Content	Gain	Loss
Health	Once you get comfortable using condoms correctly and consistently, you will find it a normal part of sex.	If you don't get comfortable using condoms correctly and consistently, you won't find it a normal part of sex.
Health	If you avoid having sex when you are drunk or using other drugs, you're more likely to practice safer sex and therefore you are at less risk of getting an STI or HIV.	If you are having sex when you are drunk or using other drugs, you're less likely to practice safer sex and therefore you are at greater risk of getting an STI or HIV.
Relationship	If you talk to your partner about condoms before you have sex, it will be easier to use condoms when you do have sex.	If you don't talk to your partner about condoms before you have sex, it will be more difficult to use condoms when you do have sex.
Relationship	If you openly communicate with your partner, he/she will be more likely to tell you about having an STI or HIV.	If you don't talk openly communicate with your partner he/she will be less likely to tell you about having an STI or HIV.

## Appendix B

### Risk Task (DOSPERT Scale) Content

For each of the following statements, please indicate the likelihood that you would engage in the described activity or behavior if you were to find yourself in that situation. Provide a rating from *Extremely Unlikely* to *Extremely Likely*.

1. Admitting that your tastes are different from those of a friend. (S)
2. Going camping in the wilderness. (R)
3. Betting a day's income at the horse races. (F/G)
4. Investing 10% of your annual income in a moderate growth diversified fund. (F/I)
5. Drinking heavily at a social function. (H/S)
6. Taking some questionable deductions on your income tax return. (E)
7. Disagreeing with an authority figure on a major issue. (S)
8. Betting a day's income at a high-stake poker game. (F/G)
9. Having an affair with a married man/woman. (E)
10. Passing off somebody else's work as your own. (E)
11. Going down a ski run that is beyond your ability. (R)
12. Investing 5% of your annual income in a very speculative stock. (F/I)
13. Going whitewater rafting at high water in the spring. (R)
14. Betting a day's income on the outcome of a sporting event (F/G)
15. Engaging in unprotected sex. (H/S)
16. Revealing a friend's secret to someone else. (E)
17. Driving a car without wearing a seat belt. (H/S)
18. Investing 10% of your annual income in a new business venture. (F/I)
19. Taking a skydiving class. (R)
20. Riding a motorcycle without a helmet. (H/S)
21. Choosing a career that you truly enjoy over a more secure one. (S)
22. Speaking your mind about an unpopular issue in a meeting at work. (S)
23. Sunbathing without sunscreen. (H/S)
24. Bungee jumping off a tall bridge. (R)
25. Piloting a small plane. (R)
26. Walking home alone at night in an unsafe area of town. (H/S)
27. Moving to a city far away from your extended family. (S)
28. Starting a new career in your mid-thirties. (S)
29. Leaving your young children alone at home while running an errand. (E)
30. Not returning a wallet you found that contains \$200. (E)

*Note.* E = Ethical, F = Financial, H/S = Health/Safety, R = Recreational, and S = Social.

**Appendix C**

**Institutional Review Board Application in full**

Anastasia Sielski-Elizalde

IRB Proposal for Full Review September 2017

SECTION 1:

**Last Name:** Sielski Elizalde

**First Name:** Anastasia

**E-mail:** [as3690@bard.edu](mailto:as3690@bard.edu)

**Phone number:** (646) 595-5029

**Academic program:** Psychology

**Status:** Undergrad

**Name of faculty adviser/sponsor:** Justin Hulbert

**Adviser's/sponsor's e-mail:** [jhulbert@bard.edu](mailto:jhulbert@bard.edu)

**Today's date:** September 12th, 2017

SECTION 2:

**1. I have read the IRB's Categories of Review, and my proposal qualifies for a:** Full review

**2. Do you have external funding for this research?** No

a. **If so state the name of the granting institution:** Not applicable

**3. Begin date:** September 2017 (upon approval)

**4. End date:** November 2017

**5. Title:** Looking at Sexual Health Messaging' Persuasiveness

**6. Research question:**

Decision-making surrounds us in our everyday lives, and the ways our choices are presented to us have an effect on the choice we make. Prospect Theory states that when confronted with a gain, people tend to be risk averse, while when confronted with a loss people are more likely to take a risk (Kahneman & Tversky, 1981).

