
Towards a Drug Free America: Guilt Processing and Drug Prevention

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ABSTRACT

Developing a greater understanding of how drug prevention public service announcements can help individuals make more informed socially desirable choices is the focus of this work. Specifically, the roles of guilt proneness and anticipated guilt are explored through two different studies. We demonstrate that individuals with higher levels of guilt proneness tend to exhibit greater intended message compliance across a variety of drug prevention message appeals. Additionally, we are able to extend our understanding of anticipated guilt and show that as anticipated guilt is increased, irrespective of guilt proneness, expected message compliance is also increased. Lastly, we show that compliance is related to risk in that as the perceived risk associated with drug use increases, so does guilt and compliance.

ARTICLE

Introduction

In 2002, the University of Michigan's Institute for Social Research announced the first drop in illicit drug use by teens since 1994; while in 2007, it was reported that the number of eighth graders using illicit drugs had been cut in half since 1996 (Serwath, 2008). These statistics on drug use reduction are mirrored by the Department of Health and Human Services, who note that in 2007 there were 600,000 fewer teens using marijuana and there were significant declines in other drugs including steroids (NIDA, 2008). Although many factors must interact to cause this level of change, one of the key drivers is likely to be the proliferation of drug prevention public service announcements (PSAs).

Developing a greater understanding of how public service announcements can help individuals make more informed socially desirable choices is the focus of this work. Specifically, through two studies, we examine the roles of guilt proneness and anticipated guilt in attitudinal responses and behavioral intentions to different types of drug prevention PSAs. In that it is not likely that all individuals experience guilt at the same level, we investigate the proposition that one's guilt proneness will influence message processing and subsequent compliance to the drug prevention messages. Our results suggest that individuals with higher levels of guilt proneness tend to exhibit greater intended message compliance across a variety of message appeals. Additionally, we are able to extend our understanding of anticipated guilt and show that as anticipated guilt is increased, irrespective of guilt

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proneness, expected message compliance is also increased. Lastly, we show that compliance is related to risk in that as the perceived risk associated with drug use increases, so does guilt and compliance.

Background

According to the Federal Communications Commission (FCC), a public service announcement is defined as:

Any announcement (including network) for which no charge is made and which promotes programs, activities, or services of federal, state, or local governments or the programs, activities or services of non-profit organizations and other announcements regarded as serving community interests, excluding time signals, routine weather announcements and promotional announcements (Dessart, 2008).

These announcements serve to alter behavior by disseminating valuable information that is both attractive and relevant to targeted audiences, motivating them to take the action prescribed in the given public service announcement. Unlike traditional advertising which often persuades consumers to take actions that will provide immediate gratification or self enhancement (e.g., buy a new car and drive faster, be safer or be admired by your peers), a PSA may require a consumer to stop engaging in some self-gratifying experience (e.g. drinking excessive quantities of alcohol or engaging in unprotected sex) or encourage them to engage in a new effortful behavior that does not provide immediate gratification (e.g., recycling trash). The onus of responsibility is thus shifted to the consumer, as they are often required to demonstrate self-control and personal responsibility. In the case of drug abuse, PSAs have provided information to empower consumers to not use drugs as well as information to help others stop using drugs, and even provide information to friends and families on how they might help others with a drug abuse problem. In this work, we look at messages aimed at potential drug users, not messages designed to assist families of drug users or even habitual drug users.

Perhaps some of the most persuasive and effective drug prevention messages come from the Partnership for a Drug-Free America. The Partnership for a Drug-Free America was established to create a national drug-education campaign to boost awareness of the dangers of drug abuse and disseminate information on the consequences of drug abuse and addiction (The Partnership for a Drug-Free America, 2008a). Since its inception, The Partnership has evolved from a simple advertising campaign into a drug prevention and treatment resource. The Partnership's mission is to reduce illicit drug use in America by reaching out to those whose lives have been changed by drug abuse and encouraging families to live healthy, drug-free lives. Both extant anecdotal and empirical evidence suggests that The Partnership's efforts have been effective in meeting their mission (The Partnership for a Drug-Free America, 2008b). Our first study uses all messages by The Partnership, while the second study tests both Partnership PSAs and messages that were self-created.

Theoretical Foundation

Guilt as a Concept

The role of emotions in message processing and decision-making has been documented in past research (Connelly, 2004; Guadine and Thorne, 2001), and has shown to be a persuasive and guiding force. Both positive and negative emotions tend to influence message processing and decision-making, creating expressed consequences that are more salient and vivid, which in turn build

message compliance (Boster et al., 1999). For example, exposure to a drug prevention PSA which highlights the negative consequences of drug use (e.g., parental disappointment, arrest, loss of friends, or death) may trigger negative emotions which keep the individual from engaging in drug use. In this case, the negative emotion may be linked to feelings of guilt - an emotion that has been shown to alter behavior and build compliance (Baumeister et al. 1995; Boster et al., 1999; Tangney and Dearing, 2002). Further, if a drug prevention PSA triggers cognitive elaboration in the form of thinking about using drugs, the consequences of being caught, or a friend who has used drugs, an individual could potentially exhibit both an emotional and a cognitive response that is guilt-based. This is consistent with previous work by Baumeister et al. (1994 and 1995) and Tangney (1995), who posit that guilt is a negative affective state that works as a behavioral interruption or control mechanism to stop an individual from engaging in a potentially negative behavior via emotional responses and associated cognitions.

Guilt can be defined as “an individual’s unpleasant emotional state associated with possible objections to one’s own actions, inactions, circumstances, or intentions” (Baumeister et al., 1995, p. 245). Typically this emotion is viewed as having moral implications and may be triggered when individuals perceive they are faced with a moral dilemma that could have negative consequences affecting both the individual and others (Eisenberg, 2000; Skoe et al., 2002) – as in the case of using illegal drugs. These dilemmas are often associated with strong social norms and violation of the social norm is likely to lead to guilt. Generally, individuals experience guilt when they feel that they have done something wrong and they attempt to revoke the behavior by either confessing, undoing, or repairing the behavior (Tangney et al., 1996). Currently, extant research on guilt and drug prevention messaging is relatively limited (O’Keefe, 2000; Dillard and Peck, 2000; Dillard and Peck, 2001). However, these studies found that guilt positively correlates with perceived effectiveness of messages, as individuals use the message of the PSA to alleviate their guilt and remedy their wrongdoing.

In that guilt is a negative emotion, it can also be used as an ideal persuasive tool because it creates an aversive state in which individuals are then motivated to reduce the guilt (Vangelisti and Sprague, 1998). Further, guilt can lead to self-control as an individual attempts to reduce the negative emotional state; thus it makes sense that by engendering feelings of guilt, individuals will be more likely to comply with a given message. According to Cialdini’s Negative-State Relief Model (Baumann, Cialdini and Kenrick, 1981), once an individual experiences a negative emotion (e.g., guilt), they will work to diminish, if not eliminate, that feeling. Thus, if a drug prevention message highlights the negative consequences of using drugs and elicits feelings of guilt, then an individual is likely to comply with the message in an effort to reduce feelings of guilt. The use of guilt as a compliance-gaining strategy was originally studied and measured in the 1960s (Freedman, Wallington, and Bless, 1967; Carlsmith and Gross, 1969). This body of work suggests a pattern between induced guilt and greater compliance and shows that guilt can cause individuals to either (1) avoid confrontation with the source of guilt or (2) repair or make-up the perceived wrong doing by doing something good (Freedman, 1970).

However, the Negative-State Relief Model fails to address the importance of cognitive responses to health messages, such as anti-drug PSAs, which build feelings of guilt. These cognitive responses, coupled with emotional reactions, can impact perceived effectiveness and reception by audiences. When exposed to a negatively charged message, individuals might be motivated to control their response through perceptual defense mechanisms or secondly, they might engage in maladaptive behaviors. These effects can be explained by the Extended Parallel Process Model (EPPM), which suggests that when exposed to a fear appeal, not only are people motivated to lessen their at-risk behavior, but they also react cognitively (Witte, 1992). Though mostly used to explain the response to fear appeals, EPPM can be extended to other negative emotions such as guilt.

Guilt Proneness

Although this unpleasant emotional state can be aroused in most individuals, arousal levels are inconsistent across individuals, creating various levels of anticipated guilt. One reason for this variance may be an individual's inherent ability to experience guilt. Previous research has demonstrated that guilt proneness, or an individual's distinct likelihood to experience feelings of guilt, is an individual personality trait that is exhibited in varying levels in different individuals (Tangney 1990). Given that increases in guilt tend to lead to higher levels of moral and social compliance, it is reasonable to expect that individuals who are higher in guilt proneness will be inherently more inclined to comply with a drug prevention PSA, as they are more likely to experience higher levels of guilt and will comply to reduce those feelings. Thus, guilt can actually help individuals exercise self-control in situations where they experience a moral dilemma or threat to their well-being.

However, Ferguson et al. (1996) caution that excessive amounts can lead to self-control failures and potentially maladaptive responses. This finding is further supported by Coulter and Pinto (1995), who suggest that extremely high levels of guilt are more likely to lead to anger and self-control failure rather than guilt and self-control. Failure to exhibit self-control typically occurs when individuals either magnify the negative consequences associated with a given event, continually recount their past failures as related to the event, or feel that they have no way to alleviate the guilt associated with the anticipated negative consequence and begin to devalue themselves (Cotte, Coulter and Moore 2005). These feelings of negativity towards the event, as opposed to negative feelings towards the self, are what distinguish guilt from shame. Shame-prone individuals are more likely to experience personal pain and debilitation (Lindsay-Hartz, de Rivera, and Mascolo 1995), whereas guilt-prone individuals may feel more motivated to seek improvement or change consequences related to an event (Baumeister, Stillwell, and Heatherton, 1995). Rather than blaming the self or deflecting the blame on others, guilt-prone individuals are also more likely to take control of the situation and take responsibility for their actions (Tangney, Wagner, Fletcher, and Gramzow, 1992). However, when excessive guilt is coupled with shame – creating a more severe self-defeating cycle of affect – the result can also be maladaptive (Tangney 1990). In either case an individual who is high in guilt proneness may experience excessive guilt if a strong negative consequence is presented and perceived as a credible risk (e.g., death from a drug overdose). This leads to our first hypothesis:

- H1: High guilt prone individuals are more likely than low guilt prone individuals to:
- a) Perceive a drug prevention message as more effective
 - b) Express intended compliance with a drug prevention message