When it comes to making choices about health in casual sexual contexts, things get a bit complicated. Sex is very loaded. The choices we make at times like these are muddled by our other emotions, as well as social and cultural pressures. Safer sex is not a choice you make with and by yourself, it is one that involves social interaction, which means, the possibility of rejection. Choosing to be proactive and suggesting condom use can be viewed through two different behavioral lenses: one that sees it as a low-risk preventative behavior (use of condoms) and another that acknowledges the social aspect of condom use

and the potential risk around its discussion (e.g., asking to use condoms may result in getting turned down, or getting turned down for demanding condom use). So while the actual use of the condom is low-risk, getting to the point of using a condom may involve a certain amount of risk. Studies in the past have looked at this (Kiene, Barta, Zelenski, 2005) but only with heterosexual individuals. Yet, when considering the complex history of STIs and HIV/AIDS in the gay community, it would not be surprising that this community may interpret these messages differently. This study poses the question of whether there is a difference between heterosexual men and homosexual men in gain-loss message judgement when related to condom use.

**7. Will your participants include individuals from specific populations (e.g., children, pregnant women, prisoners, or the cognitively impaired)? Yes**

**If your participants will include individuals from specific populations, please specify the population(s) and briefly describe any special precautions you will use.**

I will use both men who self-identify as homosexual/gay, and men who self-identify as heterosexual/straight. Because of the sensitive information the experiment will cover, we will make sure that participants' information remains confidential. Using homosexual men specifically is extremely important, since alternative sexualities are often overlooked, or shied away from, in research (Irvine, 2012). Moreover, our sexual orientations and identities carry histories within them. When we identify with a certain orientation, we are also identifying with a group of people, their past, their present and their future as well. This gives each individual that self-identifies with a sexual orientation a unique perspective, that is influenced by the history of the sexuality they identify. Not asking for sexual orientation, and simply studying how men in general perceive condom messages, risks neglecting the distinctive role that our identities play within us.

**8. Briefly describe how you will recruit participants (e.g., who will approach participants? What is the source of the participants?)**

Participants will find out about our study through Amazon's Mechanical Turk (mTurk, <https://www.mturk.com/mturk/help?helpPage=overview>), where they may choose to sign up to complete web-based tasks in exchange for compensation.

My study will begin by asking interested participants to answer basic demographic questions. In this study, only single, heterosexual and homosexual men that are American citizens will be eligible to participate, to keep some homogeneity in cultural experiences. Participants will self-identify as sexually active, single and either heterosexual or homosexual. "Sexually active" will be defined as having had sex in the last 3 months, and "single" will be defined as not being in a committed romantic relationship that they identify as serious.



## FRAMING AND CATEGORIZATION ON CONDOM MESSAGES

Our use of mTurk for research purposes has been modeled on other studies approved by Bard's IRB and conducted by Assoc. Professor Lane of the Psychology Program and a number of other Senior Project students.

**9. Briefly describe the procedures you will be using to conduct your research. Include descriptions of what tasks your participants will be asked to do, and about how much time will be expected of each individual. NOTE: if you have supporting materials (recruitment posters, printed surveys, etc.) please email these documents separately as attachments to [IRB@bard.edu](mailto:IRB@bard.edu). Name your attachments with your last name and a brief description (e.g., "WatsonConsentForm.doc").**

Two posts (see Appendix A) will be made on mTurk through the use of mTurk Prime, one for men that identify as homosexual/gay, and another for men who identify as heterosexual/straight. The content of both studies will be the same, but there will be two pipelines for participation, for homosexual or heterosexual men, respectively.

Participants will first be asked to complete what is known as an "External HIT", which involves a survey hosted on non-Amazon servers. From the mTurk advertisement page, individuals who are interested in participating will be linked to SurveyGizmo, a professional online survey tool.

There, they will complete an eligibility checklist to confirm that any participants who progress past this point are over 18 years of age and are cisgendered men.

Provided they have been deemed eligible, they will be given a digital consent form (see Appendix B), which will inform them that the study will ask questions about sex, and use words related to sexuality.

After consenting, participants will be linked directed to complete two tasks (Appendix C) through SurveyGizmo.

In the first task, they will rate condom-use statements from 1-7 (1-not at all to 7-very much so) on how convincing they feel other men of their same sexuality will find the statements. The condom-use statement task has two main categories of statements (health and relationship) and two frames used for each statement (gain-frame or loss-framed). Each statement will be presented individually. The sequence will be counterbalanced across participants.

In the other task, participants will be filling out a DOSPERT scale (from Blais, & Weber, 2006), which is a validated domain specific risk taking scale. This will evaluate each individual's standard risk-aversion, and see if the two groups have different expected utility for condom use or if there is no difference between homosexual and heterosexual men. The DOSPERT scale, like the condom-use statement task is also evaluated on a 1-7 scale. The condom-use statement task and the DOSPERT scale will be counterbalanced across participants.

As in the Kiene et al. (2005) study, participants will be asked to make normative judgments, as an indirect approach to assessing participants' own attitudes. This is to avoid

## FRAMING AND CATEGORIZATION ON CONDOM MESSAGES

socially desirable responding. According to the error-choice method (Ajzen, 2002), it is unlikely that participants will have an objective basis for estimating how efficient these messages are for others, therefore their responses are likely to correspond with their personal attitudes.