Study 1 – Exploring Message Style, Guilt Proneness, and Intended Message Compliance

There are a variety of PSA message styles that have gained widespread public use across a myriad of topics (e.g., comedic presentation, positive and negative emotional appeals, and problem-solution). For this study we investigate three styles that are commonly used in drug prevention campaigns: positive emotional appeal, negative emotional appeal (e.g., fear), and rational appeal. A review of the previous literature shows no clear pattern as to which message style is most effective in generating intended message compliance. Although some studies have suggested that emotional appeals are the most effective in curbing risky behaviors such as drug use (Dillard and Nabi, 2006; Lang and Yegiyani, 2008; Peters, Lipkus and Diefenbach, 2006), there are others that have shown that rational appeals are more effective (Pallak et al., 1983). These differences may exist in that intervening variables, such as guilt proneness, subjective norms, and behavioral beliefs associated with risk perceptions, will influence message effectiveness. Additionally, varying message (e.g., specific word choices) and executional factors (e.g., realism or even music) in these PSAs could lead to equivocal results. Thus,

in this first study we examine the impact of three types of drug prevention PSA messages on individual compliance across two levels of guilt proneness.

Emotional Appeals

Within the context of emotional appeals, the literature posits that compliance variability is based on both valence and intensity of the generated emotion. The valence refers to the positivity or negativity and directs emotional motivation either towards a target or away from a target, while the intensity refers to the motivational strength of the emotion (Mehrabian and Russell, 1974; Smith and Ellsworth, 1985). In the case of drug prevention, a positive emotional appeal will encourage the viewer to adopt an attitude or behavior that opposes the highlighted negative behavior, and motivates the viewer to move toward an alternate behavior (Lang and Yeghyan, 2008). Palmgreen et al. (1991) found that providing a substitute behavior that acts as the surrogate for the negative behavior (e.g., encouraging teens to talk with parents about things that bother them rather than turning to drugs or encouraging teens to say no to drugs) is effective in drug prevention. These messages tend to emphasize that adopting the alternative behavior will prove advantageous to the individual (Scheer and Stern, 1992); thus potentially giving the individual a way to limit guilt. In this case, compliance is expressed by adopting the alternative behavior.

In contrast to a positive emotional appeal, a negative emotional appeal is designed to repel the viewer away from the risky behavior by highlighting the negative consequence of engaging in the behavior without providing an alternative other than simply not engaging in the behavior. Typically these messages build emotional motivation for the viewer to stop engaging in the given behavior by focusing on the negative outcomes of the behavior (e.g., getting arrested, getting hurt, or even dying) and building negative emotional motivation. Specifically, negative emotional messages that contain new information about harmful consequences have been shown to bolster the effectiveness of drug prevention campaigns (Fishbein, Hall-Jamieson, Zimmer, Haeften, and Nabi, 2002; Drug Prevention Ads, 2002). Typically, as the negative emotion is elicited via the highlighted negative consequence, the individual will seek ways to reduce the negative emotional state and limit the guilt associated with the message. These types of negative emotional appeals have been successfully utilized in similar campaigns aimed at drunk driving prevention (Swinehart, 1975; 1981) and tobacco control (Sutphin et al., 2008), with the notion that negative emotionally charged messaging will deter future risky behavior and encourage self-control as guilt increases (Dejong and Atkin, 1995). In this case, message compliance is a function of not using drugs. In sum, it is reasonable that either positive or negative emotional appeals can engender feelings of guilt and lead to message compliance as the individual seeks to attenuate those feelings. Thus, we make no predictions regarding which message style is most effective.

Rational appeals

Unlike the previous message styles, rational appeals are more objective in nature, rely more on factual and statistical information (Edell and Staelin, 1983), and are less likely to spark an emotional response such as guilt. Interestingly, Perse, Nathanson, and McLeod (1996) discovered that rational appeals were more effective than emotional appeals in a safe sex campaign conveying the dangers of unprotected sex. They posit that the rational appeals tended to invoke a greater sense of self-efficacy than either positive or negative emotional appeals. However, Struckman-Johnson et al. (2006) found that a combination of rational and fear appeals (negative emotion) was most effective in a campaign aimed at AIDS prevention, suggesting that perhaps a mix of appeals may be effective in various health prevention situations as individuals tend to respond to specific messages differently based on individual traits. For example, individuals high in guilt proneness may be more likely to respond

positively to emotional appeals that spark anticipated guilt while individuals low in guilt proneness may be more likely to respond positively to rational appeals. Thus, we make the following predictions:

- H2: High guilt prone individuals are more likely than low guilt prone individuals to:
- a) Perceive an emotional message as more effective than a rational message
 - b) Express greater intended compliance with an emotional message than a rational message

Method

As noted, this study is designed to examine the response differences between high and low guilt prone individuals to three different drug prevention messages developed by the Partnership for a Drug Free America. The messages were chosen from the online sampling of Partnership messages available at the Partnership website (www.Drugfree.org) and represent the three different executional styles discussed: positive emotional appeal, negative emotional appeal and a rational appeal.

Subjects

A convenience sample of 104 high school and college aged males and females from central New Jersey participated in the study. Fifty-three were 15-18 years of age and were recruited via classes at a local high school. Thirty-eight were 19-21 years of age and 13 were 22-24 years of age, with all of these subjects recruited in the student center at a Northeastern college. This sample parallels the target audience of many drug abuse PSAs (Johnston, O'Malley, Bachman, and Schulenberg, 2007; Substance Abuse and Mental Health Services Administration, 1999). Among the subjects, 43 were male and 61 were female. All participants participated in the study without compensation and were debriefed after the study.

Independent Variables

Message style

Three different announcements from the Partnership for a Drug Free America were used in the final testing, with one message representing a positive emotional appeal, one a negative emotional appeal and the other a rational appeal. The positive emotional appeal, *A Long Walk Home*, portrays a young boy taking the long way home from school to avoid being pressured to do drugs. It offers a hopeful alternative to engaging in substance abuse. The negative emotional appeal, *Drowning*, shows a young girl's bedroom filling with water to represent what happens when you use inhalants. She ends up drowning in her own home and floats across the screen, lifeless. Finally, the rational appeal, *Frying Pan*, is the famous PSA featuring actress Rachel Leigh Cook. In this PSA, Rachel states the negative effects of illicit drug use through a visual demonstration.

Several messages of each style were pre-tested with a sample of twenty-seven individuals similar to the one used for the study. The three ads chosen for this study represent the categories of interest best (e.g., positive emotion, negative emotion, and rational), such that they received a mean value greater than 5 on a 7-point scale ($M_{\text{positive}} = 5.46$, $M_{\text{negative}} = 5.63$, and $M_{\text{rational}} = 6.45$). Additionally, message style was confirmed with both positive and negative emotional appeals being perceived as more emotional than the rational appeal ($F=16.89$, $p<.001$), and the rational appeal being perceived as more factual than either the positive or negative emotional appeals ($F=21.69$, $p<.001$). Lastly, the intensity level of the two emotional ads were shown to be similar ($F=3.75$, $p>.1$) and moderate (M_{positive}

=3.78, $M_{\text{negative}}=4.02$). As noted, ads that offer extreme levels of emotional intensity can lead to maladaptive responses and thus were not included in our initial screening of ads.

Guilt Proneness – Test of Self Conscious Affect

To determine the level of guilt proneness in individuals, participants took the Test of Self Conscious Affect (TOSCA) developed by Tangney (1988). The TOSCA scale is a scenario-based instrument containing fifteen everyday situations. After participants read the scenarios, they are asked to imagine themselves in each situation and rate the likelihood of reacting in the manner indicated on a five point scale. Participants are split into two levels of guilt proneness based a on full sample median split, with the average for high guilt prone individuals being 60.7 and the average for low guilt prone individuals being 37.6. A median gender split was also run, and no significant gender differences emerged ($F=1.81$, $p>.1$). This is in contrast to previous literature, which suggests females are slightly more guilt prone than males, with male averages between 43.7 and 45.8 and female averages between 46.2 and 49.2 (Tangney 1990, 1996). Estimates of internal consistency (Cronbach's alpha) were .69 for males and .72 for females, which are consistent with estimates reported by Tangney (1996). In that our data show no significant gender differences, we report results collapsed across gender and weighted accordingly.

Dependent Variables

Three primary dependent variables were tested: perceived effectiveness (willingness of others to comply with the message), compliance (willingness of participant to act in the manner advocated for by the PSA), and clarity of the message. All dependent variables were single items scaled on a 1 to 7 point scale with 1 anchored by ineffective, unwillingness to comply, and unclear message.

Procedure and Stimuli

Participants were told they were participating in a study on message design and were asked to attend to a series of seven PSA messages, three of which were the test stimuli. Participants were first asked to complete the guilt proneness scale; they were then shown a series of seven video PSAs. After the PSAs were shown, participants were asked to respond to a series of questions about the announcements of interest related to the dependent variables. Subjects were cued to the announcement of interest with a descriptive title name (e.g., Frying Pan). Lastly, subjects were debriefed.

The four non-test PSAs spanned a variety of topics, including domestic violence, eating disorders, drunk driving and HIV/AIDS. These PSAs also utilized a variety of message appeals, including fear, rational, positive emotional, and humor. The order of presentation to the participants was systematically varied to control for ordering or carry-over effects.

Results

Our results provide partial support for our hypotheses and suggest that an individual's guilt proneness does influence processing of drug prevention PSAs. Data were analyzed using SPSS one-way ANOVA with post-hoc comparisons.

Manipulation checks reveal the test ads were perceived similarly to the pre-test and thus were representative of the executional style of interest, such that the emotional appeals were similarly intense ($F=1.754$, $p>.05$; $M_{\text{positive}}=5.97$ and $M_{\text{negative}}=6.13$) and significantly different from the rational appeal ($F=16.381$, $p<.001$; $M_{\text{rational}}=3.62$). Further, the rational appeal was perceived as more factual than the emotional appeals ($F=13.373$, $p<.001$; $M_{\text{rational}}=5.84$, $M_{\text{positive}}=3.26$, $M_{\text{negative}}=2.98$). All ads were similar in terms of production quality ($F=2.757$, $p>.05$). Further, the non-test ads were less

emotionally intense than the emotional test ads, ensuring that emotional effects were not the result of the filler ads ($F=13.16, p<.01$).