The computer will present the questions one at a time to participants. Once they have completed all the questions, participants will be given a debriefing statement (Appendix D), which includes links to certain sexual health resources they may choose to explore after the study. The study is designed to take between 10-20 minutes from beginning to end.

### **10. Approximately how many individuals do you expect to participate in your study?**

100 homosexual/gay participants and 100 heterosexual/straight participants, based on the sample of Kiene, Barta, and Zelenski (2005).

### **11. Please describe any risks and benefits your research may have for your participants. (For example, one study's risks might include minor emotional discomfort and eyestrain. The same study's benefits might include satisfaction from contributing to scientific knowledge and greater self-awareness.)**

As with any study relating to sexuality, the experiment involves questions that may be personal in nature and will include/discuss words related to sexuality. The consent form includes a disclaimer regarding the personal nature of the study and describes the involvement of sexual words in the experiment. Many of the scenarios presented will be in line with ones that we commonly encounter in our everyday life through media outlets. Otherwise, the risks are no greater than those involved in daily activities such as looking at a computer screen. Participation in this study is completely voluntary and participants may withdraw from the study and stop participating at any time without penalty or loss of benefits to which they are otherwise entitled (mTurk pay, \$0.20). Each participant will be paid \$0.20, which comes out to \$0.01 per minute, which following Assoc. Professor Lane of the Psychology Program, is standard for tasks that do not involve writing. Participants should end their participation feeling much as they had upon beginning it, hopefully having learned something about sexual health from the experience and debriefing. Moreover, participants may feel satisfaction for aiding in the growth scientific knowledge in the sexual health field. Moreover, this could be an educational experience for many, especially if they look at the resources that they will be given in their debriefing forms.

### **12. Have you prepared a consent form and emailed it as an attachment to [IRB@bard.edu](mailto:IRB@bard.edu)? Yes, the consent form (see Appendix A) is in this PDF.**

### **13. Please include here the verbal description of the consent process (how you will explain the consent form and the consent process to your participants):**

## FRAMING AND CATEGORIZATION ON CONDOM MESSAGES

Because the study will be conducted online, consent will be collected digitally. Participants will be told that the study is to see what persuasive messages are the most effective in getting people to have safer sex. While they will not know the exact hypothesis, they will have access to all the necessary information to form a solid understanding of what the study entails. They will be informed of the hypothesis in the debriefing form. They'll be also be informed that every step of the study will be explained with instructions to follow, as well as a full debriefing after the experiment is over. After making sure that they are eligible for the experiment, there will be a description of the tasks they'll be asked to perform during the experiment. Since the questions in one of the questionnaires are of a sexual nature, individuals will be informed of this. An email address will be given on both the consent and debriefing forms for any further questions about the study.

**14. If your project will require that you use only a verbal consent process (no written consent forms), please describe why this process is necessary, how verbal consent will be obtained, and any additional precautions you will take to ensure the confidentiality of your participants.** Not applicable

**15. What procedures will you use to ensure that the information your participants provide will remain confidential?**

The researchers will not have access to participants' Worker IDs (a number that is linkable to participant's public Amazon account and facilitating compensation). Instead, to assure confidentiality, we will give each participant a completion code which they can then feed to mTurk to receive their compensation.

While mTurk collects Worker IDs, I will use mTurk Prime, a platform that will encrypt worker IDs. Furthermore, following suggestions from UC Berkeley's Committee for Protection of Human Subjects' website, the study will use an External HIT (hosted by SurveyGizmo). In this way, participants' responses are kept separate from Amazon's records. Participants will receive a completion code at the end of the rating tasks, which can be entered into Mechanical Turk as valid proof of their participation. Their rating responses (collected through SurveyGizmo) will not be shared with Amazon Mechanical Turk.

IP addresses are recorded in the process, but while these could potentially be used to identify a specific computer that was used to access the study, they do not identify the individual completing it. IP addresses will be deleted on our end, as done in accordance with Bard IRB's approved procedures in the numerous mTurk studies conducted by Professor Lane.

The American Association for Public Opinion Research suggests that data of electronic surveys be stored on secure servers. In accordance with this, all of the data collected will be kept in my personal, password protected computer, to which only I have access.

## FRAMING AND CATEGORIZATION ON CONDOM MESSAGES

Moreover, while this research is on risk and risk behaviors, no questions about medical conditions will be asked, including sexually transmitted infections, therefore there is no requirement to report findings to the appropriate state office.