Based on the scores from the TOSCA scale, we used a median split to determine the level of guilt proneness and examined the differences across high and low guilt proneness. As noted, separate median splits were performed on males and females and in that no significant difference existed in terms of average guilt proneness ($F=1.81, p>.1$), the results are reported collapsed across gender. As predicted by H1, we find that high guilt prone respondents were more likely to perceive the drug prevention PSA messages as more effective than low guilt prone respondents ($F=18.856, p<.001$) and expressed greater intended compliance ($F= 12.358, p<.001$). Across high guilt prone respondents, we find the negative emotional appeals to be least effective in terms of generating compliance ($F=6.845, p<.05$), perceived effectiveness ($F=7.143, p<.05$) and clarity of message ($F=9.361, p<.05$). Interestingly, within the high guilt respondents, the positive emotional and the factual appeals were not significantly different in terms of perceived effectiveness ($F=.975, p>.05$) or compliance ($F=2.852, p>.05$). However, message clarity was strongest when the appeal was factual ($F=8.374, p<.001$). In contrast, low guilt prone individuals expressed no significant difference across message style with regard to message effectiveness ($F=1.257, p>.05$) or intended compliance ($F=.579, p>.05$). Yet, similar to the high guilt prone respondents, low guilt prone respondents were more likely to perceive the factual PSA as having greater clarity than either the positive emotional message ($F=11.487, p<.001$) or negative emotional message ($F=5.251, p<.05$). For a full examination of means, see Table 1.

Table 1: Study One

	Positive Emotional	Negative Emotional	Rational
Low Guilt			
Clarity	3.04 a*,a**	3.76 a,b**	3.89 a,c**
Compliance	2.85 a,a	2.97 a,a	3.08 a,a
Effectiveness	2.61 a,a	2.89 a,a	2.72 a,a
High Guilt			
Clarity	3.80 b*,a	3.06 b,b	4.49 b,c
Compliance	3.49 b,a	3.24 b,b	3.54 b,a
Effectiveness	3.32 b,a	3.18 a,b	3.36 b,a

*means with different alphabetic values in the first place are significant across levels of guilt at $p<.05$; **means with different alphabetic values in the second place are significant within a level of guilt across message style at $p<.05$

Discussion

From the first study it is clear across all message styles tested that our high guilt prone respondents are more likely to express intended compliance with a PSA as well as believe that others are more willing to comply with PSA messages than the low guilt prone respondents. This is likely to stem from the cognitive activities of high guilt prone individuals who tend to overemphasize consequences and make messages more personal than low guilt prone individuals (Tangney et al., 1992). As a result, it can be argued that high guilt prone individuals are more likely to make socially desirable choices in order to not disrupt the status quo and to alleviate their feelings of guilt. In a broader perspective, high guilt prone individuals, may be more likely to follow social norms that have a moral component, thus these particular individuals may find all public service messages to be more effective than their low guilt prone counterparts.

Additionally, high guilt prone respondents were more likely to react positively to both the positive emotional appeal and the factually based message than the negative emotional appeal. In this study

we tested only one advertisement of each style, thus our results may be biased by things in the ads other than the message style, such as models, specific message components or other creative tactics. Although not specifically tested in this study, it is reasonable to assume that for high guilt prone individuals, all of the drug prevention messages raised their level of anticipated guilt; thus, in an effort to reduce this guilt they were more likely to express a desire for compliance. Further research is needed to more fully understand the role of anticipated guilt and perceived risk when processing these messages. It could be that negatively framed emotional PSAs bring the level of guilt so high that individuals are unable to process the PSA or act in the manner advocated, making it less effective; whereas the factual and more positive emotional PSAs may spark a level of guilt that serves to motivate individuals to engage in controlled socially appropriate behavior. In support of this argument, our findings suggest that high guilt prone respondents thought the negative emotional messages were less clear than either the positive or rational messages. However, additional research is warranted to further investigate the role of negative emotional appeals across a larger sampling of drug prevention PSAs. Interestingly, the rational appeal was perceived as having the greatest clarity across all participants regardless of guilt proneness, yet does not necessarily lead to the highest levels of intended compliance. In this case, clarity may be a function of exposure to the ad prior to our study. Several respondents noted that they had seen this advertisement previously. Lastly, our results in this study may be limited in that the PSAs are not all addressing the same type of drug abuse. In study two we address some of these limitations by using a sample of ads to (1) represent different executional styles, (2) attempt to standardize the message, and (3) note specifically whether the PSA is addressing marijuana or prescription drug abuse.

Study 2 – Anticipated Guilt and Compliance

In this study our objectives are threefold: (1) to replicate our findings regarding guilt prone individuals and their response to drug prevention PSAs; (2) to explore the roles of anticipated guilt and risk; and (3) to explore what differences might exist across marijuana and prescription drug use.

Although the results related to guilt proneness are relatively robust, we believe they need to be replicated with a different subset of advertisements and a second sample. Further, as noted, our findings may at least partially be the result of anticipated guilt induced by the PSA, thus in this study we are interested in measuring the level of anticipated guilt after exposure to the PSA. Additionally, our results could be linked to risk perceptions related to the credibility of the expressed consequences in the PSA. If a drug prevention PSA shows one of the risks of using marijuana is death and an individual does not believe that this is a credible consequence, then their perceived risk associated with the expressed consequence is limited. However, if an individual perceives this as a credible consequence, then their perceived risk is likely to increase. Further, we believe that guilt and risk are associated in that as perceived risk increases, so does the likelihood of anticipated guilt. Thus, we also measure credibility of the advertisement and perceived risk of using marijuana and prescription drugs.

Anticipated Guilt

Guilt can be associated with both actual behavior (drug use) and anticipated behavior (thinking of the consequences of future drug use). Strutton et al. (1994), suggest that individuals experience anticipated guilt when they simply evaluate the possibility of engaging in a questionable activity. As previously mentioned, guilt can be seen as an affective state that works as a control mechanism to stop an individual from engaging in a potentially negative behavior. Thus, we predict the following:

H3: High guilt prone individuals will exhibit higher levels of anticipated guilt in response to a drug prevention PSA

- H4: Higher levels of anticipated guilt will lead to
- a) Greater perceived message effectiveness
 - b) Greater compliance

Method

Subjects

A convenience sample of 120 high school and college aged males and females from central New Jersey participated in the study. Participants were recruited from two different high school classes and three different college classes. The average age of the sample was 18 and 52 percent were male. Similar to the first study, this sample parallels the target audience of many drug abuse PSAs (Johnston, O'Malley, Bachman, and Schulenberg, 2007; Substance Abuse and Mental Health Services Administration, 1999). All participants took part in the study without compensation and were debriefed after the study.

Independent Variables

We tested three independent variables: message style (fear appeal and rational), drug type (prescription and marijuana) and guilt proneness.

Message style

In this study, the messages came from a variety of sources but were all published on YouTube. The test ads included both professional (e.g., The Partnership) and amateur ads (e.g., ads made by students in different school classes). In that there are very few ads that used a positive emotional appeal, we tested only two different message styles: negative emotional and rational. Twenty-two messages were pretested with a sample similar to the one used for the two studies. From this pre-test, six ads were chosen for the study: three different negative appeals and three different rational appeals. The three negative emotional appeals are in the form of a story of a young person who dies from taking drugs (one ad features a female, two feature males; the drug users die in a car accident, a street fight and one unknown cause of death). The three rational appeals are in the form of statistics about drug use, with at least one of the statistics on each ad noting death as a consequence. The ads were altered so that the stories and facts could represent either marijuana or prescription drugs and were preceded by a note that stated: "the following public service announcement is being designed in response to marijuana use/prescription drug abuse." Thus, the same content was used to address both issues. As an example, the tag at the end of the message advocating individuals not to use marijuana – "its more dangerous than you think" – was altered so that the original tag was eliminated and a voice over noted: "it's more dangerous than you think – marijuana."

Pre-tests confirmed the message style such that the negative emotional appeals were perceived as more emotional than the rational appeals ($F=21.37$, $p<.001$) and the rational appeals were perceived as more factual than the negative emotional appeals ($F=18.37$, $p<.001$). Further, the negative appeals were perceived as having a higher fear appeal than the rational appeal ($F=11.35$, $p<.001$).

Guilt Proneness - Test of Self Conscious Affect

Similar to study one, respondents took the Test of Self Conscious Affect (TOSCA) as a measure of guilt proneness. Similar to study one, a median split was used to categorize individuals as either high or low guilt prone. The mean for high guilt proneness was 59.55 and low guilt proneness was 33.6,

which is consistent with study one ($F= 1.06, p>.05$ and $F=1.94, p>.05$). Again a gender split was performed and no significant differences in guilt proneness existed ($F=1.47, p>.05$), thus results are reported across genders. Estimates of internal consistency (Cronbach's alpha) were .64 for males and .68 for females, which are again consistent with estimates reported by Tangney (1996).

Dependent Variables

Four primary dependent variables were tested: willingness of others to act in the manner advocated for by the PSA (called effectiveness), willingness of the respondent to act in the manner advocated for by the PSA (compliance), believability of the consequences of the message, and anticipated guilt. As in study one, we also tested for message clarity. All dependent variables except anticipated guilt are single items scaled 1 – 7 with 1 anchored by perceived as ineffective, unwillingness to act, not believable, and unclear message. Anticipated guilt was measured by three responses to the statement, "If I used marijuana/abused prescription drugs, I would: (a) feel remorse; (b) feel tension; and (c) feel I did something wrong. These items are reflective of the previous research on anticipated guilt (Roseman et al. 1994; Steenhaut and Vankenhove 2006) and were measured on a 7- point likert scale. These items were collapsed into a single construct of anticipated guilt (Cronbach's alpha=.89).

Procedure and Stimuli

Participants were told they were participating in a study on drug prevention message design. Participants were first asked to complete the guilt proneness scale and asked about their perceptions of how risky marijuana use and prescription drug abuse is. They were then shown a series of three video clips of the PSAs of interest. The order of presentation to the participants was systematically varied to control for ordering or carry-over effects. After the PSAs were shown to the participants, they were asked to respond to a series of questions about the ads. The questions included: clarity of message, emotional intensity, believability of information, production quality, willingness to act as advocated for by the ad (compliance), personal relevance of the issue, and ability to alter perceptions of issue for others (perceived effectiveness). These factors align with previous work on PSA effectiveness as well as study one. Lastly, participants were debriefed.

Results

Our results provide a replication of our findings in study one and support for our hypotheses, suggesting that an individual's guilt proneness impacts their level of anticipated guilt which then influences message compliance.