**16. Will it be necessary to use deception with your participants at any time during this research? Please note: withholding details about the specifics of one's hypothesis does not constitute deception. However, misleading participants about the nature of the research question or about the nature of the task they will be completing does constitute deception. No**

**If your project study includes deception, please describe here the process you will use, why the deception is necessary, and a full description of your debriefing procedures. Not applicable**

**Institutional Review Board Letter of Approval**

Bard College

Institutional Review Board

29 September 2017

Anastasia Sielski-Elizalde  
as3690@bard.edu

Re: Looking at Sexual Health Messaging's Persuasiveness

**DECISION: APPROVED**

Dear Anastasia,

The Bard Institutional Review Board reviewed your proposal request (and the minor revisions made in response to the IRB's comments dated 21 September 2018). Your proposal is approved through 29 September 2018. Your case number is **2017SEP29-SIE**. Please notify the IRB if your methodology changes or unexpected events arise.

We wish you success with your research.

Sincerely,

Justin Hulbert  
IRB Chair

cc: Deborah Treadway

**Protecting Human Research Participants Certificate**



**Appendix D**

**Mechanical Turk Posts**

**For homosexual men:**

If you identify as a single, sexually active homosexual/gay man, you can help us with our psychology research!

**Requester:** Anastasia

**Qualifications Required:** None

**Reward:** 20c. Per HIT

**Duration:** 1 Hour

**For heterosexual men:**

If you identify as a single, sexually active heterosexual/straight man, you can help us with our psychology research!

**Requester:** Anastasia

**Qualifications Required:** None

**Reward:** 20c. Per HIT

**Duration:** 1 Hour

## Appendix E

### Informed Consent Form

Thank you for agreeing to participate in this research study!

**Background:** The purpose of this study is to see what persuasive messages seem the most effective in getting people to have safer sex.

**What you will do in this study:** You will complete two confidential and anonymous online surveys that will take about 10 minutes each to complete. They will ask you which of two statements you find to be the most effective in either getting people to use condoms or in getting health insurance.

**Benefits:** The benefit of completing this survey is contributing to the growing body of research on sexual health and risk-taking behaviors.

**Compensation:** You will be compensated 50c. for your participation

**Risks:** This study may cause emotional discomfort due to the personal nature of the questions, specifically questions that examine sexual behaviors and attitudes towards contraception.

**Your rights as a participant:** Your participation is completely voluntary. You may stop the experiment at any time with no questions asked. Any questions or concerns can be directed to the research lab at as3690@gmail.com

**Anonymity:** No identifying information will be asked from you, and the study is completely anonymous.

**You must be 18 years or older to participate.**

If you have any questions about this research project, please contact as3690@gmail.com

If you have questions about your rights as a research participant, please contact the Chair of the Bard College Institutional Review Board; IRB@bard.edu.

**To continue to the survey, please press: “Yes, I consent to participate.” If you do not wish to participate, please press: “No, I do not consent.”**



## Appendix F

### Debriefing Form

Thank you for participating in this study!

The goal of this study is to see the differences in preferences of persuasive messages between men who identify as homosexual/gay and men who identify as heterosexual/straight. When asked about what you believed others would find most persuasive, the experiment was aiming to see what your personal preference would be.

People tend to be risk-averse when presented with a loss while they are risk-taking when presented with a gain (e.g., The Asian disease problem, Tversky & Kahneman, 1981; 1986). When given a choice between two options, people will most likely choose the one with a certain outcome that is low-risk, such that it is framed as a gain, rather than a loss, (Schneider et al., 2001). Since condom use can be considered both a low-risk preventative behavior or a high risk behavior (in that acknowledging the social aspect of condom use and the potential risk around its discussion), it is uncertain which option different people will prefer. We hope to address this question by analyzing the results of the questions you and others like you completed.

This study will hopefully shed light on how to best phrase condom campaigns in order to promote safer sex amongst homosexual and heterosexual men respectively, while keeping in mind the distinctive histories that lay within sexual orientations.

If you have any questions regarding the study or would like more information about it, please contact as3690@gmail.com. If you have any questions about this research project, please contact as3690@gmail.com

If you have questions about your rights as a research participant, please contact the Chair of the Bard College Institutional Review Board; IRB@bard.edu.

**Here is your mTurk secret completion code: SPAEHBG996**

**If you would like to learn more about condom use, protection against STIs, or general sexual health, here are some useful links!**

<http://www.who.int/hiv/topics/condoms/en/>

<https://www.plannedparenthood.org/learn/birth-control/condom/how-to-put-a-condom-on>

[http://www.who.int/topics/sexual\\_health/en/](http://www.who.int/topics/sexual_health/en/)

**American Sexual Health Association's STD Hotline: 1-919-361-8488**