Manipulation checks revealed the test ads were perceived similarly to the pre-test, such that the fear appeals are more emotional than the rational ads ($F=12.28, p<.001; M_{\text{rational}}=3.62, M_{\text{fear}}=5.24$). Further, the rational appeal was perceived as more factual than the emotional appeals ($F=15.28, p<.001; M_{\text{rational}}=5.74, M_{\text{negative}}=2.43$).

As noted, based on the scores from the TOSCA scale, we used a median split to determine the level of guilt proneness and examined the differences across high and low guilt proneness. The results support both H1a and H1b, in that high guilt prone individuals are generally more likely to perceive the drug prevention PSA messages as more effective than low guilt prone individuals, regardless of the message styles ($F=15.29, p<.001; M_{\text{high guilt}}=5.17, M_{\text{lowguilt}}=4.457$), and express greater intended compliance ($F=14.67, p<.001; M_{\text{high guilt}}=4.31, M_{\text{lowguilt}}=3.68$). However, a simple effects test revealed that high guilt prone respondents did not perceive the rational prescription drug message as more effective than low guilt prone respondents; in fact there was a contrasting result with high guilt respondents seeing this ad as more effective than low guilt respondents ($F=5.64, p<.05$).

In contrast to study one, we find support for H2a and H2b suggesting that high guilt prone individuals are more likely than low guilt prone individuals to perceive negatively emotionally charged messages as more effective than rational messages ($F=18.96$, $p<.001$; $M_{\text{high guilt fear}}=6.03$, $M_{\text{low guilt rational}}=4.30$) and somewhat more likely to induce anticipated compliance with high guilt prone individuals ($F=5.94$, $p<.05$; $M_{\text{high guilt fear}}=4.45$, $M_{\text{low guilt rational}}=4.16$). As shown by Table 2, this result is likely driven by the higher perceived risk associated with prescription drugs as opposed to marijuana, where perceived risk is relatively low ($F=36.83$, $p<.001$).

Table 2: Study Two

	Marijuana		Prescription		
	Fear	Rational	Fear	Rational	
High Guilt	Compliance	3.27a*	4.26a	5.64a	4.06a
	Effectiveness	5.64a	4.83a	6.42a	3.77a
	Clarity	3.76a	5.23a	3.26a	4.81a
	Believability	3.91a	5.21a	4.89a	3.71a
	Guilt	3.17a	2.61a	5.64a	2.87a
	Makes me Think	2.89a	3.96a	4.03a	3.89a
	Perceived risk of use	2.53a	2.59a	5.97a	5.03a
Low Guilt	Compliance	2.15b*	3.84b	4.94b	3.81a
	Effectiveness	3.24b	4.01b	5.72b	4.86b
	Clarity	3.28a	3.31b	3.46a	4.92a
	Believability	3.16a	3.23b	4.68a	3.76a
	Guilt	2.73b	2.66a	4.06b	2.85a
	Makes me Think	1.96b	2.93b	3.97a	2.91b
	Perceived risk of use	1.74b	1.48b	4.85b	4.39b

*means with different alphabetic values within the same column are significant across levels of guilt at $p<.05$

The third hypothesis, which predicts that high guilt prone respondents will experience greater levels of anticipated guilt, is also supported ($F=7.48$, $p<.05$; $M_{\text{high guilt}}=3.57$, $M_{\text{low guilt}}=3.08$). However, this result is shaped by the response to the fear appeal ads which engendered greater anticipated guilt than the rational ads ($F=17.37$, $p<.001$), with the strongest impact across the prescription drug ads. Although no predictions related to level of guilt and perceived risk/ level of cognition were made, we find that high guilt respondents perceive greater risk with both marijuana ($F=8.35$, $p<.05$) and prescription drugs (11.83 , $p<.001$). Additionally, the high guilt respondents reported higher levels of cognitive response to all of the PSAs ($F=21.37$, $p<.001$)

For the last hypothesis we ran a series of regression analyses to determine the relationship between anticipated guilt and message effectiveness and compliance. We find that anticipated guilt is positively related to both message effectiveness ($\beta = .46$, $p<.05$) and compliance ($\beta = .38$, $p<.05$), suggesting that as anticipated guilt increases so do these factors.

The findings on risk suggest that all respondents perceive prescription drug abuse as riskier than marijuana use ($F=21.45$, $p<.001$), and high guilt prone respondents perceive a greater risk associated with both types of drugs than low guilt respondents ($F=14.86$, $p<.001$).

Discussion and Conclusions

Theoretical Insights

This work focused on how both guilt proneness and anticipated guilt play a role in perceptions of drug-prevention PSAs and whether these factors create attitudinal and anticipated behavioral change. In terms of guilt proneness in Study 1, high guilt prone individuals see the drug-prevention PSAs as more effective than those with lower amounts of guilt proneness. This finding is consistent with our findings in Study 2 and previous studies that show that an emotional arousal (such as guilt) can create increased perceptions of message effectiveness (Dillard and Peck, 2000; Harris, 2007). However, findings from our two studies are inconclusive as to whether negative emotional appeals are best at generating compliance. We are able to show that they are best in terms of perceived effectiveness and engendering anticipated guilt; however, the results on compliance are not as straight forward. For marijuana, the rational appeals are better at generating compliance. This is likely due to the varying levels of perceived risk and the credibility of the expressed consequences for marijuana and prescription drugs. Respondents clearly felt that marijuana was a low risk drug with low risk consequences.

Although there have been studies that test whether guilt proneness plays a role in substance abuse (Dearing et al., 2005), and whether anticipated guilt plays a role in other types of health campaigns (Lindsey, Kimo and Hill, 2007; Lindsey, 2005), there has been little research on the intersection of these two factors and whether they influence each other in terms of message acceptance and behavioral intention. These two studies demonstrate that greater levels of anticipated guilt are more likely to manifest in high guilt prone individuals, leading them to perceive the PSAs to be more effective and express a greater intended compliance. Though actual compliance was not tested, the results are consistent with previous work which suggests that compliance with a given request typically reduces guilt (Boster et al., 1999). This finding is further supported by O'Keefe (2002), who finds that anticipated compliance is enough to motivate individuals to actually comply with the behavioral request.

Lastly, the relationship between perceived risk of drug use, anticipated guilt and compliance does not show a clear pattern across the different message styles. We are able to demonstrate that low guilt respondents perceive less risk with either marijuana or prescription drugs than high guilt respondents, suggesting that high guilt individuals are more likely to act in the manner advocated by the PSA in an effort to reduce risk and not violate social norms. This is further supported in that compliance for high guilt respondents is greater than low guilt respondents. The one area that violates the patterns in terms of risk and anticipated guilt is the rational ad for prescription drugs. Interestingly, in this case we find a relatively strong perception of risk, yet low anticipated guilt and low compliance. Additional research is needed to better understand what other factors might be driving this relationship. It might be that most respondents had lower knowledge of prescription drug abuse than marijuana use. Most young people are exposed to various drug prevention curricula via school programs, with the focus typically being illegal drugs. It has not been until very recently that prescription drug abuse has been added to the drug prevention school curricula (e.g., www.drugfree.org), thus our participants might simply have greater knowledge and exposure to marijuana, cocaine, heroin, and other illegal drugs, with marijuana being perceived as the lightest and least risky among the list of illegal drugs.

Practical Implications

The results from these studies also offer insight to health and risk campaign managers in terms of how to best target audiences. By understanding how certain groups of people affectively and cognitively process PSAs through varying degrees of emotional arousal, practitioners can strategically utilize

tactics that can induce moderate levels of guilt, leading to increased compliance and greater behavioral intention. These tactics can include using more creative guilt appeals through new media, audio, and video; face-to-face interventions with community leaders that increase personal relevance for audiences; and use of personal narratives that touch individuals on a more emotional level. Further research can also be conducted to determine how to best induce these healthy levels of guilt to target groups, and whether other factors (i.e., age, race, class, gender) play a role in inducing guilt and increasing PSA message effectiveness. Even though these studies specifically focused on drug abuse and prevention, the results can be beneficial for other risky behaviors, such as alcoholism, smoking, or gambling.

Limitations and Future Research

There are several limitations to the two studies. The first is the relatively homogeneous sample used in both studies, which may not be representative of the entire population of interest and would thus limit generalizability. As noted, all subjects are from a small geographic area in a state which is typically more liberal than other parts of the United States. Additionally, subjects were typically from suburban upper middle class backgrounds with limited racial diversity. Secondly, the length of our study may also have threatened the validity of our findings. In Study 1, participants were given three separate surveys in a relatively short period of time. Though the questions were not difficult, the mere length of the study could have resulted in some response bias or fatigue among the participants. Lastly, in this work, we did not ask participants about prior drug use and thus are unable to make any determinations regarding the effectiveness of stopping drug use versus the effectiveness of ensuring that the behavior never starts. It is likely that PSAs are more effective in ensuring that negative behaviors are not initiated as opposed to curbing or stopping a behavior that is firmly in place. We recommend further testing to address the limitations mentioned, particularly subject homogeneity.

Further, in Study 2 we tested the impact of a PSA on anticipated guilt. It would be interesting in the future to extend this work to include anticipated or actual shame. Although some researchers have suggested the two negative emotions influence behavior similarly (Tangney et. al. 1998), others show they influence expected behavior differently. For example, shame is often related to negative perceptions of self-image, while guilt is more likely associated with negative affect related to a specific behavior (Lewis, 1971). Further, guilt has been shown to function as an adaptive behavior mechanism while shame is more likely to lead to maladaptive responses as individuals see themselves more negatively (Tangney, 1991). Thus, guilt could lead to an adaptive response of not using drugs in an effort to eliminate the anticipated or real guilt, while shame may lead to a maladaptive behavior or a boomerang effect. Further the temporal effects of the two constructs might prove interesting. If one experiences guilt immediately after exposure to a PSA, it is reasonable that once the individual is no longer thinking about the action (e.g., drug use) the guilt goes away. However, if one experiences shame it may have a longer lasting effect on an individual in that the self has been negatively influenced. Thus, understanding the long-term impact of a message would be beneficial in predicting its long-term behavioral impact, allowing for the more effective dissemination of messages to promote healthy behaviors to the general public and for future generations to come.

Lastly, we recommend additional testing to understand the role that risk might play in shaping attitudinal and behavioral responses to the PSAs. If we are able to demonstrate that perceived risk moderates the level of anticipated guilt, then we can begin to shape more effective messages by taking current strategies into consideration and tweaking them to more clearly demonstrate the risks associated with drug abuse.

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